Diversity in the Board of Directors and Earnings Quality: The Moderating Effect of Board Roles

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Declaration

This thesis is the result of the author's original research. It has been composed by the author and has not been previously submitted for examination which has led to the award of a degree.

Signed: Nuthawut Sabsombat

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Publications arising from the thesis

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Abstract

This thesis background focuses on the growing body of literature examining how governance mechanisms affect the quality of reported earnings. This thesis highlights that board of directors play a crucial role in corporate governance, as they control and advise management teams on financial information processes, that help stakeholders make informed decisions about firms. To date, previous research on the causes and effects of governance mechanisms assumes that these mechanisms operate independently. However, since multiple mechanisms are used to align the interests of shareholders and managers, this thesis proposes that the level of one mechanism should be influenced by the levels of other mechanisms operating concurrently within the firm. Thus, this thesis examines the moderating effect of board characteristics, specifically board diversity and board role, and develops a theoretical framework to explain how board characteristics influence accounting information quality.

This thesis uses fixed-effects regression analysis of a sample of 13,522 firm-year observations in six developed economies: Australia, Singapore, Hong Kong, Canada, the US, and the UK. This research finds that the composition of the board of directors in terms of diversity and roles has a substantial effect on earnings quality. They play substitutive and complementary roles that influence the company's earnings quality. Such findings should aid regulators and policymakers in developing governance mechanisms that enhance the quality of financial information.

This thesis makes substantial contributions to numerous academic and professional fields. Regarding theoretical contributions, this study incorporates multiple theoretical perspectives, such as human capital theory, agency theory, and resource dependence theory, to better interpret the impact of board of directors' characteristics on corporate outcomes. Regarding methodological contributions, this study creates combined board diversity indices in order to investigate this topic from a holistic view. This thesis also interprets moderated regression models using a significant interpretive tool, viz. the marginal effect graph.

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CHAPTER 1 Introduction

1.1 Research Background

Over the past two decades, researchers have shown an increased interest in the corporate governance (CG) topic, as we learned about many corporate collapses and scandals, such as Enron in the United States in 2001, WorldCom in the United States in 2002, Parmalat in Italy in 2003, AIG in the United States in 2005, Tyco in the United States in 2005, Lehman Brothers in the United States in 2008, and Satyam in India in 2009 (Banbhan et al., 2018). Corporate scandals are a strong indicator of a severe deterioration in business ethics, which undermines confidence in the market capital and accounting systems. Additionally, investors lost billions of dollars as the share values of affected businesses collapsed (Chen, 2014).

Fraud and financial crime rates are still high. As the results of a global economic crime and fraud survey, conducted by PwC in 2022, discovered, 52 percent of companies with global annual revenues exceeding $10 billion USD had been victims of fraud in the preceding two years. Nearly one-fifth of this group reported that their most disruptive incident had a financial impact of more than $50 million. Furthermore, CG research has become more popular after the financial crisis in 2008 due to the lack of CG mechanisms in the financial services industry, which lead to worldwide economic decline (Zheng & Kouwenberg, 2019).

Because of such significant issues stated above, all stakeholders, especially investors and shareholders, have become more interested and concerned about their investments. Therefore, they expect the company to implement the CG mechanisms to help them monitor, evaluate, and report on the firm's transparent and honest information (Mertzanis et al., 2019).

The topic of the board of directors (Board) is studied in several CG and accounting research papers, as the Board is the key driver of the application of CG practices in the business (Wagana & Nzulwa, 2016). The attributes of the Board can be characterised and conceptualised variously in literature, such as the presence of independent directors, subordinate Board structures (audit, remuneration, nomination, and other committees), the size of the Board, the splitting of the chairman of the Board and CEO,

Board diversity and others (Cuomo et al., 2016; Dechow et al., 2010; Mohammed et al., 2019; Wagana & Nzulwa, 2016).

Board diversity is one of the essential factors that indicate the various dimensions of a Board (Kang et al., 2007; Milliken & Martins, 1996). This is because Board diversity provides benefits to the organisation, as Board members are likely to contribute diverse perspectives to decision-making (Carter et al., 2003). The success of a business depends on several factors, including the composition of its Board and the roles they play in guiding the organisation towards success while also satisfying the needs of its shareholders and other stakeholders. According to Forbes and Milliken (1999), Board roles can be categorised as monitoring and advisory responsibilities. The role of monitoring is to control management activities, which can reduce agency costs and help align shareholder interests. In contrast, the Board's advisory function is to provide managers with useful advice and assistance. In this instance, director members utilise their experience and expertise to offer Boardroom-specific insight.

Several academics have explored the implications of Board diversity in connection to a company's results by defining it operationally, such as by separation, variety, and disparity (David & Katherine, 2007; Hafsi & Turgut, 2012). However, an explicit definition of the term may still be challenging due to the complexity of characteristics related to Board diversity (David & Katherine, 2007). A rising number of academic studies emphasising the importance of a diverse Board for CG provides a signal to prioritise this issue. Additionally, previous research on the link between Board diversity and firm outcome is ambiguous (Dalton et al., 2003). Perhaps the inconsistencies are the result of concentrating solely on demographic or observable Board diversity (such as gender, age, ethnicity, etc.) as opposed to deep-level or cognitive Board diversity (such as experience, education, etc.) (Almutairi & Quttainah, 2019; Baker et al., 2020; Hillman, 2015). Consequently, this thesis investigates broader aspects of Board diversity in order to discover their effects on company outcomes.

Furthermore, many researchers have investigated the impact of Board diversity on several corporate outcomes, such as financial reporting quality, financial performance, social and environmental reporting quality, external audit quality, internal audit

quality, corporate finance, and corporate governance (Alhossini et al., 2020). However, very little is known about the comprehensive effects of Board diversity on earnings quality, as the majority of previous studies have only focused on specific measures of earnings quality. In this thesis, the quality of earnings is measured using distinct models: earnings management, accounting conservatism, and aggregate earnings quality.

Financial reporting quality is considered a tool to mitigate agency conflict because it can reduce information asymmetry between managers and stakeholders (Almutairi & Quttainah, 2019; García-Sánchez et al., 2017; Krismiaji et al., 2016). In this regard, the Board plays essential roles to watch and advise on the qualified accounting information to be a smaller information asymmetry (Ranasinghe et al., 2015). It can be said that the Board, a vital CG factor, works with the management team to provide qualified accounting information. Thus, it is vital to examine the characteristics of the Board that affect earnings quality in order to enhance the reliability of corporate financial reporting. However, few studies have investigated how Board diversity and Board functions affect the quality of earnings.

Moreover, research on the causes and effects of several governance mechanisms assumes that these mechanisms operate independently (Rediker & Seth, 1995). Nonetheless, since various mechanisms are used to align the interests of shareholders and managers, this thesis proposes that the level of a particular mechanism should be influenced by the levels of other mechanisms operating concurrently within the firm. This thesis will therefore investigate the moderating effects of the Board's characteristics. In this regard, the moderating effect of Board roles requires not only empirical proof but also the development of a theoretical framework to support such an argument and explain how Board characteristics influence accounting practices, particularly in improving earnings quality.

1.2 Research Questions and Objectives

As discussed in the introduction section, prior research has uncovered contradictory findings regarding the relationship between Board diversity and the quality of reported earnings. Isolating Board structures may be a factor that affects the ambiguous outcomes. The central argument in this thesis is that CG mechanisms do not function

in isolation but rather operate as an integrated governance bundle. In particular, the characteristics of the Boards in connection with earnings quality depend not only on the diversity of the corporate Board but also on the functions of the Board, as explained by agency theory and resource dependence theory. This argument addresses a gap in the governance research literature regarding the substitutive or complements of CG mechanisms highlighted by Misangyi and Acharya (2014).

According to the substitution viewpoint, different forms of government are constantly being replaced by one another (Dalton et al., 2003; Rediker & Seth, 1995). The conceptual drivers of the substitution of mechanisms are efficiency and relative costs. Governance structures are assumed to result from a process in which various cost advantages and disadvantages are weighed to achieve an equilibrium organisation of the firm (Demsetz, 1983). More recently, a comparatively more integrative view of CG has developed, which considers how governance practices interact and may complement one another as related bundles (Aguilera et al., 2008). Tosi (2008) suggests that governance mechanisms should operate in a complementary manner because their coexistence increases the efficacy of each other. It is based on the notion that the gain from increasing every component is greater than the sum of the gains from increasing each component separately (Milgrom, 1992).

Comparing the substitution and complementarity perspectives in this thesis, one obvious difference is the way in which Board diversity and Board roles are viewed as combined. From a substitution perspective, either Board diversity or Board roles can be present for effective governance. On the other hand, complementarity argues that, for effective governance, both types of mechanisms must coexist. The interplaying roles of Board diversity and Board functions have been neglected in the substitutes and complements design of governance research. This leads to the primary empirical research question for this thesis, as described below.

Primary Research Question: Do the Board roles modify the relationship between Board diversity and earnings quality?

In addition, to enhance comprehension of the primary research question, the sub-question is included to investigate the direct effect of Board diversity on earnings quality. The direct effect can help researchers comprehend the baseline argument,

thereby complementing the logical flow of how the moderator modifies such a baseline effect (Andersson et al., 2014). This thesis aims to unravel some of the mysteries surrounding Board diversity and earnings quality as the following sub-research question.

Secondary Research Question: Does Board diversity affect earnings quality?

Beginning the writing of research questions with a general focus research question is often a useful starting point, which can lead to several more specific research objectives (Saunders, 2019). Thus, two primary research objectives were established to address the stated research questions.

The first research objective is the answer to the primary research question, which seeks to investigate whether (and how) the functions of the Boards moderate the relationship between Board diversity and the quality of reported earnings. This thesis will develop a conceptual framework by integrating the multi-theoretical perspectives of human capital theory, agency theory, and resource dependence theory to explain the substitutes and complements of CG mechanisms as they relate to company earnings quality. Consequently, the first research objective is as follows:

First Research Objective: To investigate the moderating effect of Board roles on the relationship between Board diversity and earnings quality.

The answer to the secondary research question is the second research objective. It seeks to investigate the impact of Board diversity on various earnings quality measures. As mentioned in earlier sections, Board diversity provides benefits to the organisation because Board members are likely to contribute diverse perspectives when monitoring and advising the management team, resulting in a higher quality of corporate earnings. Thus, the second research objective is presented as follows:

Second Research Objective: To investigate the effect of Board diversity on earnings quality.

1.3 Scope of Research

In order to answer these research questions, this study employs a dataset comprised of firms listed in six developed nations: the United Kingdom, the United States, Canada,

Australia, Singapore, and Hong Kong. The investigation covers the years 2016 to 2020. The sample size consists of 13,522 firm-year observations and 4,080 unique firms. This study examines three distinct dimensions of Board diversity factors, including surface, deep, and aggregate levels. Additionally, the examination of the individual component of Board diversity will serve as a robustness test. Then, the diversity variables of the Board will be examined in conjunction with the Board's monitoring and advisory roles.

The quality of reported earnings is an accounting phenomenon that this study intends to investigate. First, earnings management, which consists of accruals and real earnings management, is the primary focus of this study. Earnings management can reflect the techniques of the management team that are used in practice to alter reported earnings — the bottom line on the income statement. This research also considers accounting conservatism, which consists of conditional and unconditional conservatism, as another element of earnings quality. Accounting conservatism reflects asymmetrical earnings recognition timeliness, also known as timely loss recognition. The third measure of earnings quality is derived from the combined perspectives or aggregate measures.

Finally, this thesis establishes causality and finds meaning through empirical evidence by using existing theories to develop hypotheses for causal explanation and prediction (Gitundu et al., 2016; Saunders, 2019). This study uses data collection techniques that are highly structured and statistical analysis to control researcher bias. Accordingly, regression, a quantitative technique, is the primary technique used to analyse data, with moderating regression used to investigate conditional effects, or moderators.

1.4 Structure of the Thesis

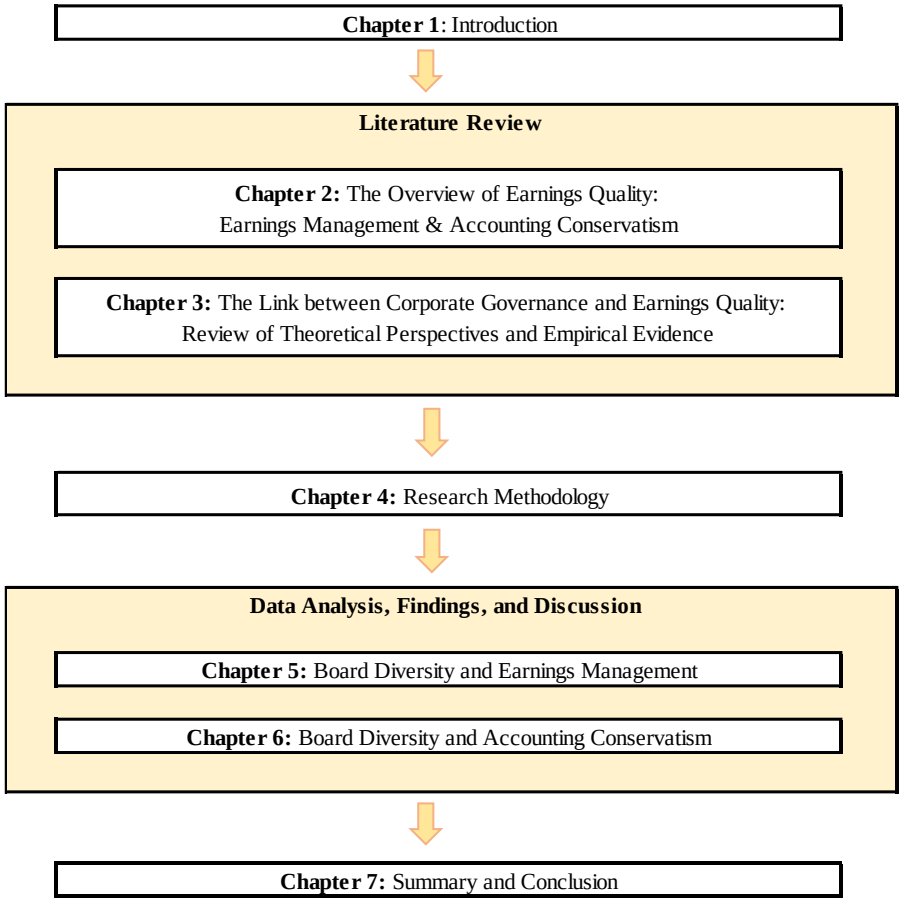
There are seven chapters in this thesis, as presented in Figure 1.1. The purpose of the first chapter is to discuss the background of the research, explain the primary motivations, present the objectives of the study, and outline the research questions. Chapter 2 reviews the literature regarding earnings quality, earnings management, and accounting conservatism, which are the key accounting phenomena that this thesis seeks to examine. Additionally, Chapter 2 discusses the importance, definitions, and

measures of earnings quality. According to a review of the relevant literature, CG is one of the essential determinants of earnings quality. Chapter 3, therefore, discusses previous studies examining the relationship between Board diversity and earnings quality. It explores the literature involving the characteristics of the Boards, particularly Board diversity and Board roles. The third chapter also develops the application of multiple theories to explain the phenomena discussed in this thesis. And then, in Chapter 3, research hypotheses will be established before constructing the conceptual framework for research.

The fourth chapter explains and justifies the research methodology that will be used to operationalize research questions. It also describes the selection of the sample firms, the duration of the research, and the measurements of the primary variables, model specifications, and associated control variables. In addition, a description of the data source, data collection procedures, and analytical procedures is provided. The results of empirical findings on the two main research areas of this thesis are presented in Chapters 5 and 6. On the one hand, the findings regarding the effect of Board diversity on earnings management are presented in Chapter 5. On the other hand, Chapter 6 presents findings regarding the impact of Board diversity on accounting conservatism and earnings quality. In each of these two chapters, additional analyses and robustness checks that demonstrate additional findings and test the sensitivity of the main findings are also discussed. Chapter 7 concludes with a summary of all significant findings regarding the effect of Board diversity on various measures of earnings quality. Chapter 7 also discusses research implications, limitations, and suggestions for future research.

Figure 1. 1 Structure of the Thesis

The design of this thesis is depicted in this figure. The thesis is structured into five primary sections: introduction, literature review, data analysis, findings, discussion, and conclusion. The seven chapters are depicted in the following image.



CHAPTER 2 An Overview of Earnings Quality, Earnings Management and Accounting Conservatism

2.1 Introduction and Importance of Earnings Quality

Financial reporting is essential to all stakeholders, especially the bottom line in the statement of income. This is because they can use it to make decisions based on corporate income or earnings in several ways, such as management's assessment, stock pricing, or credit analysis (Menicucci, 2020). In other words, investors, shareholders, regulators and other stakeholders need to access actual corporate performance to make the best decision. In this case, earnings are a better source of useful summary company performance than other measures such as cash flow or dividends (Francis et al., 2004). According to Dechow et al. (1998), there is evidence to suggest that earnings are a more reliable indicator of future operating cash flows compared to present operating cash flows. In a similar vein, Čupić et al. (2022) report that accounting earnings have greater value relevance when compared to cash flows. Alternatively, cash flows may lose their relevance due to possible timing issues. For instance, it is possible for a company to record a sale within the present accounting period, yet not receive the corresponding cash inflow until an indeterminate point in the future. If managers were to solely prioritise cash flow, their assessment would suggest that the sale did not contribute any value to the business throughout the specified period. Therefore, net income is considered to be more pertinent than cash flow due to its timely reporting.

In the 1990s, researchers considered earnings quality, especially earnings management, worthy of scholarly attention. For example, the US Securities and Exchange Commission (SEC) inspected the financial reporting process which had been used by managers and auditors (Menicucci, 2020). This was due to managers' actions in creating incentives to meet earnings targets and the role of auditors upon reported earnings (DeFond, 2010). The early 2000s saw large corporate scandals and collapses such as Enron in the United States in 2001, WorldCom in the United States in 2002 and Parmalat in Italy in 2003. Many researchers have studied earnings management since then to find solutions and prevent such issues. One of the most common ways that many countries around the world have responded is the promotion

of requirement for effective CG mechanisms to increase the accounting quality, [e.g. the Cadbury Report (1992) in the UK, SOX (2002) in the US, ASX (2007) in Australia, and NZX (2007) in New Zealand] (Banbhan et al., 2018).

Three applications of earnings quality are: (i) for contracting purposes; (ii) investment decision-making; and (iii) standard setters' assessment (Schipper & Vincent, 2003). The first two imply direct usefulness because reported earnings can be used in management compensation agreements or in debt contracts. Also, the essence of financial reporting is for investors to assess firm performance, allowing them to make the correct investment decision. Additionally, standard setters indirectly evaluate the quality of accounting standards following the quality of financial reports.

2.2 The Definition of Earnings Quality

Earnings quality is useful information for users' decisions. In general, earnings quality is not well-defined because it is unobservable. Therefore, the definition of earnings quality depends on the different financial users, and so is a multidimensional concept (Cano-Rodríguez & Licerán-Gutiérrez, 2019; Menicucci, 2020; Teets, 2002). In other words, earnings quality is conditional depending on the specific situation of each user (Dechow et al., 2010). For example, investors view earnings quality as a 'conditioning variable to extract valuation-relevant information from earnings patterns' (Francis et al., 2003, page 1). Creditors consider the higher earnings quality to know when they can quickly convert earnings to cash flows. The remuneration committee prefers earnings quality that reflects the real managements' performance for their compensation appraisal (Menicucci, 2020). When external auditors use earnings quality, they want it to be fairly presented according to Generally Accepted Accounting Principles (GAAP).

There are multiple definitions of earnings quality within the accounting literature, and various studies concentrate on different components of earnings. Commonly stated aspects include persistence, informativeness, sustainability, and earnings manipulation. According to Richardson (2003), the concept of earnings quality is associated with the notion of persistence. Earnings are considered to be of high quality when they reflect persistence, which refers to their ability to be maintained over the long term rather than being temporary in nature.

Ball and Shivakumar (2005) provided an interpretation of the concept of earnings quality, defining it as the degree to which financial information is valuable to various stakeholders such as investors, creditors, managers, and other relevant parties. According to Menicucci (2020), sustainability refers to the notion that earnings derived from recurring operations are regarded as superior in quality compared to those gained from non-recurring activities. The perception is that earnings are considered to be of superior quality when the practice of earnings management is minimised (Healy & Wahlen, 1999; Leuz et al., 2003). Additionally, the term 'earnings quality' is employed by certain authors within the realm of accounting conservatism. For instance, the concept of earnings quality, as established by Penman and Zhang (2002), pertains to the degree of conservatism exhibited in a company's reported earnings.

Based on the previously described definitions, Menicucci (2020) posits that there are three important factors to consider when defining earnings quality. First, earnings quality is dependent on the decision-usefulness of the information. Second, the quality of reported earnings is contingent on whether or not they are informative regarding the financial performance of the company. Third, the quality of earnings is influenced by both the relevance of the underlying financial performance to decision-making and the accounting system's ability to accurately assess firm performance. Accordingly, Menicucci (2020, page 5) suggests that in defining earnings quality, 'earnings number is one that accurately reflects the company's current operating performance, is a good indicator of future operating performance, and is a useful summary measure for assessing firm value'. Thus, in this thesis, the concept of earnings quality is defined, encompassing three key characteristics, as follows: (i) they precisely present the actual current performance; (ii) they could be used to predict future performance; and (iii) they can be used to assess firm value and so are associated with their stock prices.

2.3 Accounting Standard and Earnings Quality

Regarding communication theory, company financial disclosures, especially financial reporting, are the vital channels to convey a firm's financial position and performance to the public (Menicucci, 2020). Thus, high quality accounting information can result in better decisions by stakeholders. The development of high-quality accounting standards by accounting standard-setters, such as the International Financial Reporting

Standards (IFRS) and US Generally Accepted Accounting Principles (US. GAAP), has been recognised as a significant factor in enhancing the quality of financial reporting. This has been achieved by ensuring that accounting information possesses the proper qualitative characteristics, as highlighted by Barth et al. (2008). In this case, a higher degree of accounting quality can reduce agency problems by mitigating the information asymmetry between management and shareholders (García-Sánchez et al., 2017). Some authors define accounting quality as the accounting information that can reflect precisely the current corporate performance, predict future outcomes, and enhance the assessment of the firm's value (Dechow & Schrand, 2004; Hribar et al., 2013).

Moreover, the International Accounting Standard Board (2015) suggests that useful accounting information should show a relevant and faithful representation. To clarify, value relevance can provide different users with different decisions regarding their purposes; it usually corresponds to stock prices and equity book value. Relevance attributes also involve materiality and timeliness, which can affect users' decisions. For faithful representation, accounting information should be presented completely, neutrally, and free from error. This is how accounting information generates the reliability of accounting quality.

Different accounting standards can lead to a different level of earnings quality (Menicucci, 2020). In studies of earnings quality metrics, Ewert and Wagenhofer (2015) find that high quality accounting standards reduce the level of earnings management resulting from increased financial reporting quality. They also suggest that higher earnings quality has occurred when companies adopt rigorous accounting standards, with more precise rules and fewer accounting choices. In addition, the International Accounting Standards Board (IASB) is responsible for issuing accounting standards that are based on principles. These standards aim to eliminate inappropriate accounting choices and provide guidance on accounting measurements, such as fair value accounting. Additionally, the IASB issues International Financial Reporting Interpretations Committee (IFRIC) guidance, which helps enhance the comprehension and representation of a company's economic performance.

Hence, it is generally thought that accounting standards have the potential to constrain the opportunistic behaviour of corporate management. According to Zgarni et al. (2016), it is difficult for managers to manipulate earnings as long as the company adheres to accounting standards and is subject to monitoring by auditors. According to a study conducted by Chen et al. (2010), the adoption of accounting standards by a corporation is associated with a decrease in the practice of managing earnings towards a specific aim, a reduction in the volume of absolute discretionary accruals, and an improvement in the quality of accruals.

However, because accounting standards rely heavily on the principles-based concept, management has some opportunities to use their professional judgments to adapt these accounting principles to their specific circumstances, especially accruals transactions. In this case, accounting standards may lead to earnings management, representing a lower quality of earnings (Ball, 2006). Therefore, this thesis attempts to explore whether earnings quality is supportive of (or discouraging to) accounting standards.

Moreover, managerial incentives play a significant role in influencing the quality of earnings. Chen et al. (2010) suggested that the incentives for managers are contingent upon the interaction of market and political dynamics. These dynamics include the demand for accurate financial reporting, which can be influenced by factors such as the volume of publicly traded equity and the proportion of private versus public contracting in the economy. Additionally, the level of government intervention in establishing and enforcing accounting standards, taxes, and political motivations to minimise or mitigate fluctuations in reported income also plays a role in shaping managerial incentives.

Furthermore, it is important to consider that there exists other macroeconomic elements that might potentially influence financial reporting practices and the quality of accounting. This thesis assumes that developed nations may have established a more effective accounting enforcement mechanism and more stringent CG regulations due to the presence of substantial publicly traded equity. Thus, accounting practices in industrialised nations are appropriate to study within the scope of this thesis.

2.4 Measures of Earnings Quality

In relation to the difference of the definitions of earnings quality, there are various approaches to measuring it and there is no single generally accepted measure, so one depends on each research objective and the data accessibility (Menicucci, 2020). Many previous researchers use only one of characteristics of earnings, mainly emphasising earnings management; only a few have conducted and developed a multidimensional measure of earnings (Cano-Rodríguez & Licerán-Gutiérrez, 2019). Schipper and Vincent (2003) classify earnings quality into four constructs. First, earnings quality constructs are derived from time-series properties of earnings, including persistence, predictability, and variability. Second, earnings quality attributes are derived from the relationships between income, accruals, and cash; for example, accruals items, manipulated by management as abnormal or discretionary accruals, and called earnings management. Third, earnings quality constructs are derived from qualitative concepts according to the Conceptual Accounting Framework, such as relevance, and faithfulness (reliability). Fourth, earnings quality originates from implementation decisions focusing on incentives and expertise of preparers and external auditors.

One criticism of earnings quality as measured by Schipper and Vincent (2003) is that some of the attributes overlap with one another; for instance, earnings persistence can be classified as either a qualitative concept or by its time-series properties (Menicucci, 2020). The study done by Dechow et al. (2010) is more interesting as they classified proxies for earnings quality into three categories: properties of earnings, investor responsiveness to earnings, and external indicators of earnings misstatements. In the same vein, Cano-Rodríguez and Licerán-Gutiérrez (2019) find that the large majority of empirical research (82.5%) on earnings quality is in the category of accounting properties. Moreover, Francis et al. (2004) and Menicucci (2020) argue that there are two broad categories of earnings quality (earnings attributes), which are: accounting-based and market-based earnings attribute measures. This thesis will categorise the measurement of earnings quality as proposed by Francis et al. (2004), which will be described in the following paragraphs.

2.4.1 Accounting-based Earnings Attribute Measure

The accounting-based measure applies statistical methods to accounting information from financial report. This attribute measure originates from the assumption that effective earnings come from the allocation of cash flow after accruals have been adjusted. These qualities utilise cash or earnings as the underlying construct and are therefore assessed only through accounting information. The accounting-based measure includes accruals quality, earnings persistence, earnings predictability, and earnings smoothness.

2.4.1.1 Accruals Quality

Francis et al. (2004) note that earnings quality should be linked closely to earnings and cash balance. In other words, the closer the company's earnings are to the operating cash flow, the higher is earnings quality (Menicucci, 2020). Since the difference between earnings and cash flow is the adjusted amount of accruals transactions, managers may have a chance to manipulate earnings through accruals items. As a result, some researchers prefer cash flow as it is more reliable than earnings.

However, according to accounting principles, accruals play an essential role in reducing the noise in temporary cash flow in order to generate earnings (Dechow & Skinner, 2000; Menicucci, 2020). Realised cash flows are a "noisy" measure of a company's performance due to timing and matching issues. A timing problem arises when cash flow and economic events happen at different points in time, such as selling products in the first quarter and receiving payment in the second quarter. In this case, the accounting principle allows companies to recognise revenue in the first quarter even if they do not receive any payment, as an accruals concept that tries to reflect the real business transactions. Another example is the matching problem between revenues and expenses. Take the provision for warranty expenses as an example of this. Once the company sells a product that customers are entitled to return for repair or replace defective products within the guarantee period, the company has to estimate the expected warranty payable and record it at the time of sale. This is based on the matching concept. As we can see, the accruals concept modifies the timing of cash flow recognition in earnings, thereby reducing the noise in cash flows (Menicucci, 2020).

Accruals play a crucial role in the preparation of financial reporting, since they enhance the predictive capability of future cash flows. However, the Generally Accepted Accounting Principles (GAAP) provide managers with the discretion to exercise judgement when employing various accruals methods, which might give rise to issues. Such problems would be the use of discretionary accruals' recognition by managers. Numerous studies have attempted to explain the accruals quality by splitting accruals into "normal" and "abnormal" accruals (Dechow et al., 1995; Jones, 1991; Kothari et al., 2005). This implies that the elements of the accruals consist of non-discretionary and discretionary elements. Non-discretionary accruals pertain to the adjustments which reflect the normal operational performance of a firm, sometimes referred to as "normal accruals". Discretionary accruals, specifically abnormal ones, pertain to the manipulation of earnings by management within the application of accounting standards. There exists a positive relationship between the number of discretionary accruals and the extent of earnings management, resulting in a negative impact on the quality of reported earnings. Consequently, the assessment of earnings quality will be conducted through the evaluation of the magnitude of discretionary accruals.

Moreover, Francis et al. (2005) proposed an accruals quality attribute measure by extending the model of Dechow and Dichev (2002); this accruals measure is based on the past, present, and future cash flows. Within this model, the degree to which earnings are correlated with cash flows from operations is determined by a measure of the quality of the accruals. Put simply, a greater standard deviation of the residuals indicates a larger degree of estimating error in accruals, which in turn implies lower quality of earnings. On the other hand, when there is a strong alignment between accruals and cash flows, it can be inferred that the lower standard deviation is indicative of high-quality accruals and earnings (Menicucci, 2020).

2.4.1.2 Earnings Persistence

Francis et al. (2004) identified earnings persistence as earnings sustainability as other researchers proposed (Francis et al., 2003; Penman & Zhang, 2002; Richardson, 2003). Many stakeholders need high persistent earnings, which can be maintained in the future. Earnings persistence commonly involves the stability, sustainability, and

recurrence of earnings. Menicucci (2020) also confirms that earnings persistence is associated with the stock return. This implies that higher levels of earnings persistence are indicative of higher quality earnings, which is a more favourable characteristic for investors.

Most research on earnings quality measure earnings persistence by the slope coefficient from a regression model of current earnings on lagged earnings (Francis et al., 2004; Gaio, 2010; Kousenidis et al., 2013). The higher the value of slope coefficient (close to 1) the higher earnings persistence, because it represents sustainable and less volatile earnings (as desired by investors). Disaggregating lagged earnings later modifies the previous model into cash flows and the main component of accruals (Cano-Rodríguez & Licerán-Gutiérrez, 2019; Sloan, 1996). The idea behind the modified model is that the cash-flow component of earnings is a better predictor of earnings than the accruals component, meaning that a higher cash-flow coefficient implies a higher earnings quality.

However, managers also need highly persistent and predictable earnings so they can easily communicate with analysts and investors. In this case, managers have an opportunity to manipulate the economic transactions, especially from non-persistent earnings to persistent earnings. Hence, it is advisable for researchers to refrain from relying solely on earnings persistence as a metric for assessing earnings quality. Rather, it is recommended to employ additional measures of earnings quality in conjunction with this particular metric. As Menicucci (2020 p.31) states, 'Greater earnings persistence is a meaningful definition for earnings quality if earnings truly reflect performance during the period and if current-period performance persists in future periods'.

2.4.1.3 Earnings Predictability

Similarly to earnings persistence, the predictive ability of earnings is also based on time-series properties of earnings (Cano-Rodríguez & Licerán-Gutiérrez, 2019; Schipper & Vincent, 2003). Predictability refers to the capacity of financial reporting (including earnings and other summary earnings components) to forecast items of interest that can be beneficial for financial users (Schipper & Vincent, 2003). Specifically, the predictability of earnings can be used to predict two different

components: earnings and cash flows. On the one hand, the predictive value is the company's ability to generate future cash flow (Menicucci, 2020). In a study conducted by Barragato and Markelevich (2008), it was shown that a high earnings quality is a good predictor of future operating cash flows. On the other hand, a number of scholars have examined the concept of earnings predictability, defined as the capacity of previous earnings to forecast future earnings (Cornell & Landsman, 2003; Francis et al., 2004; Lipe, 1990; Schipper & Vincent, 2003). Additionally, according to the Conceptual Framework for Financial Reporting, predictability is also considered to be a fundamental qualitative characteristic regarding value relevance. It can help stakeholders to make different decisions. This can be seen in Fair Value accounting; both the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) try to adopt this practice with many accounting items to increase the relevance of financial information and the ability of earnings to forecast future useful information.

The measure of earnings predictability is commonly based on the variance of the earnings shocks derived from a regression model of current earnings on lagged earnings (Francis et al., 2004; Lipe, 1990; Menicucci, 2020). The utilisation of the square root of error variance derived from the earnings persistence model is employed as a metric for quantifying the predictability of earnings. The larger the values, the smaller are the predictable earnings and the lower earnings quality.

However, Dechow and Schrand (2004) point out that the measurement of earnings predictability is problematic since the ability of earnings to forecast financial items might be influenced by management interference (i.e. they manipulate accounting transactions to be more persistent and predictable, which does not reflect the actual firm performance). Hence, it is imperative for researchers to refrain from solely relying on earnings predictability as a means of effectively assessing earnings quality (Menicucci, 2020).

2.4.1.4 Earnings Smoothness

The controversy about the relationship between earnings smoothness — the relative absence of variability — and earnings quality is an old one. On the one hand, smooth earnings are considered to provide high earnings quality because company

performance is not volatile and so future earnings are easy to forecast (Dechow & Skinner, 2000; Francis et al., 2004; Schipper & Vincent, 2003). On the other hand, earnings smoothness is negatively associated with earnings quality if managers distort accounting information to make earnings smooth, which introduces noise in financial reporting, and results in higher earnings management and lower earnings quality (Dechow & Skinner, 2000; Schipper & Vincent, 2003).

Moreover, the accruals-based earnings concept can be used to describe the smoothness of earnings (Dechow et al., 2010; Menicucci, 2020). From a positive perspective, accruals adjustments can make earnings more smooth and informative than cash flows. It can mitigate the mismatch problem between the actual economic event and cash receipts or payments. On the contrary, accounting choices through accruals items may influence manipulation by managers. In this regard, despite earnings smoothness, it does not improve the decision usefulness of earnings.

Without earnings management considerations, the measurement of earnings smoothness usually employs the ratio of earnings variability to cash flow variability; variability can be measured by using standard deviation (Francis et al., 2004; Leuz et al., 2003). The smaller is the value of the ratio, the higher is the earnings smoothness. Similarly, Hodder et al. (2006) propose the measure of earnings variability by using the standard deviation of earnings. In this case, the higher value presents the higher levels of earnings volatility, leading to lower earnings quality (Menicucci, 2020).

2.4.2 Market-based Earnings Attribute Measure

The market-based measure is based on accounting information and statistical methods together with market prices or returns. This attribute measure is derived from the assumption that effective earnings can reflect economic performance as presented by the stock price. The market-based measure includes value relevance, conservatism, and timeliness.

2.4.2.1 Value Relevance

Value relevance can be defined as the explanatory power of earnings to measure market-adjusted returns (Francis et al., 2004; Francis & Schipper, 1999). It can also be described as the ability of earnings to explain variation in stock value. This construct, value relevance, is one of the most common market-based earnings

measures because stakeholders, especially investors, prefer earnings figures linked to stock return (Menicucci, 2020). Moreover, Dechow et al. (2010) consider relevance as investor responsiveness to earnings based on the idea that the high earnings quality provides timely valuable information for equity valuation (Cano-Rodríguez & Licerán-Gutiérrez, 2019). In support of the value relevance concept, both IFRS and US GAAP have also highlighted the importance of relevance as one of the fundamental qualitative characteristics of accounting information to enable users to make decisions.

Most research on value relevance has measured the explanatory power of earnings on the change in stock return (Agnes Cheng et al., 2007; Collins et al., 1997; Dechow et al., 2010; Francis et al., 2004; Joos & Lang, 1994). This means that the r-square from the earnings-return regression model can be used to measure the level of value relevance as a proxy for earnings quality. In essence, a higher coefficient of determination will result in a more robust association between accounting information and investor decision-making, hence contributing to the enhanced quality of earnings (Cano-Rodríguez & Licerán-Gutiérrez, 2019).

However, Schipper and Vincent (2003) questioned this measure as the regressions of market value on earnings capture the mixed relevance and reliability of earnings or other financial information. These cannot be separated when measuring earnings quality, whether it be relevance or reliability. Moreover, the part of faithful representation that is assessed from the regression model may contain managerial manipulations. Furthermore, the low explanatory power of earnings may be the poor match between accounting information and business transactions, which was caused by managerial manipulations. (Lev & Zarowin, 1999).

2.4.2.2 Conservatism

Menicucci (2020) states that the need for qualified financial reporting has arisen from the information asymmetry between principals (stakeholders) and agents (managers). In practice, stakeholders need to know the company's performance in a timely fashion, in order to make the best decisions. Thus, timeliness in financial reporting, mainly reported earnings, is considered an important earnings quality attribute (Ball & Shivakumar, 2005). In other words, timeliness can be defined as a time-reflecting earnings announcement. Basu (1997) measured timeliness by using timely loss

recognition, which summarises results of adverse economic events that reflect firm financial performance and position (Menicucci, 2020).

The concept of timely loss recognition, as above, is used to describe the idea of conservatism, explained by Basu (1997, p.4) as 'capturing accountants' tendency to require a higher degree of verification for recognising good news than bad news in financial statements [thus] … earnings reflects bad news more quickly than good news'. This view is supported by Ball and Shivakumar (2005), who found that timely loss recognition can increase the usefulness of financial reporting in two dimensions. First, from a CG perspective, governance is affected by timely loss recognition because managers are more concerned about investing during times of negative cash flows. The second view is debt agreements, where timely loss recognition can provide more helpful information for loan agreements and a quicker response to debt agreement conditions.

Moreover, Ball and Shivakumar (2005) added that they do not emphasise timely gain recognition because managers generally tend to disclose positive economic events, such as unrealised gains, rather than negative ones, such as unrealised losses. From the investors and other stakeholders' views, they are less likely to be interested in timely gain recognition originating from contracting with managers. Additionally, a conservatism principle is radically asymmetric. In other words, some unrealised transactions that relate to the change of expected future cash flows are recognised asymmetrically between gains and losses. This can be illustrated briefly by the concept of Net Realisable Value (NRV) for inventory accounting that allows the company to recognise only losses from declining market values of inventory but does not recognise unrealised gains.

Some critics contend that the asymmetric perspective between gains and losses can be challenged by considering fair value accounting, which permits the revaluation of accounting transactions as unrealized gains or losses. However, it is important to note that asymmetry is a fundamental characteristic of accounting rules and practices, referred to as accounting conservatism. As Watts and Zimmerman (1986) state, conservatism in accounting entails the practice of selecting the lowest possible value for assets and the greatest possible value for liabilities from the available alternative

values when reporting financial information. Revenues should be recorded later than earlier, while expenses should be recorded earlier than later.

The literature on conservatism has highlighted two types of conservatism: conditional and unconditional. Conditional conservatism refers to the reported earnings that reflect bad news more quickly than good news (Basu, 1997), which is expected to increase the quality of earnings. This can be considered good CG because it can protect against managerial manipulation when reporting earnings (Mora & Walker, 2015). The most prevalent measure of conditional conservatism depends on the *loss differential timeliness* concept proposed by Basu (1997). Within the conditional conservatism concept, losses (bad news) will be recognised in a more timely fashion than gains (good news). Basu (1997) used market returns as the proxy for bad (negative return) and good (positive return) news. In his study, the findings indicated that there exists a stronger link between negative market returns and earnings, compared to the correlation between positive market returns and earnings. This can be called the loss-differential-timeliness concept represented by the coefficient between negative and positive returns (Cano-Rodríguez & Licerán-Gutiérrez, 2019).

However, one of the limitations of Basu's model is that the differential timeliness coefficient is not measured at the firm-year level. Later, a few researchers further studied firm-year measures of conditional conservatism, such as the conservatism ratio conducted by Callen et al. (2009). Critics have also argued that some companies, especially private companies, do not have any available market returns. As a result, researchers have developed a new measure of conditional conservatism based on the disclosed financial reporting. For example, Ball and Shivakumar (2005) measured conditional conservatism dependent on the asymmetric contemporaneous correlation between accruals and cash flows, which will be discussed more in Chapter 4 (Cano-Rodríguez & Licerán-Gutiérrez, 2019).

Unconditional conservatism is derived from the principle that when faced with two equally acceptable choices for measuring and recognising events, one should opt for the alternative that leads to the lowest estimate of owners' assets. According to the principle of unconditional conservatism, the recorded value of net assets is intentionally underestimated as a result of predetermined factors inherent in the

accounting procedure (Ball & Shivakumar, 2005; Cano-Rodríguez & Licerán-Gutiérrez, 2019; Menicucci, 2020). This concept depends on the use of conservative accounting, such as expensing R&D costs and accumulated reserves over expected future costs (e.g. allowance for doubtful accounts and warranty allowance). In this case, managers can manipulate accounting information regarding unconditional conservatism, as it requires management's judgment, leading to lower earnings quality (Ruch & Taylor, 2015).

Some researchers has criticised for unconditional conservatism that it is less prevailing than the conditional one because it is not found on the news event, unlike conditional conservatism (Ruch & Taylor, 2015). The most common measures of unconditional conservatism are the market-to-book ratio (MTB) and the existence of hidden reserves (Cano-Rodríguez & Licerán-Gutiérrez, 2019). However, there are some problems with these measures because MTB is also affected by economic factors (and so contains conditional conservatism) causing unconditional conservatism to have an error (Gassen et al., 2006). Furthermore, regarding the use of hidden reserves as a measure, it also has issues based on the quality and accessibility of the hidden reserve information (Cano-Rodríguez & Licerán-Gutiérrez, 2019). This thesis aims to assess the extent of unconditional conservative accounting practices by examining the outcomes of consistently negative accruals, which is unaffected by prospective economic rents. A more comprehensive explanation of this measurement approach will be provided in Chapter 4.

2.4.2.3 Timeliness

Ball et al. (2000) and Bushman et al. (2004) labelled timeliness as the scope of current accounting earnings integrated with current economic earnings or value-relevant information. In other words, timely earnings should reflect all company information, both good and bad news. Thus, the difference between conservatism and timeliness is that conservatism reflects bad news (losses) more quickly than good news (gains). The common measure of timeliness is the explanatory power, also known as the r-square, of the reverse earnings-returns regression from Basu (1997). A higher value of the coefficient of determination indicates a greater degree of timeliness in the accounting earnings attribute, which in turn contributes to enhanced earnings quality (Francis et

al., 2004). However, one question that needs to be asked is whether timeliness overlaps with other earnings attribute measures such as the value relevance–earnings response coefficient, as described in section 2.4.2.1.

To conclude this part, users of financial reporting can measure earnings quality in two different ways: accounting-based and market-based earnings measures. From the accounting-based view, users depend only on information from financial reporting. For the market-based view, users have used company' market returns together with accounting information to predict future earnings by using the present economic earnings (stock price), which are highly relevant to the real companies' performance. All of the measures of earnings quality explained earlier are useful and informative for users in many different dimensions, whether it be accruals quality, earnings persistence, earnings predictability, earnings smoothness, value relevance, conservatism, and timeliness. Being more effective in decision-making, users should consider more than one aspect in the assessment of earnings quality. Moreover, users should scrutinise the possible accessibility of financial and market return information. If it is insufficient or there is no available information, this will affect the reliability of earnings quality models, resulting in it not reflecting the actual economic events of the company.

2.5 Earnings Quality in This Research Context

2.5.1 Introduction

As there is no consensus on the definition and measures of earnings quality, stakeholders have to use the ones that best suit their needs. Moreover, using just one of the earnings quality attributes can produce biased estimations arising from the regression model. Therefore, this thesis will employ various earnings-quality dimensions to better understand earnings quality. This thesis highlights two significant earnings quality attributes, which are earnings management and conservatism.

There are several reasons to support these selected characteristics. First, this thesis examines two different earnings attributes as stated in work done by Francis et al. (2004). In other words, earnings management is considered as an accounting-based, while conservatism is treated as a market-based. Second, according to the Conceptual

Framework for Financial Reporting issued by FASB and IASB, qualitative characteristics of useful financial information should provide users with relevance and faithful representation. Thus, this thesis traces these two characteristics using earnings management for faithful representation and conservatism to represent value relevance. Financial information must faithfully represent the substance that would be complete, neutral, and free from error. In this case, this thesis depicts earnings management as indicating faithful representation. Accounting information must also have value-relevance, making information available to decision-makers before it loses its capacity to influence decisions. This relies on the timeliness concept, which is another aspect of relevance and can be studied by using conservatism in this thesis.

Third, Cano-Rodríguez and Licerán-Gutiérrez (2019) demonstrated that the large majority of empirical studies on earnings quality are classified into the accounting properties category, especially earnings management (the largest portion) and conservatism (the second-largest element). It can be seen that these two attributes are at the heart of our understanding of earnings quality. Lastly, within the realm of CG literature, there has been much discourse surrounding the relative significance of financial reporting quality, particularly in relation to the quality of earnings. In such instances, the Board, a crucial body responsible for safeguarding the interests of stakeholders, assumes significant responsibilities in overseeing and providing guidance for the financial reporting process to ensure the delivery of accurate and reliable accounting information.

Thus, this thesis aims to examine the influence of the Board's characteristics on earnings quality, specifically focusing on the variables of earnings management and conservatism. The two earnings attributes — earnings management and conservatism — will be described in the next section.

2.5.2 Earnings Management

This section describes in greater detail earnings management, including its definition, incentives, scopes and natures. In this thesis, the abbreviation 'EM' will represent earnings management.

2.5.2.1 The Definition of Earnings Management

For many years, several studies have attempted to define the meaning of EM; however, there is no consensus on its definition. As a result, there are many different interpretations of empirical evidence in this study. Thus, understanding the meanings of EM and comparing among researchers is a good starting point for investigating EM in depth.

A prominent definition of EM was presented by Schipper (1989, p.92) as: 'disclosure management in the sense of a ***purposeful*** intervention in the external financial reporting process, with the intent of obtaining some private gain'. This definition is supported by Healy and Wahlen (1999, p.368), who state: 'Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either ***mislead some stakeholders*** about the underlying economic performance of the company or to ***influence contractual outcomes*** that depend on reported accounting numbers'. Similarly, Fields et al. (2001) defined EM as the event when managers use their discretion over accounting information because they may act with a short-term self-interest incentive and manipulate earnings for short-term benefit.

However, some authors have attempted to show the advantages and disadvantages of EM. For example, Menicucci (2020) points out that, in terms of the information perspective, managerial discretion is a way for managers to unveil their private information, such as the company's future cash flow, to stakeholders. In contrast, from an opportunistic perspective, managerial opportunistic behaviour can mislead users as the reported financial information is deliberately manipulated. The impacts of EM on stakeholders can be observed to have both positive and negative consequences, with the specific outcomes being contingent upon the particular circumstances surrounding the implementation of this practice. In the same vein, Dechow and Skinner (2000) proposed that EM can be used within GAAP by applying either accounting choices or real cash flow choices.

Generally, accounting principles provide some flexibility for managers in preparing financial information. This gives managers the freedom to make accounting choices

and alternatives. Thus, EM has arisen when managers use these opportunities intentionally to alter financial information for their personal gain. To conclude, EM can be defined as accounting information that is a distortion of real economic activity, based on management's desire, rather than presenting the actual company's performance.

2.5.2.2 Earnings Management Incentives

The objectives of earnings management are different depending on the motivations the managers have. Therefore, understanding management's motivations is essential for knowing the desire to manage earnings (Dechow & Skinner, 2000). Healy and Wahlen (1999) classified earnings management incentives into three types: capital market expectations and valuation, contracts written regarding accounting numbers, and anti-trust or other government regulations.

2.5.2.2.1 Capital Market Motivations

Investors and financial analysts use accounting information to assess a company's stock price. If the company's stock is priced higher than its assessable intrinsic value, it is seen as having high profitability and willingness to invest by investors. The studies of earnings management during capital market transactions and a gap between corporate performance and investors' or financial analysts' expectations are considered capital market incentives. There are many instances of these motivations. First, managers attempted to manage earnings through managerial discretion prior to issuing shares, whether by initial public offering, seasoned equity offering, or stock financed acquisition (Dechow & Skinner, 2000; Healy & Wahlen, 1999). By way of illustration, Miloud (2014) and Teoh et al. (1998) report that during an Initial Public Offering (IPO) of shares, earnings increase, whereas, after IPO, earnings decrease. During IPO, earnings are higher because management exercises discretion through accounting policies, such as depreciation and allowance for doubtful accounts. In contrast, the decrease in earnings (after IPO) results from the reversal of those accruals items.

Another example is in the case of the seasoned equity offering (Cohen & Zarowin, 2010; Teoh et al., 1998). Both of these studies found that company's earnings during

the equity offer increased and the decline in post-seasoned-equity-offers performance was due to investors realising that managers managed earnings. Moreover, Erickson and Wang (1999) added that acquiring firms try to increase their stock prices before investing in the stock merger. This is because the increase in a stock value could reduce the number of shares used for the exchange, resulting in decreased acquisition costs.

Another aspect of capital market motivations is management buyouts. For example, executives were found to understate earnings prior to their acquisitions because they want to buy the stock at a lower price (Healy & Wahlen, 1999). This is supported by Wu (1997), who found that unexpected accruals decreased, meaning income also decreased, prior to a management buyout.

The last view of capital market incentives, proposed, for example, by Healy and Wahlen (1999) and Dechow and Skinner (2000), is that earnings are managed to meet financial analyst expectations. Financial analysts use accounting information to forecast a company's future performance for a short period of time. If corporate performance does not meet the expectations of the financial analysts, that will cause the corporate's share price to decrease significantly. It may also lead to a reduction in management's compensation or even termination of management. This is exemplified in work undertaken by Bannister and Newman (1996) and Kasznik (1999), who discovered that managers manage earnings upward when the actual profit is lower than analyst expectations. Additionally, Graham et al. (2005) find that firms that fail to meet analyst expectations suffer significant adverse price reactions on the earnings announcement date.

However, one of the problems with the previous research was that they mainly focused on specific industries, especially banks and insurers, so further studies are needed to investigate the effects of earnings management on the capital market in wider industries. In this regard, the motivations of the capital market drive this thesis to investigate how CG mechanisms can reduce earnings management by employing listed companies from a variety of industries in developed markets.

2.5.2.2.2 Contracting Motivations

As mentioned in the previous section, earnings management can mislead financial reporting, which managers use to communicate company information mainly to shareholders and debtholders. This manipulation can influence resource allocations affecting management compensation contracts and lending contracts (Healy & Wahlen, 1999). These contractual agreements have the potential to exert pressure on managers to engage in earnings management. In addition, managers are subject to strict scrutiny by compensation committees and creditors, who are responsible for overseeing and examining the practice of earnings management.

The first contracting motivation is management compensation contracts, which encompass various elements such as bonus schemes, compensation plans, share-based payments, and other related mechanisms. (Dechow & Skinner, 2000; DeFond & Jiambalvo, 1994; Healy, 1985; Sweeney, 1994). Managers are motivated to manage earnings to increase their compensation by choosing accounting practices that shift earnings from future periods to the current period. In contrast, they may defer earnings when the earnings targets in their bonus plans are not met or have no bonus capability. In these cases, earnings management arises from the earnings figure used as a condition in the compensation contract and the management's job security (Healy & Wahlen, 1999). These studies are consistent with those of Balsam (1998), who reported that managers tried to manage higher earnings to increase their cash compensation and manage lower earnings when the current-year earnings have not reached the criteria of earnings-based bonus awards. In the latter view, management will defer current-year earnings to future years, resulting in an increase in management's future compensation. Additionally, accruals policies used by managers might be related to incentives of their management contracts (Healy, 1985). Consequently, this thesis investigates this occurrence using accruals earnings management, which will be discussed in Chapter 4.

Secondly, several studies have been conducted to investigate whether companies in close proximity to lending covenants engage in earnings management. (Dechow & Skinner, 2000; Healy & Wahlen, 1999). This is because the financial structure and business risks play an essential role in a business that gets financing from shareholders

and creditors. In this case, firms are required to meet the covenant agreements such as restrictions on interest coverage or debt-equity ratios and the payment of dividends unless after paying interests. Therefore, managers make efforts to ensure the survival of the organisation when they are on the edge of encountering debt covenant violations. For example, DeFond and Jiambalvo (1994) discover that earnings are managed by manipulating accruals in the year before the debt covenant violation and the year of the violation. The distinction is further exemplified in the study by Sweeney (1994), who discerns that the debt-covenant violators make income-increasing accounting changes in the year after the violations.

This section has demonstrated that compensation and loan agreements have the potential to influence managers' behaviour in order to enhance their compensation, strengthen their job stability, and mitigate the risk of debt-covenant violations. Next topic will be discussed the regulatory motivation behind the actions of management.

2.5.2.2.3 Regulatory Motivations

Healy and Wahlen (1999) classified regulation incentives into two forms: industry-specific and anti-trust regulations. First, the regulations in some industries, such as the banking and finance industry, require the company to achieve their requirements which are directly linked to accounting information. For instance, banking regulations specify that banks must meet certain capital adequacy requirements that are represented in accounting numbers. This can cause earnings manipulation by managers to meet those qualifications. In support, Galai et al. (2003) found that if a banking company is penalised for downward variation from the targets, managers will have motivations to manipulate hidden reserves. There are many other ways to manage earnings for banks when pressured by industry regulations, such as overstating loan loss provisions, understating loan write-offs, and recognising unusual realised gains on trading securities (Healy & Wahlen, 1999).

Second, when considering the perspectives of anti-trust and other regulatory actions, it may be observed that managers employed by enterprises involved in anti-trust investigations or those with negative political relationships tend manage lower earnings, particularly during periods of investigation (Healy & Wahlen, 1999). To conclude this part, in situations where managers are working under pressure from

industry and other regulations, they may manage earnings, either through understatement or overstatement, to avoid violating such regulations.

In view of all the motivations that have been mentioned so far, much of the research to date has investigated ways of deterring earnings management, such as having good CG mechanisms, having high auditing quality, or organising suitable ownership characteristics. However, this study aims to contribute to CG research by exploring how the Boards' characteristics, representing the proxy of good or bad CG, impact earnings quality.

2.5.2.3 Scope of Earnings Management

By drawing on the definitions of earnings management, previous researchers have attempted to draw fine distinctions between fraud and earnings management (Ana & Beatriz, 2003; Dechow & Skinner, 2000; Healy & Wahlen, 1999; Schipper, 1989). On the one hand, fraudulent accounting practices clearly involve management's intention to deceive users by not complying with accounting regulations. However, it is important to note that while earnings management is considered a kind of accounting manipulation, these practices, which involve the use of management's judgements and estimates, are still conducted within the legal and regulatory framework of accounting standards. Dechow and Skinner (2000) distinguish between choices that violate and comply with accounting practices; the details are presented in Table 2.1 below.

Table 2. 1 The Distinction between Fraud and Earnings Management

This table categorises earnings management into three types: accruals, real, and other manipulations, which are in accordance with or in violation of accounting standards.

	Accruals Management	Real Activities Manipulation	Other Manipulations
Within GAAP			
"Conservative" Accounting	- Overstatement of provisions or reserves - Overstatement of asset write-offs	- Delaying sales - Accelerating R&D or advertising expenses	- Too low in earnings forecast guidance
"Neutral" Earnings	- Earnings that reflect neutral accounting choices		
"Aggressive" Accounting	- Understatement of provision and other allowance	- Accelerating sales - Postponing R&D or advertising expenses	- Too high in earnings forecast guidance
Violates GAAP			

	Accruals Management	Real Activities Manipulation	Other Manipulations
"Fraudulent" Accounting	- Recognition revenues before they are realisable - Recording sham sales - Backdating sales - Recording fictitious ending inventory		

Source: Adapted from Dechow and Skinner (2000, p.239)

Table 2.1 presents three management manipulations: accruals management, real activities manipulation, and other manipulations. First, accruals management is one form of earnings management where managers use judgments and estimates within accounting choices based on accruals accounting, whether it be conservative accounting or aggressive accounting. In doing so, accounting information obscures the company's actual performance. Managers can use many ways to engage in discretionary accruals such as allowance account, provision account, salvage value and useful life of fixed assets. In contrast, accounting choices that managers manipulate outside accounting principles are considered fraud, such as recording fictitious transactions.

Second, real activities manipulation can be called real earnings management. Managers may choose real cash flow choices to distort accounting information from normal business operations. For example, they can manipulate information by altering the time in recognising transactions or changing the plan for investing and financing activities. As a result, these modified transactions affect accounting information and firm financial performance or earnings. As can be seen from Table 2.1 above, managers may delay or accelerate sales and manipulate discretionary expenses such as R&D and advertising expenses.

In addition to accruals and real earnings management, managers can use other manipulations such as expectations management and earnings forecast guidance (Athanasakou, 2011; Bradshaw & Sloan, 2002). For example, a company might deliberately announce an earnings forecast lower or higher than actual earnings. However, this thesis will focus on the prevalent management manipulations: accruals

earnings management (AEM) and real earnings management (REM). Both of these views will be discussed in the following sections.

2.5.2.4 The Nature of Accruals Earnings Management and Real Earnings Management

Although extensive research has been carried out on earnings management, the debate on this topic is still growing, highlighting the importance of earnings management in accounting literature. Most previous studies in the field of CG and earnings management have mainly focused on accruals management through discretionary accruals (Abdul Rahman et al., 2006; Augustine Enofe et al., 2017; Banbhan et al., 2018; Cohen et al., 2014; Gull et al., 2018; Krismiaji et al., 2016; Kyaw et al., 2015; Osma & Noguer, 2007; Sharifah, 2012; Wan Mohammad & Wasiuzzaman, 2019).

In recent years, there has been an increased focus among scholars on the phenomenon of real activities earnings management (Gao & Gao, 2016). Additionally, Teixeira and Rodrigues (2022) draw attention to the concept of 'real EM' as a prominent phrase in the field of EM research, indicating its relatively recent emergence in scholarly discourse. It is noteworthy that in contemporary times, a majority of companies exhibit a higher propensity to engage in REM. As an illustration, the research conducted by Cohen et al. (2008) suggested that companies shifted from AEM to REM after the passage of the Sarbanes-Oxley Act in 2002.

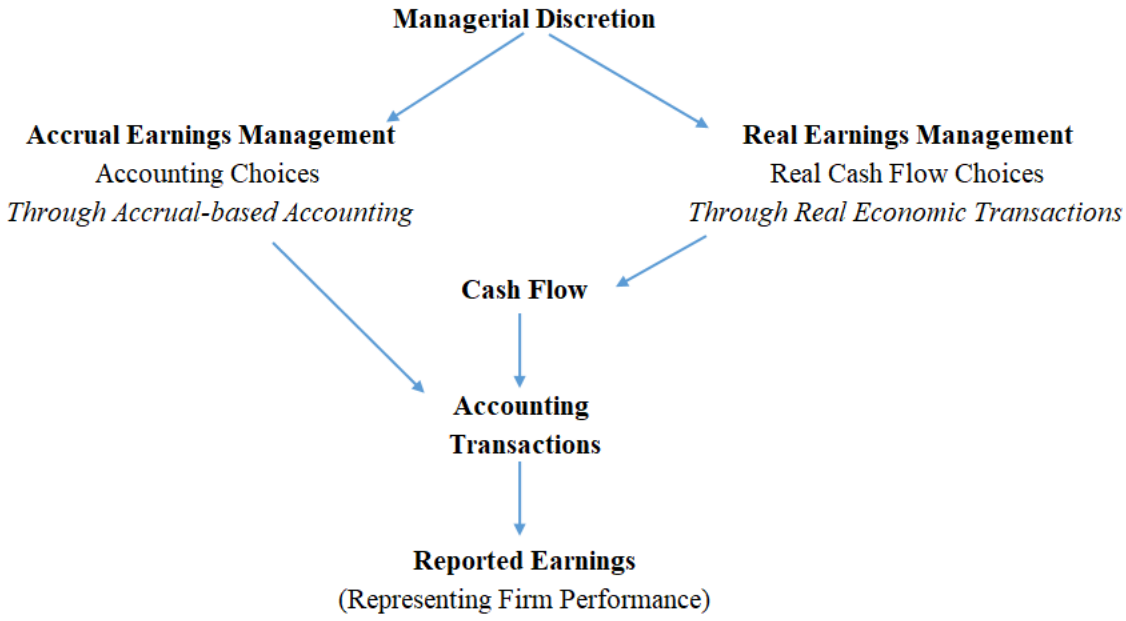
Companies are motivated to engage in REM for several reasons. One reason is that REM is less likely to draw the attention of auditors and regulators compared to AEM strategies. This is because REM is derived from routine business operations and subsequently flows through the accounting system. In contrast, AEM involves direct manipulation by managers in accounting transactions (Roychowdhury, 2006). Moreover, managers can arrange REM during the year, dissimilar to AEM that required management discretion to adjust transactions at the end of the year (Gunny, 2010). Because the issue of earnings management is controversial, this thesis will contribute to a deeper understanding of both types of earnings management.

Previous studies generally classify earnings management strategies into two types: accruals earnings management and real earnings management (Ali & Kamardin, 2018;

Dechow & Skinner, 2000; Gunny, 2010; Miloud, 2014; Randall Zhaohui et al., 2007), as presented in Figure 2.1.

Figure 2. 1 Two Strategies of Earnings Management: Accruals Earnings Management and Real Earnings Management

The figure illustrates two distinct forms of earnings management: accrual earnings management and real earnings management, both of which result from the discretion of management. The impact of these earnings manipulations on reported earnings is also shown in the figure.



Source: Adapted from Dechow and Skinner (2000, p.239) and Miloud (2014, p.121)

As shown in Figure 2.1, both earnings management strategies arise from management's discretion. On the one hand, AEM happens when managers use their judgments and estimates over accounting choices through accruals-based accounting. As a result, they deliberately alter accounting information, especially earnings, to mislead the understanding of stakeholders (Dechow & Skinner, 2000; Healy & Wahlen, 1999; Schipper, 1989). On the other hand, REM refers to management attempts to alter earnings through real economic events. In other words, REM occurs when managers distort business transactions, which directly affect cash flow, by modifying the timing or structuring of business activities, such as sales manipulation, reduction of discretionary expenditures, and overproduction (Ali & Kamardin, 2018; Dechow & Skinner, 2000; Graham et al., 2005; Gunny, 2010; Randall Zhaohui et al., 2007; Roychowdhury, 2006).

As discussed above, there are some crucial differences between AEM and REM. First, AEM relies on the use of accounting choices by managers while REM does not rely upon accounting policies, but it can be done through operating procedures used by managers (Dechow & Skinner, 2000; Randall Zhaohui et al., 2007). Second, manipulation of accruals does not directly affect cash flow operations, whereas real activities manipulation affects short-term cash flow and is more negatively pronounced in long-term cash flow (Roychowdhury, 2006). However, when considering the potential risk of cash flow volatility (a factor frequently evaluated by investors), it becomes apparent that REM has greater risk compared to AEM. This is due to the fact that real activities manipulation entails the manipulation of actual cash flow operations.

Third, for auditor's detection risk, AEM is more likely to be detected by the auditor than REM since accounting choices are subject to the scrutiny of auditors (Gunny, 2010). Fourth, as previously mentioned, accruals management is based on the auditor's approval, whilst real cash flow choices are under the control of managers (Ali & Kamardin, 2018). Last but not least, in relation to the manipulation of timing, it is important to note that AEM is subject to a constraint on recognition. Managers have the ability to record accruals transactions at the end of the accounting period, whereas REM can be employed by managers throughout the year in accordance with their operational strategies (Gunny, 2010; Roychowdhury, 2006).

Even though AEM differs from REM in a number of important ways, both can affect reported earnings in a distorted manner. This phenomenon can be attributed to the exercise of managerial discretion in determining accounting policies and operational strategies, which then leads to modifications in financial reporting. As a consequence, stakeholders may receive a distorted representation of the actual performance of the organisation. In addressing this matter, the implementation of effective CG procedures (such as the establishment of the Board's responsibility for overseeing and providing guidance on the financial reporting system) would serve to restrict managerial opportunism and the manipulation of earnings. Thus, this thesis focuses on examining the impact of the Board's characteristics on earnings management, which is considered a crucial aspect of earnings quality.

2.5.3 Accounting Conservatism

This section describes and discusses in greater detail accounting conservatism, including its definition, explanation, and nature.

2.5.3.1 The Definition of Accounting Conservatism

The accounting field has been significantly impacted by conservatism in both theory and practice for several decades (Basu, 1997). However, it is important to note that the definition of accounting conservatism has not remained consistent across all accounting literature. One of the most prominent definitions is proposed by Basu (1997), wherein conservatism is defined as the tendency of accountants to demand a greater level of verification for recognising positive information compared to negative information in financial statements. In the same vein, Francis et al. (2004) agree that conservatism reflects the ability of reported earnings to manifest economic losses quicker than economic gains.

Later, the meaning of conservatism has been associated more closely with accounting practices. Watts (2003, p.208) notes: 'anticipate no profit, but anticipate all losses'. This definition is supported by FASB (1980), who defined conservatism as a prudent reaction trying to make sure that the risk and uncertainty of the company are appropriately considered. Similarly, Penman and Zhang (2002) defined conservative accounting as choosing accounting methods and estimates that carry approximately low net asset book values. For example, regarding inventory accounting, LIFO (Last In, First Out) is more conservative than FIFO (First In, First Out) during periods of inflation. This is due to the fact that the ending inventory is based on older and typically lower costs. Consequently, the net asset is expressed in a more conservative manner compared to the case where FIFO method is employed. Likewise, Ruch and Taylor (2015) defined accounting conservatism as accounting policies or tendencies that support a downward bias in accounting net asset value compared to the economic value of net assets.

However, some critics have argued that conservative accounting is subject to judgments and estimates, raising questions about the quality of financial reporting. For example, managers can increase hidden reserves via accounting conservatism to decrease earnings by inflating investments (Penman & Zhang, 2002). A similar view

is presented by Hendriksen (1977, p.133): 'Conservatism is, at best, a very poor method of treating the existence of uncertainty in valuation and income. At its worst, it results in complete distortion of accounting data'.

In view of all that has been mentioned so far, researchers remain divided on whether conservatism is a beneficial earnings quality attribute. On the one hand, from a positive perspective, supporters of conservatism believe that accounting conservatism benefits users of financial statements because it improves contracting efficiency. In this case, conservatism can communicate more timely financial information for decision-makers and reduce information asymmetry between managers and other stakeholders (Watts, 2003). On the other hand, opponents of conservatism argue that conservatism may provide biased numbers for valuation, resulting in lower earnings quality (Penman & Zhang, 2002) and encouraging managers to manipulate accounting transactions using their judgment and estimates over accounting principles (Menicucci, 2020).

Observe that the perception of a desirable earnings attribute may vary depending on the perspective being considered. This thesis argues that conservatism is a qualitative characteristic of valuable financial information, in accordance with the Conceptual Framework for Financial Reporting 2018 issued by IASB. The framework defines conservatism (also known as prudence) as the exercise of caution when making judgements in situations characterised by uncertainty. Thus, this is an essential factor in preparing financial reporting that requires management's discretion.

2.5.3.2 Explanations for Conservatism

One well-known study conducted by Watts (2003) showed four explanations for accounting conservatism: contracting, litigation, regulation, and taxation. These explanations are then followed by many researchers (Beaver & Ryan, 2005; Qiang, 2007; Ruch & Taylor, 2015; Sohn & Zhou, 2017). In this part, the four explanations will be described in more detail.

2.5.3.2.1 Contracting Explanations for Conservatism

The contracting explanations posit that conservative accounting can prevent firms' motivations for aggressive accounting and so reduce potential losses to users who use

accounting information to conclude contracts (Qiang, 2007). This is consistent with Watts (2003), who suggests that conservatism can reduce the tendency of earnings upward by managers, improving contracting efficiency. Most studies classify the contracting explanation into three parts: (i) debt; (ii) executive compensation; and (iii) CG contracts.

First, conservatism can improve debt-contracting efficiency by mitigating information asymmetry. For example, Zhang (2008) discovered that lenders offered lower interest rates to borrowing parties that reported conservatively. This is because lenders could realise the borrowers' default risk in a timely manner, which helps them to mitigate downside risks. Moreover, conservative financial reporting, which recognises bad news earlier than good news (Basu, 1997; Watts, 2003), is more likely to produce debt-covenant violations. This helps lenders to take protective action and reduce their downside risk.

The second contracting perspective is a manager-based compensation contract. Generally, managers are more likely to have better financial information than other stakeholders, so they may bias earnings to produce larger payments under earnings-based compensation plans (Watts, 2003). However, conservative financial reporting provides downward biased numbers to limit management manipulation and mitigate information asymmetry between insiders and outside investors. Similarly, LaFond and Watts (2008) suggest that conservatism can reduce management's motivations (e.g. the excess of their compensations) and reduce the opportunities of financial manipulation.

Third, CG contracting considers conservatism a tool that can mitigate agency conflict because it can reduce information asymmetry between managers and stakeholders (García-Sánchez et al., 2017; Saeed & Saeed, 2018). The Board can use accounting conservatism to deal with agency problems by mitigating information risk. Moreover, conservatism can increase the transparency of financial reporting, so companies can get back the public trust and confidence from their CG system (Almutairi & Quttainah, 2019). That said, CG is commonly used to explain the agent's role to protect the principal's interest, expecting that the stronger is the CG, the more likely is an agent to employ conservatism (Krismiaji et al., 2016). Overall, debtholders and shareholders

can induce conservatism by imposing contracting costs on firms via CG mechanisms (Qiang, 2007).

2.5.3.2.2 A Regulatory Explanation for Conservatism

Under the regulatory explanation, regulations and accounting standard-setters prefer conservatism (Qiang, 2007). This is because, in the political process, losses arising from an overstatement of assets or earnings are more observable than dropped gains from the understatement of assets or earnings (Watts, 2003). Occasionally, accounting standards have strayed from conservatism. Additionally, Watts (2003) demonstrated a notable example of this by drawing the replacement of goodwill amortisation with goodwill impairment assessment. It can be seen that accounting standard-setters shifted from conservatism-based to a valuation-based approach, which is likely to be manipulated.

These days, accounting standard-setters and regulations express concerns about qualitative financial information by highlighting the importance of conservatism (prudence), especially when managers make judgments under uncertainty, to protect the information used by stakeholders. This view is supported by Qiang (2007), who found that regulators exhibit a preference for some forms of conservatism, such as accelerated depreciation and expensing R&D costs. These practices are seen to mitigate substantial adverse impacts and maintain the sustainability of earnings. However, it is possible for the company to avoid certain forms of conservatism that are more likely to have a temporary impact on financial reporting, such as asset impairment. This is because asset impairment can have a major negative effect on earnings and attract the attention of regulators.

In general, it is anticipated that regulations will encourage specific aspects of conservatism that are expected to consistently influence the statement of income over time. Examples of such aspects are the accumulated reserves in the allowance for doubtful accounts and warranty allowance (Qiang, 2007).

2.5.3.2.3 A Litigation Explanation for Conservatism

In the context of legal proceedings, it is observed that companies and auditors face a higher probability of being sued when there is an overstatement of earnings and net assets (Kellogg, 1984 as cited in Qiang (2007); Watts (2003)). Thus, managers and

auditors have incentives to disclose conservative accounting information with respect to earnings and net asset values. In this case, auditors can transfer their litigation costs to the firm by not tolerating aggressive accounting practices, increasing auditing fees, issuing dissatisfied auditor's opinions, or terminating the contract (Qiang, 2007). This implies that the company would incur litigation expenses that are transferred from auditors.

As a result, managers must find ways to reduce this litigation risk by recognising bad news in a more timely manner than good news; the quicker the bad news is recognised, the less likely the chance of lawsuits will be certified (Qiang, 2007). This is consistent with the study done by Huijgen and Lubberink (2005), which demonstrates that the earnings of cross-listed UK firms exhibit a significantly higher degree of conservatism compared to non-cross-listed UK firms. This can be attributed to the greater litigation risks faced by cross-listed companies, which consequently creates stronger incentives for them to adopt a more stringent approach towards conservatism. In general, companies have the potential to mitigate litigation expenses through the application of conservatism, as this approach is likely to result in less harm to stakeholders.

2.5.3.2.4 A Taxation Explanation for Conservatism

Taxation incentives can also drive conservatism (Sohn & Zhou, 2017). The distinctions between tax-based and accounting-based systems are well-documented. Tax codes primarily serve the purpose of collecting taxes on a cash basis, with the responsibility falling on tax authorities. On the other hand, accounting principles are specifically formulated to faithfully and relevantly represent a company's economic events, primarily utilising the accruals basis. While it has been previously emphasised that accounting and taxation are distinct, Shackelford and Shevlin (2001) have proposed two connections between book and tax. Firstly, with regard to tax-minimising strategies, certain companies may need to make compromises on the book value of their earnings in order to lower their taxable income. Secondly, in relation to large book-tax differences, these corporations are more prone to being subjected to regulatory audits. The presence of these connections results in a tendency for taxing to induce accounting conservatism, and hence reduced earnings which mitigate the occurrence of book-tax gaps. (Qiang, 2007). This is consistent with the work done by

Asgari and Behpouri (2014), who discovered that when companies have higher tax costs, they will be more likely to apply conservatism. Overall, it can be seen that, on average, taxation incentives lead to an understatement of net assets (Watts, 2003).

In summary, the aforementioned four factors, namely contracting, regulation, litigation, and taxation, play crucial roles in influencing conservative accounting practices in various manners. Most of these explanations require contextual conservatism e.g. to improve contracting efficiency, and to lower litigation and regulation costs. Nevertheless, certain explanations, such as those aimed at reducing taxes, can potentially utilise conservatism in a manner that has adverse effects on other stakeholders. This is because managers may employ conservative accounting practices as a means of financial manipulation causing the dissemination of misleading information. In order to address this issue, it is recommended that the corporation adopt CG procedures as a means to safeguard the interests of stakeholders and oversee the conduct of management. Hence, this thesis aims to investigate the potential of CG to augment the usefulness of qualitative financial information (specifically in the context of conservatism) for stakeholders.

2.5.3.3 The Nature of Accounting Conservatism

Conservatism has been an object of research since Basu (1997), and subsequent researchers have found different ways to classify conservatism. For example, conservatism can be categorised into non-discretionary and discretionary conservatism (Lawrence et al., 2013; Roychowdhury & Martin, 2013). The idea behind this classification is similar to accruals earnings management that disaggregates the discretionary accruals part, as representing managers' manipulation. However, much of the literature on conservatism pays particular attention to the classifications by either conditional or unconditional conservatism (Ball & Shivakumar, 2005; Beaver & Ryan, 2005; Cano-Rodríguez & Licerán-Gutiérrez, 2019; Menicucci, 2020; Mora & Walker, 2015; Qiang, 2007; Ruch & Taylor, 2015; Sohn & Zhou, 2017; Zhong & Li, 2017), as shown in Table 2.2.

Table 2. 2 The Distinction between Conditional Conservatism and Unconditional Conservatism

This table categorises accounting conservatism into two distinct types: conditional conservatism and unconditional conservatism. Furthermore, it elucidates the impact of each category on financial statements, accompanied by illustrative instances for each scenario.

	Conditional Conservatism	Unconditional Conservatism
Other names	- Earnings conservatism - Ex-post conservatism - Information-driven conservatism	- Balance-sheet conservatism - Ex-ante conservatism
Depending on economic news	- News-dependent conservatism	- News-independent conservatism
Effects on the statement of income	- The transitory impact across the period	- The consistent impact from period to period
Effects on the statement of financial position	- Result in understated net assets	- Result in understated net assets
Examples of conservatism	- Long-term asset impairment - Asymmetry in gain/loss contingencies - Inventory accounting via using lower-of-cost-or-market convention	- Accelerated depreciation methods - Discretionary expenses, i.e. R&D costs, and advertising costs - Accumulated reserves over expected future costs, i.e. allowance accounting

Source: Adapted from Mora and Walker (2015, p.623-624), Qiang (2007, p.760-761) and Ruch and Taylor (2015, p.21)

First, conditional conservatism — also called earnings conservatism, ex-post conservatism, or information-driven conservatism (Cano-Rodríguez & Licerán-Gutiérrez, 2019; Menicucci, 2020; Mora & Walker, 2015; Zhong & Li, 2017) — refers to the recognition of bad news in a more timely fashion than good news on financial reporting (Basu, 1997; Mora & Walker, 2015). Hence, conditional conservatism is news-dependent, meaning that book values are recorded under adverse events but are not recognised under favourable circumstances (Zhong & Li, 2017). That is, the recognition of events is contingent upon the presence of negative news, which is seen as a characteristic of earnings quality due to its potential to mitigate issues related to excessive investment (Mora & Walker, 2015). Well-known examples of conditional conservatism include long-lived asset impairment, goodwill impairment, and lower cost or market value for inventory accounting.

Second, unconditional conservatism — called balance-sheet conservatism, or ex-antes conservatism (Cano-Rodríguez & Licerán-Gutiérrez, 2019; Menicucci, 2020; Mora & Walker, 2015; Zhong & Li, 2017) — captures the idea that the book value of net assets is understated or less than its neutral value through accounting principles under uncertainty. The idea behind the word ‘unconditional’ is that conservative accounting

choices are recognised before any economic circumstances are available, called ex-ante conservatism. Thus, unconditional conservatism does not depend on current economic news (Mora & Walker, 2015). Examples of unconditional conservatism include depreciation of long-term assets at a rate exceeding the expected economic depreciation rate, immediate expensing of R&D and allowance for doubtful debts.

Although both types of conservatism lead to understating net assets on the balance sheet (Ruch & Taylor, 2015; Zhong & Li, 2017), they have different effects on the statement of income. In other words, conditional conservatism is more likely to temporarily fluctuate on the income statement, while unconditional conservatism has a consistent impact on the income statement from year to year (Ruch & Taylor, 2015). Moreover, these two types of conservatism may be related to each other; for example, unconditional conservatism creates 'accounting slack', which impacts conditional conservatism in a pre-emptive manner (Beaver & Ryan, 2005).

Many studies have highlighted on the concept of conditional conservatism, as it pertains to uncertain economic occurrences. This concept is rooted in the loss-differential-timeliness framework proposed by Basu (1997), which acknowledges the importance of qualitative financial information. Conversely, the prevalence of unconditional conservatism is comparatively lower, due to its subjective nature and its association with managerial discretion. Moreover, it should be noted that the application of unconditional conservatism in financial reporting may not accurately represent the real market value of shares over time, even when accounting information is influenced by various risks and economic factors (Menicucci, 2020). However, accounting researchers have developed unconditional conservatism proxies that can mitigate such problems, for example, using the market-to-book (MTB) ratio to recognise gains and losses in a timely manner (Beaver & Ryan, 2000; Cano-Rodríguez & Licerán-Gutiérrez, 2019). Thus, this thesis attempts to understand conservatism in both views and generate fresh insight into its different meanings and characteristics.

2.6 Conclusion

To conclude this chapter, the literature identifies the importance of earnings quality which is the primary information source for stakeholders above all other firm performance indicators (i.e. cash flow, dividends, or total assets). Thus, reported

earnings should provide useful financial information to different users for their decision-making (Francis et al., 2004). For this reason, earnings quality receives significant attention from a wide range of stakeholders, including investors, financial analysts, auditors, regulators, and scholars. The effect of users on managerial decision-making, particularly in relation to contracting motives and regulation incentives, is manifested through the utilisation of accounting practices to accurately represent financial performance (Healy & Wahlen, 1999; Watts, 2003).

According to different requirements of various users of financial statements, researchers have developed numerous measures of earnings quality based on properties of accounting information, availability of data and estimation models. This chapter has described the commonly used measures of earnings quality, whether it be accruals quality, earnings persistence, earnings predictability, earnings smoothness, value relevance, conservatism or timeliness.

In accordance with the Conceptual Framework for Financial Reporting, the primary qualitative attributes of valuable financial information are faithful representation and relevance. This thesis aims to provide a definition of earnings management in order to assess the degree of reliability. It posits that a decrease in earnings management will result in higher-quality accounting results. Conservatism aims to embody the concept of value relevance since it employs a return-based measure within the framework of asymmetric timeliness.

Furthermore, CG has been identified as a significant factor in determining the quality of earnings (Dechow et al., 2010). The utilisation of CG mechanisms is of utmost importance in the operation of businesses, as it plays a crucial role in building trust and confidence among stakeholders regarding the accuracy and reliability of the financial information provided by the organisation. The major duty of the Board is to implement effective CG practices. Additionally, the Board is responsible for overseeing and providing guidance to the financial reporting system, which serves to mitigate opportunistic managerial actions and ensure the delivery of useful financial information. In the next chapter, theoretical perspectives and relevant literature supporting the relationship between CG mechanism and earnings quality will be reviewed and described further.

CHAPTER 3 The Link between Corporate Governance and Earnings Quality: Review of Theoretical Perspectives and Empirical Evidence

3.1 Introduction

The purpose of this chapter is to critically review the literature on the link between CG mechanisms and earnings quality. This chapter has been divided into four parts. The first part (section 3.2) gives a brief overview of CG, including Board diversity and director roles. The second part (section 3.3) describes relevant multi-theoretical perspectives. Third, it will then go on to relevant empirical studies in sections 3.4 and 3.5 to understand the previous studies and develop the hypothesis of this thesis. Finally, the conceptual framework will be developed in section 3.6.

3.2 Corporate Governance Mechanism

In this section, two sub-sections articulate CG mechanisms: the overview of CG and the role of the Board under the governance mechanism. The term "CG" will be used in this thesis to refer to corporate governance.

3.2.1 Overview of Corporate Governance Mechanism

The main objective of CG is to improve the quality of company governance and to increase company responsibilities to maximise shareholders' and stakeholders' wealth (Haxhi & Aguilera, 2014). Unlike other forms of regulations that are usually stricter, CG practices are voluntary in nature, issued by multi-hierarchical levels: international, national, and individual firm levels. It can be argued that CG exhibits flexibility in its application, as evidenced by the principles of "comply or explain" and "freedom with accountability". This provides corporations with the choice to either adhere to the mandated standards or to offer a justifiable rationale for their inability to implement these practices (Cuomo et al., 2016). Although CG codes are not a compulsory regulation that all companies have to follow strictly, most companies tend to apply CG practices to their businesses to show the company's better transparency to the market.

A large and growing body of literature has investigated governance as the determinant of earnings quality. Dechow et al. (2010) classified governance mechanisms into the Board characteristics, internal control procedures, managerial ownership, managerial

compensation, and managerial change. Among these determinants, the Board characteristics play the most crucial role in monitoring and advising financial reporting processes. Moreover, as discussed in chapter 2, all stakeholders need to get quality earnings for their decisions. Hence, the investigation of the relationship between the characteristics of the Board and the quality of earnings presents a potentially intriguing area of study. The subsequent section provides a more comprehensive analysis of this relationship.

3.2.2 Board of Directors and Corporate Governance Mechanisms

The topic pertaining to the board of directors, has been extensively examined in several research articles within the fields of CG and accounting. Prior research has categorised the various elements of corporate Boards into three main categories: Board structure, Board diversity, and individual demographics (Lu et al., 2022). Board structure encompasses factors such as Board independence, CEO duality, Board size, blockholders, and Board interlocks. Board diversity encompasses characteristics such as gender, age, nationality, tenure, and experience diversity. Lastly, individual director characteristics include attributes such as social status, risk preference, and director qualifications.

One of the prevailing topics of discourse within the realm of Board characteristics pertains to the concept of Board diversity. In essence, the inclusion of individuals from diverse backgrounds, encompassing gender, age, ethnicity, education, experience, and other dimensions, can contribute to a broader range of perspectives within the boardroom. This, in turn, facilitates the availability of valuable information and improves the effectiveness of monitoring and advising functions, ultimately leading to enhanced outcomes for the firm (Adams & Ferreira, 2009; Baker et al., 2020; Terjesen et al., 2009; Upadhyay et al., 2014).

Conversely, other researchers have discovered the detrimental impacts of Board diversity on business outcomes. For instance, research conducted in the field of social psychology examines the dynamics of interaction and involvement within boardrooms. These studies indicate that there exists a negative relationship between Board diversity and Board process, resulting in less effectiveness in Board task performance and lower levels of corporate performance (Martinez-Jimenez et al.,

2020; Walker et al., 2015; Yang, 2011). It can be seen that previous research findings into the impact of Board diversity on corporate outcomes have been inconsistent and contradictory (Adams et al., 2015; Baker et al., 2020). Therefore, this thesis intends to determine the extent to which Board diversity impacts financial reporting quality and whether the Board characteristics are supportive or discouraging to earnings quality.

3.2.2.1 Board of Directors' Diversity

The issue of Board diversity is receiving much attention among scholars in both developed and emerging countries since organisations increasingly operate in complicated and cross-cultural contexts. Working as a team becomes more critical in organisations because it can generate new ideas and creativity, provide diverse perspectives and blend complementary strengths to drive the success of the business. However, groupwork commonly involves many different people with different demographic attributes or backgrounds. Consequently, investigating the impact of diversity in the composition of company group leaders on corporate outcomes is an intriguing area of study (Milliken & Martins, 1996).

Milliken and Martins (1996, p.402) introduced the term 'diversity' as 'a common word meaning variety or a point or respect in which things differ'. Thus, Board diversity may be defined as a variety in company Board composition with regard to specific characteristics (Kagzi & Guha, 2018a). Similarly, Van der Walt and Ingley (2003) defined boardroom diversity as the mixture of human and social capital — such as race, skills, education, experience, and others — that arises from each director drawing on their governance mechanisms. Regarding types of diversity, different methods have been proposed for classifying Board diversity. For example, Kang et al. (2007) classified Board diversity into observable and less visible diversity. Erhardt et al. (2003) and Baker et al. (2020) divided Board diversity into demographic and cognitive diversity. Adams et al. (2015) categorised Board diversity as non-task-related and task-related diversity. Jérôme and Christine (2019) grouped Board diversity into surface- and deep-level diversity. Taken together, these classifications follow the work carried out by Milliken and Martins (1996), who classified Board diversity into

two levels as described in Table 3.1 below. This categorisation is consistent with other researchers (Harrison et al., 1998; Torchia et al., 2015; Walker et al., 2015).

Table 3. 1 Classification of Board Diversity

Two categories of Board diversity are displayed in this table: surface-level and deep-level. Classification is based on two distinct criteria: task-related factors and observable elements. This table also includes an illustration of each type of Board diversity.

	Surface-level Diversity	**Deep-level Diversity**
Are the Board's characteristics easily observable?	Yes (Demographic attributes)	No (Cognitive abilities)
Are the Board's characteristics directly related to tasks?	No	Yes
Example	Gender, age, race and ethnicity	Education, experience, expertise, tenure, and personality

Source: Modified from Adams et al. (2015, p.77), Baker et al. (2020, p.233), Erhardt et al. (2003, p.102), Jérôme and Christine (2019, p.84), Kang et al. (2007, p.195) and Milliken and Martins (1996, pp.403-404)

In this part, it is notable that Board diversity will be discussed in terms of a general concept that commonly impacts the organisation. A more detailed account of Board diversity and earnings quality will be described in section 3.4.

3.2.2.1.1 Board's Surface-level Diversity

As can be seen from Table 3.1 above, the first aspect of Board diversity pertains to surface-level diversity. This refers to the heterogeneity observed among director members in terms of observable or demographic traits, which generally do not have a direct connection with their given duties. Illustrations of surface-level diversity within a Board encompass categories such as gender, age, race, and ethnicity.

Gender

To begin with, Board gender diversity is the most common attribute in the study of Board diversity. People who are different from other group members in terms of gender are less likely to be connected to the group, making their performance lower (Milliken & Martins, 1996). In this regard, some researchers have discovered the negative effects of Board gender diversity on firm outcomes. For example, Forbes and Milliken (1999) employed a social-psychological perspective in their studies and

Adams and Ferreira (2009) found the negative effect of gender diversity on firm performance.

However, in highly gender-equal firms, women are considered good partners and positively support group members leading to higher task performance (Milliken & Martins, 1996). This is supported by many theoretical perspectives — such as resource dependence theory, upper echelon theory, and stewardship theory — because having diverse genders in the Board can improve board functioning leading to a higher firm performance (Alabede, 2016; Assenga et al., 2018; Carter et al., 2010; Groening, 2019; Kagzi & Guha, 2018a).

It can be seen that gender diversity is viewed as a double-edged sword, meaning that diversity in gender can be either positive or negative for task performance, leading to different firm outcomes following the power of women directors (Kagzi & Guha, 2018a). Additionally, another stream of studies on gender diversity argues that there may be a critical number of women on a Board that makes the boardroom difference (Johnson et al., 2013). For example, the implementation of gender quotas, such as mandating the inclusion of three female directors on the Board (Adams & Ferreira, 2009) or ensuring a minimum representation of 33% female directors (European Commission, 2022), seems to be a critical threshold and may either positively or negatively affect firm outcomes.

Age

Concerning age diversity of the Board, on the one hand, Milliken and Martins (1996) point out the negative impact of age diversity on task performance since people who are different from group members in terms of age are more likely to have a higher turnover rate, and be absent more frequently, leading to their lower performance. Moreover, there may be communication and group decision-making problems among with different ages members. For example, older directors are less likely to initiate change, while younger directors are more willing to make strategic changes (Johnson et al., 2013; Kagzi & Guha, 2018a), leading to conflict or power struggles (Jérôme & Christine, 2019).

On the other hand, age diversity may provide the boardroom with the cognitive capacity of the Board by bringing together their experience, knowledge, resources, and networks, converting this into positive firm outcomes (Hidayah, 2016; Jérôme & Christine, 2019). The potential positive impact of age diversity may be attributed to the synergistic collaboration between younger directors, who tend to exhibit higher levels of activity and risk-taking tendencies, and older directors, who possess greater expertise and a propensity for risk aversion. This collaboration ultimately contributes to an increase in company value (Johnson et al., 2013; Kagzi & Guha, 2018a). Hence, similar to studies of gender diversity on the corporate Board, scholars have also recognised the impact of Board age diversity as having two-sided implications for firm outcomes.

Regarding the diversity in racial or ethnic background of directors, Milliken and Martins (1996) propose two divergent discourses which have emerged from ethnic Board diversity. On the one hand, individuals who are different from other group members in terms of racial or ethnic background have less positive emotional responses to their work and are more likely to turnover, leading to lower performance. On the other hand, Board ethnic diversity may be positively related to cognitive performance in a group, such as producing new ideas or brainstorming tasks, making for a higher quality of groupwork. In short, studies of race and ethnic diversity are heading in the same direction as studies of gender and age diversity, which implies that the findings for firm outcomes are mixed.

Despite the recognition of Board ethnic diversity as a significant aspect of Board diversity, this thesis does not focus on this particular issue due to limits of data availability, which would result in substantial amounts of missing data. Nevertheless, this thesis offers some recommendations for further investigation pertaining to this topic, which will be further discussed in Chapter 7.

In summary, the previous research results are rather controversial, and there is no general consensus on the relationship between Board's surface-level diversity and firm outcomes; it could be positive or negative results or neither of the two. Therefore, this thesis offers some crucial insights into deep-level diversity that may help to explain the phenomenon of Board diversity.

3.2.2.1.2 Board's Deep-level Diversity

As indicated in Table 3.1 presented earlier, the second dimension of Board diversity pertains to deep-level diversity. This type of diversity refers to the heterogeneity amongst director members that is not readily observable, but rather is associated with their cognitive abilities and tasks. Examples of deep-level diversity include education, experience/expertise, and organisational tenure.

Education

To start with, educational background diversity was mentioned by Milliken and Martins (1996). The negative effects of educational background diversity on task performance is that it seems to increase the turnover in both workers and management leaders, resulting in lower task performance. However, more positively, management team heterogeneity on the educational program is positively associated with firm strategic diversification, facilitating organisational adaptation and leading to better firm outcomes. Similarly, Jérôme and Christine (2019) suggest that the variety in educational degrees represents the cognitive ability of director members, resulting in more effective strategic decision-making.

Regarding the education diversity measure, there are two common methods in use. The first measure is the level of education, such as below bachelor's degree, bachelor's degree, master's degree, and doctoral degree (Ararat et al., 2015; Assenga et al., 2018; Jérôme & Christine, 2019; Kaczmarek et al., 2012; Nguyen et al., 2017). The second way is to measure the major or nature of education, such as accounting, finance, engineering, science, arts, and others (Rose, 2007; Talmud & Izraeli, 1999).

To date, findings on the effects of Board education diversity on firm outcomes are mixed. In other words, some researchers find negative evidence; for example, director members with a homogeneous educational curriculum perform better than those with heterogeneous ones (Kagzi & Guha, 2018a). In contrast, having a higher education diversity among director members leads to better decision making, resulting in a higher firm outcome (Hidayah, 2016; Nguyen et al., 2017). Furthermore, some scholars do not find any support for the relationship between educational diversity and firm outcomes (Assenga et al., 2018). Last but not least, one interesting thing about educational diversity is that this attribute may represent not only education status but

also social status, access to friendship ties, and cognitive similarity (Johnson et al., 2013).

Tenure

The arguments supporting the existence of organisational tenure effects are grounded in the premise that individuals establish a sense of identity with their peers, who join an organisation or department concurrently. This sense of identification is believed to subsequently impact their behaviour. Accordingly, individuals that exhibit diversity, in terms of tenure, are more likely to demonstrate lower levels of effectiveness in their task performance.

However, it has been seen that variety in tenure can also have beneficial effects on the task performance of groups. This is predicated upon the notion that diversity in tenure might mitigate some issues, such as groupthink[1], aversion to risk and adherence to the status quo (Kagzi & Guha, 2018a), although it increases creativity. Additionally, Milliken and Martins (1996) suggest that a variety in organisational tenure is positively associated with task-related group processes such as the ability to define goals, workable plan development, and prioritisation. In this case, it positively impacts group task performance, leading to positive organisational performance. Forbes and Milliken (1999) and Kagzi and Guha (2018a) also find that directors with longer tenure may have a greater understanding of organisational system and culture, as well as developing a common language that enhances smoothness of work; while shorter tenured directors may provide alternative perspectives.

Moreover, some studies do not find any relationship between Board tenure diversity and corporate outcomes; for example, the study carried out by Milliken and Martins (1996). In contrast, Kor and Sundaramurthy (2009) find a negative relationship between outside directors' tenure and sales growth. As can be seen, findings on the influence of Board tenure diversity on firm outcomes has also been unresolved. One possible reason to explain these mixed results is that directors' tenure may have a

[1] Turner and Pratkanis (1998) define Groupthink as a psychological phenomenon that occurs within a group of individuals, where seeking harmony or agreement within the group leads to an unreasonable or impaired conclusion in the process of decision-making. This phenomenon leads the group to reduce conflict and achieve a consensus conclusion without engaging in an in-depth investigation.

nonlinear effect (Johnson et al., 2013; Kagzi & Guha, 2018a), i.e. an inverted-U relationship, on corporate outcomes (i.e. corporate reputation, strategic change, and others). In short, tenure heterogeneity provides a greater variety of information, resources, and perspectives; simultaneously, it also produces communication problems and increases the likelihood of conflict (Jérôme & Christine, 2019).

Experience/Expertise

Regarding experience diversity of the Board, Milliken and Martins (1996) posit that diversity in industry experience is mainly studied in upper-level organisational groups such as the Board and top management team. They infer that the heterogeneous top leader groups, in terms of experience outside the industry and time in the industry, are more likely to have communication and social integration problems, leading to lower group performance and reduced firm outcomes. However, Johnson et al. (2013) argue that industry experience could influence how directors process information within the boardroom and so may be positively or negatively related to firm outcomes.

On the positive side, directors' experience can enhance cognitive abilities leading to broader and deeper expertise to monitor and advise managers. For example, Adams and Flynn (2005) discover that women directors with high academic profiles and consulting abilities can bring alternative perspectives to the boardroom. Similarly, Kim and Lim (2010) find a positive relationship between firm outcomes and directors who have government experience.

On the other hand, sitting on multiple boards to gain more experience may be too time-intensive for monitoring managers (Ferris et al., 2003). Additionally, Johnson et al. (2013) proposed several proxies to represent Board experience, including working in different industries, possessing prior industry experience, serving as a CEO, having experience in venture capital, and engaging in specific activities. Chapter 4 will provide a more comprehensive analysis of the measurement of Board diversity.

Another significant stream of Board experience diversity is accounting and financial expertise, which can monitor the accounting system and firm financial reporting (Bilal et al., 2018; Cohen et al., 2014; García-Sánchez et al., 2017; Kim et al., 2014). This diversity is gaining popularity in the accounting research literature. In conclusion, the

influence of Board experience diversity on organisational outcomes remains an area that needs further investigation, as it is unclear whether increasing or decreasing diversity in the boardroom is more beneficial.

In addition to the previously discussed Board deep-level diversity, Johnson et al. (2013) propose that the social relationships of directors, including their affiliations with other firms, personal connections with firm managers, and social status, may influence the performance of directors and the Board. While social capital diversity can be considered a form of deep-level diversity, it is not within the scope of this thesis. The focus of this study is solely on exploring the characteristics of the Board at the human capital level, as this allows for more reliable measurements due to data accessibility constraints.

To conclude this section, deep-level diversity seems to have more positive cognitive outcomes for the Boards than surface-level diversity. This is because skill- or knowledge-based dimensions translate into a greater variety of perspectives such as creativity and problem-solving. However, deep-level diversity may have integration problems similar to surface-level diversity. Significantly, the effects of the Board diversity, including both surface and deep level, on firm outcomes have mixed results. The potential inconsistencies observed may be attributed to challenges related to data accessibility, measurement complexities, and the presence of curvilinear relationships. However, the topic of Board diversity has generated significant debate and controversy in the field of CG research. Thus, this thesis aims to evaluate the impact of Board diversity on firm results, with a particular focus on the perspective of users of accounting information.

3.2.2.2 Board of Directors' Role

As mentioned in the previous sections, the Board, a vital CG factor, works with the management team to promote and maximise the shareholders' interests. Forbes and Milliken (1999) classified Board task performance, referred to as "Board roles" in this thesis, as being (i) control or monitoring and (ii) service or advisory roles. This classification is consistent with many previous researchers (Faleye et al., 2013; Harrison, 1987; Hsu & Hu, 2016; Minichilli et al., 2012; Mustafa et al., 2018; Reeb & Upadhyay, 2010).

The first responsibility of the Board is to oversee and regulate the operations of the management team. This includes tasks such as the selection and appointment of executives, monitoring and determining management compensation, making decisions regarding the replacement of management positions, and granting approval for significant actions recommended by the management team (such as financial reporting and auditor fees). Therefore, the implementation of monitoring activities by the Board serves to reduce agency costs, thereby aligning the interests of shareholders.

Additionally, the Board offers valuable guidance and support to managers, while also collaborating with the management team to create, develop, and implement long-term growth strategies. For example, directors provide their expertise and understanding to offer comprehensive perspectives on matters such as acquisition, restructuring, and ongoing operations.

Various approaches have been suggested for categorising the roles of Boards. For instance, Nicholson and Kiel (2004) and Ong and Wan (2008) describe four dimensions of Board task performance, including monitoring, service, strategy, and resource provision roles. However, this thesis will focus on two common tasks of the Board — monitoring and advising — because some proposed elements by Nicholson and Kiel (2004) and Ong and Wan (2008) overlap with each other, i.e. strategy tasks and resource provision roles can be a part of the service role. Additionally, it is important to note that the Board's functions can be different in perspective, depending on various contextual factors such as company size, industry size, and life-cycle of a company (Ong & Wan, 2008).

As previously indicated, the role of Board monitoring is of utmost importance. Nevertheless, directors require access to internal information from executives, in order to enhance their decision-making capabilities. Put simply, the Board is responsible for monitoring the actions of management. Concurrently, they rely on pertinent information from executives in order to provide advice and suggestions to the management team. In this case, the Board is considered an inspector and a friendly coordinator of the CEO, simultaneously (Faleye et al., 2013; Hsu & Hu, 2016).

Much previous research has investigated the director's monitoring role since the Board is mainly responsible for closely inspecting the financial reporting processes. One of

the controversial issues in studying the Board monitoring role is that CEOs do not want to provide firm-specific information to directors, who mainly focus on monitoring management performance. As a result, the intense monitoring boardroom is less likely to have precious data, especially inside information, and so is deficient in attending to the advisory role. The more stringent the monitoring function, the lower the opportunity for engaging in advisory work, so undermining the effectiveness of the Board (Faleye et al., 2011, 2013; Hsu & Hu, 2016). Hence, the presence of both Board roles is seen as a significant governance mechanism for exercising control over the operations of the organisation through the implementation of management control systems (Stiles & Taylor, 2002). Additionally, these roles play a crucial function in offering strategic guidance to top-level management, thereby facilitating the achievement and maintenance of sustainable earnings (Hsu & Hu, 2016).

Considering Board diversity together with the Board roles, some researchers suggest that gender diversity can improve monitoring and advisory roles by spending more time analysing the nature and logic of Board strategy and identifying areas for improvement (Nielsen & Huse, 2010). Regarding age diversity, it can lead to better monitoring and advice, as a result of balancing the younger directors' enthusiasm, energy and risk appetite with the older directors' experience, caution, and risk aversion. As regards educational diversity, this supports the notion that a variety of study majors can help directors provide broader advice to the management team (Kim & Lim, 2010), implying that a wide range of education can bring external resource networks into the organisation. Concerning Board experience diversity, directors with more experience and a better understanding of management practices can better monitor the managers. However, longer tenure is associated with an increased commitment to established practices and less effective CEO oversight. In short, the impact of Board diversity on Board task performance is multifaceted, and these effects have implications for business outcomes. Given the aforementioned points, this thesis emphasises the significance of monitoring and advisory functions that might moderate the influence of Board diversity on business results.

3.3 Theoretical Perspectives

This section describes the relevant theories that underlie the relationship between Board diversity and earnings quality. This can help the current thesis to develop hypotheses and interpret the research findings. Regarding theoretical frameworks for CG research, no single theory can explain a comprehensive understanding of how CG mechanisms affect corporate outcomes (Carpenter & Feroz, 1992). To date, most previous research has concentrated primarily upon agency theory (Filatotchev & Boyd, 2009; Gull et al., 2018; Zona & Zattoni, 2007). This is used to explain the role of agents (managers) who usually make business decisions that rely on their interests which are at the expense of the principals (shareholders) (Jensen & Meckling, 1976).

However, agency theory cannot explain the holistic view of the business case as Eisenhardt (1989, p.71) (for example) explained: 'Agency theory presents a partial view of the world that, although it is valid, also ignores a good bit of the complexity of organisations. Additional perspectives can help to capture the greater complexity'. Therefore, this thesis applies multiple theoretical perspectives — such as human capital theory, agency theory, and resource dependence theory — to better interpret the roles of Board diversity impacting the corporate outcome (Adams et al., 2015; Alhossini et al., 2020; Kagzi & Guha, 2018a; Khatib et al., 2020; Kolev et al., 2019; Nguyen et al., 2020; Smith & Sarabi, 2020). The relevant theories are discussed in the following sections.

3.3.1 Human Capital Theory

Human capital theory was first introduced by Becker (1962) to estimate the future income of employees through their investment in human capital. Becker (1962) defined human capital as the resources embedded in people and accumulated over time. In this sense, cumulative human capital, in terms of education, skills and experience, can enhance cognitive and productive abilities benefiting the individual and organisation (Terjesen et al., 2009). Human capital is unique, so it cannot be impersonated by others (Nguyen et al., 2017). As a result, the human capital of directors creates competitiveness and leads to improved economic performance for the organisation.

Regarding surface-level diversity, human capital theory is used to explain the notion that a variety of observable characteristics of the Board can be related to the accumulated human capital (Khatib et al., 2020). Similarly, Carter et al. (2010) suggest that the human capital of directors is influenced by gender and ethnicity. The human capital of women is as high as that of men in terms of many important characteristics, such as educational level and international experience (Terjesen et al., 2009). Moreover, Peterson et al. (2007) discover that African-American directors are more likely to sit on the audit committee and executive committee than Caucasian directors. This finding implies that race could potentially have a significant influence on the appointment process for Board committees. It might be argued that the presence of diverse individuals on a Board is associated with the directors' possession of distinct human capital.

However, Carter et al. (2010) argue that human capital theory may not adequately explain a clear link between gender and ethnic diversity and corporate outcomes, as the impact of Board diversity in terms of gender and ethnicity may vary under different situations. One example is the study conducted by Gull et al. (2018), which initially discovered that female directors can reduce the level of earnings management. However, the influence of earnings management is found to be increased by taking into account factors such as statutory diversity (which includes independence and the composition of the audit committee) as well as cognitive traits like education, abilities, and experience.

According to Carter et al. (2010), the implications of human capital theory suggest that Board diversity might influence the performance of the Board due to the presence of different and distinct human capital. However, it is important to note that the impact of Board diversity on company performance can vary, potentially resulting in either positive or negative outcomes. The relevance of contingency theory[2] (Lawrence & Lorsch, 1967) lies in its recognition that human capital, which may be valuable in a particular organisation at a certain time, might be lacking in usefulness in situations

[2] According to Lawrence and Lorsch (1967), the contingency school of thought argues that there is no universally optimal approach to organising work or an organisation. The optimal path of action is dependent upon the external and internal conditions within which an organisation is situated. The study demonstrates that organisations that effectively achieve both differentiation and integration are more likely to achieve economic success.

with different internal and external conditions. Hence, the aforementioned analysis demonstrates that the enhancement of corporate outcomes necessitates not only a surface-level diversity within the Board, but also the presence of directors possessing specific competences and skills, commonly referred to as deep-level diversity. The subsequent paragraphs will elaborate on this premise.

Concerning deep-level diversity, as proposed by Becker (1962), the role of an individual's stock of education, experience, and skills can be used to enhance an organisation. Westphal and Milton (2000) suggest that minority directors who have prior experience can enhance their ability to influence the Board, thus avoiding out-group biases[3]. This is because minority directors can make uniquely valuable contributions to Board decision-making by providing different views and provoking unique thinking among majority directors. This is in agreement with the work done by Nguyen et al. (2017), who find that the human capital of directors in terms of education, which represents an unobservable characteristic of directors, appears to have a positive relationship with firm financial performance.

Moreover, Gull et al. (2018) also emphasise that business expertise is a crucial attribute of directors that effectively deters earnings management. Similarly, Kim et al. (2014) discover that outside director tenure can increase advisory performance and control the excess of CEO compensation regarding monitoring role. They also find that directors' financial expertise can enhance the financial reporting monitoring performance by providing their specific and technical knowledge of accounting practices.

In prior studies, researchers have utilised human capital theory to examine the effects of surface- and deep-level diversity on corporate outcome, such as corporate financial performance and financial reporting quality (Alhossini et al., 2020). Nevertheless, previous research has shown limited application of this theory, and there is no

[3] Outgroup bias refers to the tendency to have negative attitudes towards individuals who belong to groups with which one does not share a sense of identification. For example, the process of out-group categorisation may lead individuals with a marketing background to employ stereotypes when perceiving directors with a finance background, characterising them as "number crunchers" who possess limited comprehension of customer dynamics. In a broader context, it can be argued that out-group biases tend to influence majority directors in a way that results in the dismissal or devaluation of input provided by minority-serving on the Board.

consensus among previous studies regarding the extent to which individual unique human capital contributes to business outcomes (Nguyen et al., 2020). Therefore, this thesis aims to provide a more engaging and enlightening exploration of human capital theory within the context of Board diversity and its impact on corporate results.

3.3.2 Agency Theory

It has been demonstrated that a large number of published CG research papers employ agency theory, which is embodied in the principal-agent relationship. This subsection describes the essential issues of this theory as it relates to the CG context.

The root of CG arises from the 'separation and control issue', which is an agency relationship, embodied, as Jensen and Meckling (1976, p.308) note, in 'a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent'. In the context of listed firms, it is important to note that the presence of several shareholders within these entities sometimes limits their ability to exercise control and effectively oversee managerial decision-making processes. Thus, the agency problem arises from the separation of ownership between principals (shareholders) and agents (managers), and it is a matter of significant concern in this context. Similarly, Fama and Jensen (1983) believe that an organisation is the nexus of (written or unwritten) contracts among stakeholders, and the separation of principals and agents may cause agency problems because of their conflicts of interest.

In the same vein, Shleifer and Vishny (1997) agree that the agency problem is a crucial element of the contractual view of the organisation. From their perspective, the agency problem is defined as 'the difficulties financiers have in assuring that their funds are not expropriated or wasted on unattractive projects' (Shleifer & Vishny, 1997, p.741). This implication is applicable to fund providers, including both debt holders and shareholders, who require a suitable return on their investment. In essence, debt holders anticipate the receipt of regular interest payments and loan repayment, whereas shareholders strive to attain a substantial dividend and capital gain.

While various studies have examined agency problems from diverse perspectives, particularly focusing on the involved parties, their common objective is to address this issue. It is imperative to gain a comprehensive understanding of agency problems, which will be further explored in the subsequent subsection.

3.3.2.1 Agency Problems and Agency Costs

Armour et al. (2017) propose three agency problems that arise from the almost contractual relationship between the agents and the principals. The first problem is the conflict existing between the proprietors of the organisation, commonly referred to as the principals, and the individuals hired as managers, commonly referred to as the agents. This issue pertains to the extent to which managers prioritise the interests of shareholders over their own personal interests. In practice, the active involvement of all owners in the day-to-day operations of a company is unattainable. Consequently, shareholders delegate the responsibility of overseeing and managing the firm to directors, who are entrusted with the task of supervising management activities.

The second problem is the conflict of interest among shareholders. In other words, the majority of shareholders controlling an interest in the company — called the 'block shareholders' — are the agents. In contrast, the minority or noncontrolling shareholders are the principals (Shleifer & Vishny, 1997). The concern here is whether the minority owners are expropriated by the majority shareholders since the former are not part of managerial decision-making and have a lower chance of influencing the company's activities.

The third agency problem relates to conflicts of interest among firms and other stakeholders, such as creditors, employees, and customers. The concern here is whether firms (acting as agents) behave opportunistically towards other parties (principals). For example, when a company invests in high-risk projects with high expected returns, the creditors' wealth may be reduced (Jensen & Meckling, 1976). In this case, the possible solution for creditors is to issue a restricted covenant agreement to monitor the firm's activities aligning with their interests.

Because of the agency problems mentioned above, principals try to find ways to decrease and eliminate them by using agency costs. Fama and Jensen (1983) and

Jensen and Meckling (1976) have classified agency costs into three types: (i) monitoring expenditures, (ii) bonding expenditures, and (iii) residual costs. The first involves monitoring costs that the principals use to limit divergences between their interests and the agents' interests by building appropriate incentives (compensations) for the agents. Moreover, applying CG practices, such as having a proper Board, forming subordinate Board structures, and implementing internal control mechanisms — including the financial reporting system and audit process — is also part of the monitoring costs. It can be seen that the principals apply agency costs to observe, evaluate, and control the management activities in assuring that managers respond to the principals' interests rather than their personal interests.

The second form of agency cost pertains to bonding costs, which are incurred by agents in order to establish and cultivate trust with principals. Bonding costs are employed as a means to ensure that the agents refrain from engaging in detrimental conduct towards the principals. The decision-making authority of the agents is constrained within the confines of the contractual agreement. Practicality, Depken et al. (2006) argue that it is challenging to measure bonding costs.

It can be seen that some mechanisms are designed to prevent agency problems — such as monitoring expenditures by the principal, bonding expenditures by the agent and having good CG structures. However, there will still be some divergence between the agents' decisions and those decisions that would maximise the principals' interests. This is called the residual loss, which is the last type of agency problem.

In short, agency theory is employed to explain the difficulties that principals encounter in their attempts to effectively ascertain whether the performance of agents aligns with the promises made. This is due to the agents generally having more comprehensive and valuable information compared to the principals. In this particular scenario, the agents are motivated to engage in opportunistic behaviour, driven by their individual self-interests, rather than prioritising the collective interests of all principals involved. Consequently, the presence of agency costs arises as a means to address the conflicts between principals and agents. These costs serve to encourage agents to behave in the best interests of the principals and to monitor the agents' behaviour, thereby ensuring their honest performance for the benefit of all parties involved.

Firms can implement CG mechanisms to deal with agency problems and reducing agency costs. Additionally, CG can enhance the transparency of financial reporting and reduce information asymmetry between the principals and agents. In this regard, the Board helps monitor and control managers' behaviour, ensuring the proper separation of ownership and control between the principals and the agents. Therefore, this thesis aims to explore the impact of the Boards' characteristics on financial reporting quality, so that all stakeholders have confidence in firm financial information that is trusted and transparent.

3.3.2.2 Board Diversity and Earnings Quality in the Context of Agency Theory

Regarding surface-level diversity, Board gender diversity is one of the most popular topics in CG research (Nguyen et al., 2020; Reddy et al., 2019). From an agency theoretical perspective, the relationship between gender-diverse Board and earnings quality offers two opposing aspects. On the one hand, having women on the corporate Board can enhance the financial reporting quality through their capabilities (Almutairi & Quttainah, 2019; García-Sánchez et al., 2017; Mustafa et al., 2018; Nguyen et al., 2020). This is because they have better monitoring skills for monitoring managers than do male directors, which can help to reduce agency costs (Carter et al., 2007; Reguera-Alvarado et al., 2015). On the other hand, some studies find that agency theory cannot support the notion that a gender-heterogeneous Board positively affects the quality of accounting information (Carter et al., 2010). For example, Sharifah (2012) shows that having women on a corporate Board negatively impacts earnings quality.

The presence of age diversity within the Board can be illuminated by the use of agency theory, specifically in relation to the generation gap. According to Rose (2005), younger directors who exhibit higher levels of enthusiasm are more likely to actively oversee and exert control over the management team, in comparison to their older counterparts. On the other hand, senior directors possess the ability to apply their extensive knowledge to overseeing the various management activities (Kang et al., 2007).

Therefore, the existing body of research provides ambiguous evidence about the connection between surface-level diversity and earnings quality. Previous studies

have yielded mixed results, with some indicating a positive relationship; others suggest a negative relationship, while still others fail to uncover any significant association at all. The extant body of theory and literature can provide support for this current study which investigates whether the empirical findings align with or contradict the research hypothesis (Saunders, 2019).

The presence of unobservable Board diversity is also a crucial element in enhancing the quality of financial reporting. The educational diversity of Board members may enhance directors' abilities to contribute to general management studies, eventually improving expertise in accounting and finance (Agrawal & Knoeber, 2001; Yermack, 2006). In support, Hsueh-En (2010) suggests that a higher quality of the Boards' educational backgrounds — in terms of business, accounting, and finance — can reliably convey company information and eliminate the information asymmetry between the agents and the principals.

The diversity of Board tenure can produce both benefits and drawbacks to the effectiveness of monitoring (Li & Wahid, 2018). From a positive standpoint, tenure-heterogeneous teams can prevent groupthink problems, which can be a serious problem leading to ineffective monitoring (Herman, 1981). Moreover, firms with a tenure-diverse Board can experience better monitoring by managers, due to a balance between the longer-tenured directors' understanding of firm-specific issues and the shorter-tenured directors' fresh perspectives (An, 2021; Li & Wahid, 2018). As a result, firms with tenure-diverse Board are associated with higher financial reporting quality, representing less chance of experiencing accounting restatements and less excess management compensation (Li & Wahid, 2018). On the other hand, Board tenure diversity can result in a lack of cohesiveness, leading to coordination problems and a failure to monitor task performance (Van Den Steen, 2010).

Regarding the diversity of Board experience and expertise, many earlier researchers found that directors with diverse expertise can improve the effectiveness of monitoring the financial reporting process. An example of this is the study carried out by Cohen et al. (2014) in which they discover that audit committee members with both industry and accounting expertise are associated with higher financial reporting quality. Similarly, Banbhan et al. (2018) suggest that the presence of directors with accounting

qualifications can increase the effectiveness in restricting the level of earnings management. However, some researchers argue that financially qualified members are less effective and unable to perform the monitoring roles of the Board because of the complexity of current accounting standards (Lin et al., 2006). To summarise, the literature shows both positive and negative impacts of Board expertise diversity on earnings quality.

Overall, deep-level diversity is often regarded as a double-edged sword, similar to surface-level diversity. This indicates a need to investigate further Board diversity levels impacting financial reporting quality under agency theory.

3.3.3 Resource Dependence Theory

A considerable amount of literature that has been published on CG research has employed resource dependence theory. Historically, Pfeffer and Salancik (1978) first introduced a resource dependence perspective which defines the firm as an organisational system, dependent on contingencies of the external environments. Accordingly, companies need to exchange, create, and acquire specific resources between the firms and external parties so that they can stay competitive, continue to succeed, and survive with their business environments (Hillman et al., 2009; Pechersky, 2016; Pfeffer & Salancik, 1978; Terjesen et al., 2009). As a result, resource dependence theory has become one of the most prominent theories in business research as Pfeffer and Salancik (1978, p.xxiii) note: 'The idea, seemingly now widely accepted, that organisations are constrained and affected by their environments and that they act to attempt to manage resource dependencies…'. Moreover, resource dependence theory is commonly applied in studies of Board diversity which will be discussed in more detail in the following subsections.

3.3.3.1 The Board of Directors and Resource Dependence Theory

Although the influential theory used in Board research is agency theory, resource dependence theory is regarded as having a considerable influence in this area since it provides another comprehensive perspective for understanding the boards' context (Hillman et al., 2009). Because of today's progressively complex and uncertain environments, firms need leaders who can provide a wide range of resources such as legitimacy, financing, functional knowledge and diversity (Terjesen et al., 2009). In

this regard, the Board is considered an essential link to the external environment to encounter environmental dependencies, as proposed by one well-known paper [cf. Pfeffer and Salancik (1978)]. In other words, directors can provide four fundamental benefits to the organisation: (i) specific resources such as expertise and advice from directors with experience in several strategic areas; (ii) creation of channels for communicating information between the firm and environmental contingencies; (iii) aids in obtaining commitments or support from significant elements outside the firm; and (iv) creation of legitimacy (Pfeffer & Salancik, 1978).

Early studies of Boards, that employ resource dependence theory, concentrated on the size and composition of corporate Board. As the study first carried out by Pfeffer (1972, p.226) concluded, 'Board size and composition are not random or independent factors, but are, rather, rational organisational responses to the conditions of the external environment'. Later, many researchers investigated the effect of Board size and composition on firm outcomes as indicators of the Board's ability to bring significant resources to the firms (Assenga et al., 2018; Carter et al., 2010; Groening, 2019; Hassan et al., 2015; Kaczmarek et al., 2012; Nguyen et al., 2017).

Since then, Board interlocks have become another aspect in the study on the Board (Hillman et al., 2009). This involves the number of other directorships each director holds, which can be beneficial to the boardroom. In support, Smith and Sarabi (2020) suggest that studies of the impact of interlocking directorates on corporate outcomes often employ resource dependency theory; as interlocking directors perform roles in managing and reducing environmental uncertainty, leading to higher firm performance.

Another view of resource dependence theory focuses on times and types of firms (Hillman et al., 2009). In other words, the directors' resources, as aforementioned, are essential in the different stages of a firm's life cycle, particularly during the early life cycle stages. Moreover, some types of companies, such as initial public offering (IPO) and distressed firms, rely on the resources brought by directors. In these cases, directors can help the companies successfully sell company shares to the public and reemerge from the crisis, respectively (Hillman et al., 2009).

To conclude, under CG research, firms seek linkages between valuable resources and structure membership on the Board (Terjesen et al., 2009). This theory complements agency theory as Daily et al. (2003, p.375) note: 'Rather than focusing predominantly on directors' willingness or ability to control executives, in future research scholars may yield more productive results by focusing on the assistance directors provide in bringing valued resources to the firm and in serving as a source of advice and counsel for CEOs'.

3.3.3.2 Board Diversity and Earnings Quality in the Context of Resource Dependence Theory

To date, research on the relationship between Board diversity and financial reporting quality has increasingly employed resource dependence theory. Theoretically, the Board provides the firm with access to certain external environments (Pfeffer & Salancik, 1978), and Board diversity is regarded as a vital mechanism for advising managers and producing a better managerial decision-making process (Hoang et al., 2017).

Regarding surface-level diversity, one of the most common Board diversity characteristics is Board gender diversity. Resource dependence theorists suggest that a women-diverse Board provides different perspectives when advising managers, resulting in improved decision-making concerning corporate strategies (Carter et al., 2010; Hillman et al., 2002). In the same vein, Erhardt et al. (2003) Khatib et al. (2020) and Pechersky (2016) also imply that Board gender diversity provides unique views, skills, and values, leading to better group decision-making and having financial companies' improvement. In support, García-Sánchez et al. (2017) draw upon resource dependence theory to explain the attributes of a gender-diverse Board — such as risk aversion and ethical sensitivity — in producing unique information sets that can affect the quality of financial reporting.

Concerning Board age diversity, greater heterogeneity in directors' ages tends to provide various ideas in the boardroom (Anderson et al., 2011). Younger directors are more energetic and risk-taking in terms of decision-making. In comparison, older directors may deliberately provide the boardroom with greater stability and lifelong learning. In support, Mustafa et al. (2018) discover that directors' age can enhance the

ability to hire extensive and high-quality audit services to improve the quality of financial reporting. However, Anderson et al. (2011) argue that, despite the benefits of Board age heterogeneity, the company will have communication costs and experience coordination problems, which reduce corporate outcomes.

Regarding deep-level diversity, Board educational background diversity also has an impact on firm outcomes. For example, Kim and Lim (2010) support the notion that a variety of directors' study majors can provide broader advice to the management team. In addition, Anderson et al. (2011) agree with the benefit of having heterogeneous educational backgrounds for directors since they provide the boardroom with different views and cognitive abilities, enhancing higher group task performance. To date, the majority of prior research indicates that there is a positive link between the diversity of educational backgrounds among director members and the ability to generate and assess solutions from a wide range of views (Hoang et al., 2017; Milliken & Martins, 1996; Van der Walt et al., 2006).

Board tenure diversity can boost group performance by providing better access to information and resources (Li & Wahid, 2018). Similarly, Anderson et al. (2011) suggest that the directors' tenure influences directors' decision-making and deliberations. In other words, the longer-tenured directors may provide the boardroom with an understanding of firm operations, strategies, corporate culture, trust, and cooperation with other director members. In comparison, shorter-tenured directors may offer new perspectives to the boardroom.

Concerning experience and expertise diversity, Board experience heterogeneity can lead to broader and deeper expertise for monitoring and advising the management team. For instance, directors with a high academic profile and consulting ability can provide alternative routes to the boardroom (Adams & Flynn, 2005). Similarly, directors' expertise — such as accounting, finance, consulting, and others — supports managers' decision-making, leading to higher firm value (Hillman et al., 2000; Hsueh-En, 2010). Puat Nelson and Devi (2013) also draw upon resource dependence theory to examine the relationship between audit committee experts and financial reporting quality. It was found that audit committee members bridge firms with external resources — such as expertise and experience in finance, accounting, and other fields

— helping the firm gain a competitive advantage, particularly in improving the quality of financial reporting.

Moreover, the work done by Puat Nelson and Devi (2013) studied the audit committee's characteristics by utilising resource dependence theory in explaining situations where directors' expertise and knowledge are involved. Although many previous studies usually rely on agency theory because of the audit committees' monitoring role, Puat Nelson and Devi (2013) argue that the use of agency theory only is insufficient. Therefore, applying resource dependence theory can complement the study in the audit committee's functional role by bringing the directors' backgrounds and knowledge into the boardroom.

In conclusion, according to the resource dependence theory, the diverse surface- and deep-level characteristics of directors are expected to contribute to varied perspectives during discussions and decision-making processes within the boardroom. The presence of different viewpoints can have both advantageous and disadvantageous implications for the Board's decision-making process, ultimately resulting in varied results for the organisation. Therefore, the research results in this area are inconclusive. This thesis utilises resource dependence theory as an argument to investigate the potential explanatory power of Board diversity in relation to financial reporting quality.

3.3.4 Evaluation of Theories

The majority of previous research on Board diversity does not notably develop a new theoretical perspective (Nguyen et al., 2020; Terjesen et al., 2009). This implies that those previous studies primarily provide and elucidate theoretical concepts without establishing direct connections to their respective research questions or hypotheses, rendering them mostly descriptive in a nature. Similarly, some studies exclusively employ a single theory, such as either agency theory or resource dependence theory (Almutairi & Quttainah, 2019; Augustine Enofe et al., 2017; Saeed & Saeed, 2018; Wan Mohammad & Wasiuzzaman, 2019). Other studies incorporate two theoretical perspectives, usually agency theory and resource dependence theory (Assenga et al., 2018; Carter et al., 2010; García-Sánchez et al., 2017; Sharifah, 2012; Shukeri et al., 2012). However, based on the literature review of theoretical perspectives previously

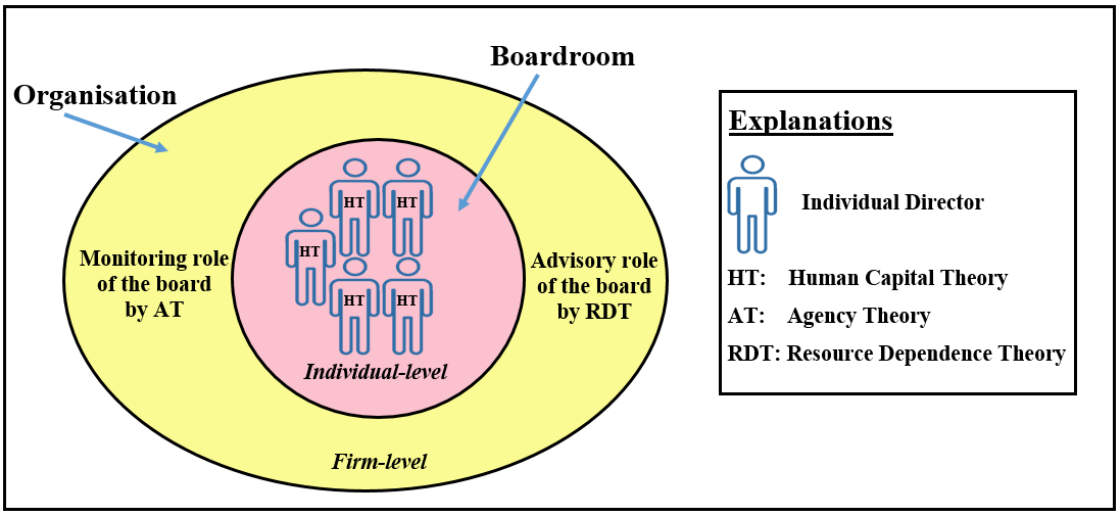
explained, this thesis aims to apply many theoretical frameworks in order to investigate the influence of Board diversity on earnings quality.

As described in the previous sections, human capital theory can be used to examine the effect of an individuals' cumulative repository in terms of talent, background, and other characteristics in developing creative and cognitive capabilities, leading to benefits for the group and organisation. Within CG contexts, heterogeneity among directors derived from each director's diverse and unique human capital is regarded as an essential resource for the firm. This can be then described by resource dependence theory, which proposes that the Board can provide linkage between firms and useful external resources such as information, knowledge, channel and legitimacy. Resource dependence theorists posit that the diversity within the boardroom provides diverse beneficial resources to the firm.

In the context of agency theory, it is widely acknowledged that the presence of information asymmetry between principals and agents necessitates efforts to mitigate and ultimately eradicate it. This is mostly due to the concern that managers may not consistently behave in the best interests of shareholders as a whole. According to agency theorists, the implementation of CG tools, such as promoting Board diversity, has the potential to enhance the efficacy of the Board in their oversight of management activities. Additionally, qualified financial reporting can reduce information asymmetry between the agents and the principals, mitigating agency conflicts and agency costs. Taken together, three theoretical perspectives are summarised and presented in Figure 3.1 below.

Figure 3. 1 A Multi-theory Application: The Evaluation of Theories

This figure illustrates the application of theoretical development in the thesis. The explanations for two levels of an organisation — the individual and the firm — are explained through three theories: human capital theory, agency theory, and resource dependence theory.



Source: Modified from Terjesen et al. (2009, p.321)

As shown in Figure 3.1 above, this thesis draws upon three relevant theories to investigate the effect of Board diversity on earnings quality for two main reasons. The first reason is about the Boards' role: monitoring and advisory functions. The characteristics of each director can be explained by human capital theory, as mentioned in the previous sections. Agency theorists expect that directors' attributes align with the interests of both shareholders and managers. In this regard, the Board plays a crucial role in monitoring the quality of financial reporting effectiveness. The more diverse is the Board, the more effective is the directors' monitoring of managers. In comparison, resource dependence theorists expect that the human capital of director members can bring essential external resources to the firm. In doing this, the Board plays a service role in advising managers and enhancing financial reporting quality. Therefore, the more diverse the Board is, the better the board's advice to managers are.

As depicted in Figure 3.1, another reason for utilising three proposed theories is that this thesis provides new perspectives for examining the relationship between Board diversity and earnings quality at two levels: (i) individual and (ii) firm. First, the individual level refers to the individual director's characteristics described by human capital theory, where Board diversity is derived from individual director diversity. In this thesis, individual director characteristics are classified into two types: surface and

deep level. Surface-level diversity includes gender and age diversity, while deep-level diversity implies educational, tenure, and experience/expertise diversity.

Second, the firm level involves experience across several parts of the firm, such as activities outside the Board, corporate strategy, and organisational structure. This level can be explained by agency theory and resource dependence theory. On the one hand, agency theory describes the conflict of interest between the principals and the agents, which arises from the separation of ownership and control in the company. Thus, a Board with diverse characteristics can protect the principals' interests by monitoring and controlling management activities, resulting in reduced agency problems and agency costs. On the other hand, resource dependence theorists consider firms as an open system that depends on external resources for their survival and growth. Therefore, diverse directors can provide a breadth of valuable resources to the firms.

To sum up, although each theory can provide different perspectives, they can complement each other in identifying the appropriate characteristics of the Board that ultimately improve the quality of financial reporting.

3.4 Empirical Studies and Hypotheses Development: The Link between Board of Directors' Diversity and Earnings Quality

The effect of Board diversity on the corporate outcome is a controversial issue. Thai is, the diverse Board can provide the meeting room with different perspectives according to demographic diversity and the human capital of the director members, which can have both positive and negative impact on the corporate outcomes. For instance, diversity can enhance Board performance by bringing specialised unique views to the Board and making better decisions. On the other hand, diversity can reduce Board task performance as conflicts may arise among the different personalities and opinions, causing higher decision-making costs (Adams et al., 2015).

There exists a substantial and expanding body of studies that have examined the impact of Board diversity on corporate outcomes, particularly in relation to financial performance metrics such as Return on Assets (ROA), Return on Equity (ROE), Tobin's Q, stock return, and various others. This body of work has found inconsistent results. The consideration of other dimensions pertaining to business outcomes would have enhanced the interest and comprehensiveness of these aforementioned

investigations. Accordingly, this thesis aims to investigate the influence of Board diversity on the quality of financial reporting, with a specific focus on earnings quality. This thesis addresses the need for more investigation into the relationship between corporate Board diversity and different measures of company financial performance, as proposed by Nguyen et al. (2020). This thesis also develops a multidimensional method to support the argument, utilising a composite earnings quality measure. This measure is constructed by combining many proxies of distinct earnings attributes, as suggested by Cano-Rodríguez and Licerán-Gutiérrez (2019).

According to agency theory, qualified financial reporting is considered a tool to mitigate agency conflict because it can reduce information asymmetry between the principals and the agents (Almutairi & Quttainah, 2019; García-Sánchez et al., 2017; Krismiaji et al., 2016). In support, as valuable financial reporting is used for all stakeholders, the Board plays essential roles in monitoring the financial reporting process to have a smaller information asymmetry (Ranasinghe et al., 2015). Moreover, directors can provide managers with helpful advice in order to have quality financial reporting (Kallamu & Saat, 2015), as was proposed by resource dependence theory.

Following the Conceptual Framework for Financial Reporting, useful financial information should contain two primary qualitative characteristics: (i) value relevance and (ii) faithful representation (International Accounting Standard Board, 2015). This thesis examines the defining attributes of valuable financial information that serve as an indicator of earnings quality. To clarify, earnings management portrays a faithful representation, while accounting conservatism illustrates value relevance, as described in detail in Chapter 2. The relevant empirical literature and hypotheses will be reviewed and set up, respectively, in the following subsections.

3.4.1 Board's surface-level Diversity and Earnings Quality

In the past, results from studies on Board demographic diversity and earnings quality have been ambiguous. Significantly, most prior research focused on a few types of Board demographic diversity, especially Board gender diversity. However, this may not provide a comprehensive understanding of the observable Board's characteristic diversity in this regard. Therefore, this thesis examines two different types of surface-level diversity: (i) gender, and (ii) age diversity.

Board Gender Diversity

Much of the literature employs agency theory to describe gender diversity on the Board. For example, Strydom et al. (2016) posit that directors with different genders can improve Board monitoring roles by asking challenging questions that do not arise from directors with more traditional backgrounds. Similarly, female directors are more active in monitoring managers since they tend to ask cognitive questions and raise new interesting issues (Triki Damak, 2018). Regarding the effect of gender diversity on earnings quality, female directors are keener on detail than male directors, leading to better monitoring (Strydom et al., 2016). In support, Orazalin (2019) also suggests that Board gender diversity helps monitor managers, improving the quality of financial reporting. It seems that women on corporate boards are less likely to overlook earnings management than men.

In one well-known study, Adams and Ferreira (2009) discover that women on boards represent greater diligence in monitoring and are in the best positions on committees — such as the audit committee — who can enrich the transparency of financial reporting and enhance earnings quality. They also find that women on the corporate Board can improve the attendance of men directors and act as co-operators between members. This is supported by the work done by An (2021), who proposes that Board gender diversity encourages different helpful information and decision-making perspectives by establishing higher attendance among director members and active monitoring over management. Therefore, according to agency theory, the monitoring role of female directors can reduce information asymmetry between the Board and managers, facilitating better earnings quality (Triki Damak, 2018).

Strydom et al. (2016) apply resource dependence theory to express gender diversity on the Board. Board gender diversity, in terms of heterogeneity in ideas, experiences, and skills can help firms reduce uncertainty and transaction costs related to external environments (Hillman et al., 2000). Likewise, Orazalin (2019) draws upon resource dependence theory to explain gender diversity in regard to improving financial reporting quality, by providing the boardroom with rich and unique information for enhancing the discussion and decision-making (Srinidhi et al., 2011; Waweru & Prot, 2018). There is a prevailing belief that females exhibit higher levels of conservatism,

ethics, risk aversion, and responsibility compared to males (Boussaid et al., 2015; Man & Wong, 2013; Presley et al., 2012). Additionally, females are perceived to be less likely to participate in unethical issues such as earnings management and fraud (Kyaw et al., 2015).

Much previous research finds evidence that Board gender diversity can improve financial reporting quality. For example, Gul et al. (2011) suggest that firms with gender-diverse boards are less likely to manipulate earnings. Moreover, Arun et al. (2015) discover that female directors are more likely to apply more conservative accounting policies. In addition, McKinsey and Company (2007) find that companies in the United States and Europe that possess a higher representation of female executives and directors tend to exhibit superior performance compared to their counterparts lacking gender diversity within their management and Board. Additionally, a gender-diverse Board can represent the organisation's legitimacy in terms of gender equality (Van der Walt & Ingley, 2003). In the context of risk management, Man and Wong (2013) propose that female directors exhibit a higher tendency towards risk aversion in relation to fraudulent activities and opportunistic manipulation of earnings, as compared to their male counterparts. Consequently, women are more likely to make conservative decisions and less likely to engage in excessively risky actions within the business. It is evident that female directors have a propensity for independent thinking and demonstrate enhanced effectiveness in monitoring managers, hence leading to an improvement in the quality of financial reporting.

However, some studies do not find any evidence regarding the impact of female directors on earnings quality (Augustine Enofe et al., 2017; Hashim & Ahmed, 2019; Rojana & Yang, 2019; Triki Damak, 2018). One potential explanation for the lack of evidence in these studies is the existence of alternative governance mechanisms. These mechanisms, which include factors such as Board diversity in terms of functional backgrounds, education, age, tenure, and other relevant characteristics, may contribute to the enhancement of CG practices and therefore improve earnings quality (Wafa Hili, 2012; Ye et al., 2010).

Conversely, alternative research indicates a negative relationship between the involvement of female directors on corporate boards and the quality of financial reporting (Adams & Ferreira, 2009; Mollah et al., 2019; Sharifah, 2012). This phenomenon could potentially be attributed to the practice of selecting female directors to corporate boards being purely tokenistic and done solely to enhance the perception of legitimacy (Terjesen et al., 2009). Additionally, An (2021) argues that the Board expresses disagreement on the inclusion of women on corporate boards, raising concerns over potential disruptions to member participation. Waweru and Prot (2018) also conclude that Board gender diversity is positively related to accruals earnings management probably because of the voluntary application of CG guidelines, known as the 'comply or explain' principle.

However, according to the literature, many studies support the positive effects of Board gender diversity on earnings quality, as was explained by the agency and resource dependence theories. Examples of the positive relationship between Board gender diversity and accounting conservatism are the previous studies (Almutairi & Quttainah, 2019; Boussaid et al., 2015; García-Sánchez et al., 2017; Makhlouf et al., 2018; Mohammed et al., 2019; Saeed & Saeed, 2018). Other studies, moreover, have found that Board gender diversity can constrain earnings management, producing higher earnings quality (Abdullah & Ismail, 2016; Gull et al., 2018; Kyaw et al., 2015; Onuoha et al., 2021; Orazalin, 2019; Srinidhi et al., 2011; Strydom et al., 2016; Triki Damak, 2018). Hence, in accordance with the expected results and substantial advantages associated with gender diversity, it is anticipated that the presence of diverse genders on corporate boards will enhance the quality of financial reporting.

Board Age Diversity

Board age diversity can help the boardroom benefit from differences in knowledge, experience and skill among younger and older directors (Ferrero-Ferrero et al., 2015; Onuoha et al., 2021). In other words, younger directors are commonly more energetic in monitoring managers. This aligns with agency theory regarding monitoring roles to vanquish earnings management (Onuoha et al., 2021). In comparison, older directors who usually have more experience and wisdom (Kang et al., 2007) can provide the organisation with the networks and resources in accordance with resource

dependence theory (Ferrero-Ferrero et al., 2015). Additionally, Ness (2010) argues that younger directors may be more creative and innovative (in keeping with the resource dependence theory), which improve Board task performance and firm performance.

Regarding risk management, younger directors are more likely to adopt risky strategies, so they are ready to bear more risk and perform substantial strategic changes to enhance the firm's future changes (Makhlouf et al., 2018). In contrast, older directors tend to avoid risky choices and seem more resistant to change (Rosen & Jerdee, 1976), so they are keen on low-risk investments and getting returns back quickly (Makhlouf et al., 2018). The phenomenon of age diversity among younger and older directors can be viewed via the lens of human capital theory, which posits that age is indicative of an individual's accumulated experience and capacity for risk-taking (Darmadi, 2011).

There has been limited scholarly investigation on the empirical relationship between Board age diversity and earnings quality. Almutairi and Quttainah (2019) report a positive relationship between CG characteristics (such as age-diverse boards) and the level of monitoring performed by the Board on managers. This monitoring is considered a crucial factor in determining the extent of accounting conservatism. In support, Rojana and Yang (2019) also report that firms with age-heterogenous boards decrease accruals earnings management, implying higher earnings quality. Nevertheless, other research has failed to identify any empirical support for the influence of Board age diversity on the quality of earnings, including aspects such as earnings management or accounting conservatism (Hashim & Ahmed, 2019; Makhlouf et al., 2018; Onuoha et al., 2021). Additionally, Hoang et al. (2017) find a nonlinear relationship (U- shaped curve) between diversity-in-boards indices — including gender, age, education, and nationality — and earnings quality. They suggest that the initial increase in the diversity-in-boards reduces corporate earnings quality until it reaches the turning point of four indices. Then, the further increase in the diversity-in-board afterwards improves firms' earnings quality.

Insufficient emphasis has been placed on the subject of age diversity within Boards and its impact on earnings quality. Based on the aforementioned agency and resource

dependency theories, this thesis posits that the inclusion of both younger and older director members can provide diverse cognitive perspectives and insights, and so enhance the efficacy of decision-making processes and bolstering the quality of financial information. Hence, it is anticipated that a direct relationship will exist between the diversity of director members' ages and the quality of financial reporting.

3.4.2 Board's deep-level Diversity and Earnings Quality

The following part of this thesis moves on to describe in greater detail the deep-level diversity of directors, including (i) education, (ii) tenure, and (iii) experience and expertise heterogeneity. This subsection will briefly set out the empirical evidence regarding the link between unobservable Board characteristics and earnings quality in order to develop the hypothesis of this thesis.

Board Educational Diversity

The education of directors represents their knowledge, skills, and cognitive capabilities which will be essentially used when discussing and making decisions within the boardroom (Darmadi, 2013; Makhlouf et al., 2018; Milliken & Martins, 1996; Westphal & Milton, 2000). Furthermore, the Board education can be used to oversee the complexity and ambiguity of the financial reporting process (Onuoha et al., 2021), making reliable information transmission and reducing information asymmetry between the company and other stakeholders (Hsueh-En, 2010). For example, directors with a study major in finance and accounting have sophistication in financial reporting, which is helpful for monitoring financial information prepared by managers. As was proposed by agency theory, effective Board monitoring can enhance earnings quality (Onuoha et al., 2021).

Moreover, directors with higher educational levels usually have greater intellectual power, rich ideas, and unique perspectives for handling difficult situations (Westphal & Milton, 2000). In support, Makhlouf et al. (2018) draw upon the resource dependence theory to explain educational levels among directors. They propose that a high-level qualification of directors (such as PhD or Master's degrees) can provide the boardroom with helpful strategic resources since they bring extraordinary competencies that aid Board task performance.

Empirically, some studies present a positive nexus between Board educational background diversity and earnings quality. For example, Gull et al. (2018) find that women directors' business education can restrain earnings management, which improves earnings quality. This is consistent with the recent study by Onuoha et al. (2021), who report that educational qualification diversity — measured by director members' degrees in accounting and finance — can enhance the earnings quality of listed Banks in Nigeria. Similarly, Makhlouf et al. (2018) reveal that firms with Board educational-level diversity engage in a higher level of accounting conservatism, representing higher earnings quality. However, some other empirical studies find no significant relationship between educational diversity and earnings quality. For instance, Rojana and Yang (2019) find that master's degrees or higher qualifications of top management teams have no significant association with earnings management.

Despite the limited research investigating the link between educational qualifications and the quality of earnings, the aforementioned discourse on agency and resource dependence theories suggests that a broader educational background among directors can contribute to the improvement of financial reporting quality.

Board Tenure Diversity

Theoretically, there are two opposing perspectives of the relationship between Board tenure diversity and their behaviours. The first view supports the notion that longer-tenured directors have more monitoring skills than those with shorter tenures since extended-tenured directors can better understand the organisation and industry, as well as having greater experience, expertise and competence than newcomers (An, 2021; Li & Wahid, 2018; Vafeas, 2003). The monitoring function of corporate boards in terms of director members with long tenures, is also supported by agency theory (Eisenhardt, 1989).

An opposing view relies on the managerial hegemony concept where longer-tenured directors act as a 'rubber stamp' rather than performing a monitoring role, leading to greater commitment to the status quo (Li & Wahid, 2018). On the negative view of long-term directors, seasoned directors may be appointed by the management team. Following the management friendliness concept, longer-tenured directors are more likely to be friendly and less likely to inspect managers (An, 2021; Mark, 1996;

Vafeas, 2003). In other words, seasoned directors are regarded as ineffective in discharging their monitoring functions because of management dominance over the Board performance (Abdul Rahman et al., 2006).

Concerning short-term directors, An (2021) suggests that newcomers are considered a double-edged sword in the boardroom. On the one hand, shorter-tenured directors can provide new thoughts, unique knowledge, and creativity, enhancing the Board's decision quality (Rink & Ellemers, 2009). On the other hand, newcomers may have relationship problems with the longer-tenured directors; for example, they may present opposing perspectives to the groups which are unacceptable by the old-timers (Joardar et al., 2007).

Empirically, some researchers have investigated Board tenure diversity within the CG context. For example, An (2021) discovers that Board tenure diversity can enhance the level of Board's monitoring. Similarly, Li and Wahid (2018) find that a tenure-diverse Board represents greater monitoring performance. They also indicate that Board tenure diversity is more likely to have higher CEO performance-turnover sensitivity, less chance of accounting restatements and less excess management compensation.

However, a limited number of studies provide evidence on the relationship between Board tenure diversity and earnings quality. Almutairi and Quttainah (2019) investigate the relationship between the CG system and accounting conservatism in Islamic banks. They find that Board tenure is negatively related to loss avoidance and abnormal discretionary. This implies that as director tenure increases, managers tend to exhibit a higher degree of conservatism. Thus, longer-tenured directors seem to be more effective in monitoring managers and better at detecting fraud. In support, Rojana and Yang (2019) find that firms with executives and directors having long tenures reduce accruals earnings management. However, a positive link is observed between the length of tenure of top management teams and the practice of real earnings management. This suggests that executives who have been in their positions for a longer period of time are more inclined to engage in earnings manipulation through operational activities.

Based on the existing theoretical frameworks and empirical research, this thesis posits that the presence of diverse Board tenures is likely to have a positive impact on the quality of financial reporting.

Board Experience/Expertise Diversity

The debate about the effect of directors' experience and expertise on corporate performance has gained attention over the past few decades. On the one hand, some researchers believe that similar occupations among director members positively impact group performance because of the reduction of out-group bias (Westphal & Milton, 2000). On the other hand, other studies argue that more diverse occupations on the Board are more useful to Board monitoring performance due to the differences in information and decision-making perspectives (An, 2021). In this regard, a Board with various skills, expertise, and experience can provide unique external resources to the firm, as was highlighted in the resource dependence theory (Hillman et al., 2002). As a result, Board occupational diversity can enhance the Board's competitiveness, decision-making, problem-solving and monitoring tasks (Hillman et al., 2000).

Board industry expertise is another attention-drawing view, which can reduce internal information asymmetry as directors can provide helpful information regarding the risk and rewards of firms' industry. The importance of the Board lies in its role as a vital bridge for accessing industrial information, hence enhancing economic prospects within the industry (Faleye et al., 2017). Additionally, Faleye et al. (2017) reveal that directors possessing industry-specific knowledge on boards exhibit enhanced oversight capabilities in relation to managers' allocation of resources towards research and development expenditures. Simultaneously, the inclusion of industry experts with Board experience on a corporate Board offers valuable guidance to management pertaining to their investment decisions in research and development initiatives. In support, Cohen et al. (2014) discover that the presence of industry expertise of the audit committee has a positive impact on the quality of financial reporting.

One of the most significant current discussions in Board experience is director members' financial and accounting expertise. In this regard, a possible explanation for this is based on two prominent theories: agency and resource dependence theories.

García-Sánchez et al. (2017) utilise agency theory to explain the notion that the financial expertise of directors can be used to oversee accounting control and firm financial reporting. Moreover, once companies employ accounting conservatism, it can help to reduce the information asymmetry between the agents and the principals. In support, agency theorists suggest that director members with accounting expertise can better monitor the financial reporting process and be more effective at constraining managements' opportunistic behaviour, leading to a higher quality of earnings (Bilal et al., 2018).

Resource dependency theory is employed to elucidate the presence of financial expertise on the corporate Board, wherein director members contribute their financial and accounting knowledge to CEOs. This contribution is perceived as valuable advice, ultimately leading to the delivery of qualified accounting information (García-Sánchez et al., 2017). Furthermore, supporters of resource dependence theory contend that individuals with financial expertise but without accounting backgrounds, such as directors with exclusive financial experience, possess the ability to use their industry and commercial expertise to evaluate the financial reporting procedure, particularly in situations where their organisations encounter business risks (Bilal et al., 2018).

According to the literature, evidence of the relationship between Board financial/accounting expertise and earnings quality is generally consistent. An extensive number of studies illustrate that financially qualified director members are positively associated with earnings quality. For example, Cohen et al. (2014) propose that the combined accounting and industry knowledge of the audit committee can reduce the likelihood of restatement, mitigate discretionary accruals, and lower non-audit fees. In support, Kim et al. (2014) find that directors' financial expertise can enhance the financial reporting's monitoring performance by providing their specific and technical knowledge regarding accounting practices, internal control concepts, and audit processes. Similarly, Bilal et al. (2018) conclude that the audit committee with financial expertise is positively related to earnings quality. This result is consistent with prior studies that demonstrate a positive relationship between Boards' financial expertise and earnings quality (García-Sánchez et al., 2017; Mohammed et al., 2019; Rojana & Yang, 2019; Triki Damak, 2018).

There are however some other studies that have not successfully identified any impact of diversity of financial expertise within the Board on the quality of earnings (Chi et al., 2009; Li & Wahid, 2018; Okaily et al., 2019). One potential explanation for the absence of evidence is the growing challenge faced by the Board in effectively monitoring substantial risks and changes in financial reporting, due to constraints in terms of time and expertise (Okaily et al., 2019).

However, consistent with theoretical predictions and prior empirical findings of the majority of studies, it is anticipated that there will exist a positive relationship between a variety of expertise and experience on the Board and earnings quality.

3.4.3 Evaluation of Empirical Findings: The Link between Board of Directors' Diversity and Earnings Quality

Based on the theoretical views and empirical research outlined in the preceding sections, the examination of Board characteristics in this thesis primarily centres on the concepts of surface-level and deep-level diversity within the Board. The enhancement of Board diversity is widely recognised as a beneficial CG strategy that can enhance the quality of financial reporting.

However, a significant portion of prior research has mostly concentrated on examining individual aspects of Board diversity, commonly referred to as isolated Board diversity, while neglecting to consider the combined effect of Board diversity on desired results. According to Hoang et al. (2017), there is evidence to suggest that various outcomes have been influenced by factors related to isolated Board structures. Consequently, the interpretation of study findings becomes challenging when each distinct element of Board diversity, including but not limited to gender, age, education, and other factors, exhibits a varying propensity to influence different outcomes.

For example, several studies have found that a more gender-diverse Board is associated with higher earnings quality (Abdullah & Ismail, 2016; Almutairi & Quttainah, 2019; Boussaid et al., 2015; García-Sánchez et al., 2017; Gull et al., 2018; Kyaw et al., 2015; Makhlouf et al., 2018; Mohammed et al., 2019; Orazalin, 2019; Saeed & Saeed, 2018; Srinidhi et al., 2011; Strydom et al., 2016; Triki Damak, 2018). In contrast, other researchers find a negative relationship between Board gender diversity and earnings quality (Adams & Ferreira, 2009; Mollah et al., 2019; Sharifah,

2012). In addition to the aforementioned discussion on the different effects of Board gender diversity, it is important to consider other aspects of Board diversity such as age, education, expertise, and tenure diversity. These attributes have been found to have either positive or negative influences on earnings quality, as previously described in the preceding sections.

Recent works by Hoang et al. (2017) and Onuoha et al. (2021) offers combined Board diversity attributes within the CG research context. In support, Ben-Amar et al. (2013) and Hafsi and Turgut (2012) also apply aggregate characteristics of Board diversity to see the overall picture of its diversity on corporate outcomes. Therefore, this thesis utilises aggregate Board diversity indices to examine the comprehensive view of the relationship between Board diversity and earnings quality. Furthermore, the present study categorises index-driven variables into two distinct types: surface level and deep level. The surface-level diversity index employed by the Board is based on two demographic characteristics of its director members, namely gender and age. The deep-level diversity index utilised by the Board encompasses the educational qualifications, tenure, experience, and expertise of the directors.

Based on the preceding discussion on a comprehensive multi-theory framework together with the existing literature, the hypotheses in this thesis are proposed as below.

H1: *There is a positive relationship between Board's aggregate-level diversity and earnings quality.*

> *H1a: There is a negative relationship between Board's aggregate-level diversity and earnings management.*
>
> *H1b: There is a positive relationship between Board's aggregate-level diversity and accounting conservatism.*

H2: *There is a positive relationship between Board's surface-level diversity and earnings quality.*

> *H2a: There is a negative relationship between Board's surface-level diversity and earnings management.*

H2b: There is a positive relationship between Board's surface-level diversity and accounting conservatism.

H3: *There is a positive relationship between Board's deep-level diversity and earnings quality.*

H3a: There is a negative relationship between Board's deep-level diversity and earnings management.

H3b: There is a positive relationship between Board's deep-level diversity and accounting conservatism.

It is important to acknowledge that while this thesis primarily examines the whole picture of Board diversity, a robustness test will also be conducted to explore particular aspects of Board diversity. This test aims to see if the conclusions remain consistent when the underlying assumptions are changed. More detail on such topics will be provided in Chapters 5 and 6.

3.5 Empirical Studies and Hypotheses Development: The Moderating Effect of Board of Directors' Role

Fama and Jensen (1983, p.323) identify the Board as 'the common apex of the decision control systems of organisations in which decision agents do not bear a major share of the wealth effects of their decisions'. In this regard, the Board is a good tool for monitoring managers' decisions. They have the power to hire and fire managers, design management compensation, approve significant organisational policies and make significant decisions (Ahmed & Duellman, 2007). At the same time, the Board also provides helpful advice to managers on organisational strategies and linkage valuable external resources into the firm according to resource dependence theory (Pfeffer & Salancik, 1978). It can be seen that the two prominent roles of the Board are monitoring and advisory functions (Adams & Ferreira, 2007; Faleye et al., 2011; Hsu & Hu, 2016; Mustafa et al., 2018; Upadhyay et al., 2014).

In order to effectively monitor and advise managers, directors need valid financial information, so financial reporting is an essential source of valuable corporate information used in monitoring and advising managers. Accounting conservatism is

one of the firms' most essential accounting characteristics that can assist directors in decreasing their responsibility for losses and developing other information sources to increase firm value (Watts, 2003). Additionally, the degree of earnings management can serve as an indicator of earnings quality, with a lower amount of earnings management implying higher earnings quality. The following sections will discuss the effect of the Board's roles on the link between Board diversity and earnings quality.

3.5.1 The Effect of Board's Monitoring Role on the Link between Board Diversity and Earnings Quality

Agency theory, which is the dominant CG theory, can be utilised to explain the emergence of the Board and its monitoring role (Labelle et al., 2010). As described in section 3.3.2, an agency problem occurs when delegating duties in operating a business is transferred from the principals or shareholders to the agents or managers (Jensen & Meckling, 1976). The theory assumes that the agents' interests are different and generally in conflict with the principals' interests. In this regard, the CG mechanism is introduced by having the Board who is 'a trustee to monitor and control the agents (managers) to ensure they stay within the bounds of regulations, so the interests of the owners (shareholders) are protected' (Onuoha et al., 2021, p.20).

Agency theory highlights that Board diversity plays a crucial role in ensuring that the financial interests of board members are aligned with shareholders rather than managers (Labelle et al., 2010). This is particularly relevant in relation to the monitoring function of the Board. In other words, diversity in the boardroom can enhance the monitoring role in a way that director members perform their tasks that are representative of shareholders to protect the interests of a whole. Directors commonly perform the monitoring role to ensure whether managers' organisational management effectively protects shareholders' interests (Onuoha et al., 2021). In support, Hillman and Dalziel (2003) link Board capital — such as skills, experience, expertise, and knowledge on a Board — to monitoring Board functions. They suggest that the diversity of Board capital enhances the effectiveness in monitoring the CEO, planning organisational strategies for succession, and evaluating the management team. This is consistent with agency theory founders Jensen and Meckling (1976, p.354), who also state: 'We would expect monitoring activities to become specialized

to those … individuals who possess comparative advantages in these activities'. Therefore, it implies that Board capital is the source of comparative advantages which improve monitoring function of the Board.

To date, much of the current literature on the Board's monitoring role pays particular attention to two dimensions: monitoring (i) by Board committees; and (ii) by the Boards' directorship. The first view refers to appointing a monitoring committee to protect the shareholders' interests by closely overseeing managerial activities. Many researchers have classified monitoring committees into three types: (i) audit; (ii) compensation; and (iii) nominating committees (Faleye et al., 2011; Ntim, 2013; Osma & Noguer, 2007; Reeb & Upadhyay, 2010; Upadhyay et al., 2014). In other words, the audit committee is responsible for monitoring the financial reporting processes, the compensation committee is accountable for evaluating and approving the appropriate amount paid for executives, and the nominating committee is responsible for recruiting the proper board members and assessing top management's performance.

Another aspect of the Board's monitoring function can be measured by the nature of the role a director plays on the Board, i.e. whether or not they are a monitoring director. By way of illustration, intense monitoring directors are the ones who serve on at least two monitoring committees (Faleye et al., 2011; Hsu & Hu, 2016; Zalata et al., 2019). This is because ordinary directors do not serve on more than two committees since they are less likely to dedicate much time to additional work. Thus, if directors are sitting on at least two monitoring committees, their responsibilities would be mostly monitoring-related (Faleye et al., 2011).

Empirically, previous studies report mixed evidence on the relationship between Board monitoring and corporate outcomes. For example, Ntim (2013) finds a positive relationship between the presence of monitoring Board committees and market valuation, but the relationship is significant only in organisations having all three monitoring Board committees. In support, Upadhyay et al. (2014) discover a robust positive association between the Board's monitoring role and firm performance. They also suggest that organisations should employ monitoring committees as a means of addressing agency costs associated with Board size. This implies that larger Boards

are more inclined to establish monitoring committees, resulting in enhanced monitoring effectiveness. In the same vein, a recent study by Zalata et al. (2019) demonstrates that women on corporate Boards who hold monitoring roles can reduce the level of earnings management. Similarly, Faleye et al. (2011) find that Board monitoring is positively related to CEO-turnover sensitivity and lower excess compensation, representing higher earnings quality. It can be seen that monitoring intensity can enhance Board oversight performance.

However, the intensity of Board monitoring may reduce the Board's advising performance. Faleye et al. (2011) find evidence that intense Board monitoring lowers strategic advising performance regarding corporate acquisition and innovation. Intense monitoring may also reduce firm value, especially for firms with high demand for acquisitions, innovation, or complex operations. Furthermore, some other studies report no significant relationship between the Board's monitoring role and financial reporting quality (Hsu & Hu, 2016; Osma & Noguer, 2007; Reeb & Upadhyay, 2010).

Based on a comprehensive analysis of existing studies, it is evident that a limited body of research has been conducted to examine the impact of the Board's monitoring function on the link between Board diversity and the quality of earnings. Hence, based on theoretical predictions and available empirical evidence, this thesis anticipates that the monitoring role performed by the Board has an impact on the relationship between Board diversity and earnings quality.

3.5.2 The Effect of Board's Advisory Role on the Link between Board Diversity and Earnings Quality

Resource dependence theory, which is one of the most commonly used theoretical frameworks among CG research, is applied to explain the advisory role of the Board. This theory is based on organisation-environment relations. The underlying theory posits that the organisation is influenced by the environment, which presents both potential risks and advantageous resources (Onuoha et al., 2021). In essence, companies must address these limitations and effectively allocate resources in order to ensure their continued existence and expansion. Therefore, resource dependence theorists consider the Board as a connector between firms and the external

environment, enabling firms to reduce dependence or gain resources (Hillman et al., 2009; Pfeffer & Salancik, 1978).

The advising function of the Board is strengthened by the diverse range of skills, knowledge, intellect, experience, and views possessed by its members. This diversity contributes to the effectiveness of the board by enabling the use of their respective strengths in the decision-making process (Labelle et al., 2010; Onuoha et al., 2021). In this context, the Board provides valuable guidance to the senior management team (Daily et al., 2003; Hillman et al., 2009). According to Hillman and Dalziel (2003), the concept of Board capital encompasses the collective human and relational capital possessed by the Board. This includes factors such as the directors' expertise, experience, knowledge, reputations, talents, as well as their network of connections to other firms and outside environments. It has been suggested that the presence of diversity in the capital of a Board can offer a firm access to significant resources, hence potentially enhancing firm performance. This is to say that Board capital links to the provision of resources in terms of advice and counsel to managers (Hillman & Dalziel, 2003).

To date, two perspectives of the board's advisory role have been studied in CG and accounting research: advising (i) by Board committees; and (ii) by the Board's directorship. The first dimension involves advisory committees, which usually occurs at the discretion of each firm, unlike monitoring committees that are mandatorily formed by the regulations' requirement (Reeb & Upadhyay, 2010). In this regard, Reeb and Upadhyay (2010) and Zalata et al. (2019) have defined advisory committees as committees other than the monitoring committees. These include finance, investment, public issues, diversity, mergers and acquisition, ethics, environment, and other advising-related committees.

The Boards' directorship represents the second view of the advisory Board — called an advisory director. Hsu and Hu (2016) define advisory directors as those not in the audit committee because the audit committee is mainly responsible for monitoring, particularly in financial reporting processes. It is evident that audit committee members dedicate most of their time to overseeing management activities rather than providing advice to managers. Later, Faleye et al. (2013) and Zalata et al. (2019) have

identified a more comprehensive view of advisory directors as directors who have directorial experience of at least one year but do not serve on any monitoring committees, meaning that they have a directorship of at least one advisory committee. The rationale behind this is that the CEOs may be unhappy with intense Board monitoring. Thus, if the company separates Board advising directors from monitoring tasks, the CEOs may be friendlier, more trusting and be more willing to exchange internal information with the Board, enhancing group task performance and increasing firm value.

Empirically, few extant studies provide evidence on the relationship between the advisory Board and corporate outcomes. Reeb and Upadhyay (2010) find that firm financial performance is positively associated with advisory committees, meaning that the impact of subordinate boards on firm value is driven by having an advisory Board. In the same vein, Faleye et al. (2013) propose that advisory directors provide the CEOs with their professional expertise and experience, resulting in better strategic outcomes, higher firm acquisition returns, better-quality corporate innovation, and greater firm value. In support, Hsu and Hu (2016) find that advisory directors on corporate Boards are positively related to earnings quality, as measured by earnings persistence. They also find that the presence of advising directors can enhance future corporate performance. Interestingly, they point out that the relationship between the Board's role and earnings quality is driven more by the advisory function than the monitoring role of the Board. Such that, in general, advisory Boards are better able to maintain and increase earnings quality. However, Zalata et al. (2019) do not find any evidence on the association between female advisory directors and earnings management. Instead, they notice that more gender-diverse boards can restrain managerial opportunism, especially monitoring roles.

While previous research has explored the impact of advisory roles on enhancing firm performance and earnings quality, limited attention has been given to investigating the influence of the Board's advisory role on the relationship between Board diversity and earnings quality. Based on a review of theoretical frameworks and existing literature, this thesis posits that the advising role of the Board is predicted to impact the relationship between Board diversity and earnings quality.

3.5.3 Evaluation of Empirical Findings: The Effect of Board of Directors' Role

The preceding sections have examined the two essential components of the Board's responsibilities: (i) monitoring; and (ii) advice. The duties of the Board are to monitor management activities in order to reduce agency costs, while also offering valuable advice to the manager, based on their human capital. To facilitate successful decision-making, the Board requires internal information from executives. Therefore, the true roles are interacted; it is imperative for the Board to closely oversee managerial operations while simultaneously seeking pertinent information from the management team in order to provide valuable guidance in response. That is, the Board serves a dual role as both an inspector and a friendly counsel to the CEOs. As a result, firms need to trade off the importance of the board's monitoring and advisory roles.

For example, the study carried out by Hsu and Hu (2016) finds that the benefits of advising for managerial decision-making outweigh the mitigation of agency costs resulting from monitoring functions, particularly for the complex firm. In contrast, Schwartz-Ziv and Weisbach (2013) discover that Boards spend most of the time monitoring managers, so they spend less time in an advisory role. This study also points out that around two-thirds of issues discussed by the Board in the meeting room are monitoring topics.

Adams and Ferreira (2009) discover that female directors attend more meetings and are more likely to be appointed to monitoring committees than men. The monitoring role by women on the corporate Board is an essential factor of the turnover-performance sensitivity and director pay. However, they find evidence that Board gender diversity appears to be more challenging in monitoring roles and does not increase firm value. Despite controlling for the endogeneity problem, firm performance still decreases.

Well-known studies conducted by Adams and Ferreira (2007) and Faleye et al. (2011) emphasise the importance of balancing advisory and monitoring roles. These studies find evidence that intense Board monitoring mitigates strategic advising performance. Hence, the monitoring and advisory duties of the Board are not always compatible. It is evident that effective Board monitoring does not necessarily equate to effective Board advising. According to Onuoha et al. (2021), it is argued that Board diversity

enhances the effectiveness of the Board in their functions of monitoring and advising, thereby ensuring that managers carry out their responsibilities with the same level of vigilance as the principals.

To date, limited discourse has been given to the dual functions of the Board in terms of its potential moderating impact, particularly with regard to the nexus between Board diversity and the quality of earnings. Additionally, many previous studies have explored the direct link between Board diversity and corporate outcomes, but evidence on the direction of this relationship is mixed. An intriguing area of investigation therefore is the potential interplay between different functions held by the Board, specifically whether one role may impede another or if these roles may coexist harmoniously. Furthermore, it is worth exploring how the dual Board roles influence the connection between Board diversity and the quality of earnings as the proposed hypotheses below.

H4: *The monitoring role of the board of directors modifies the link between Board diversity and earnings quality.*

> *H4a: The monitoring role of the board of directors modifies the link between Board diversity and earnings management.*
>
> *H4b: The monitoring role of the board of directors modifies the link between Board diversity and accounting conservatism.*

H5: *The advisory role of the board of directors modifies the link between Board diversity and earnings quality.*

> *H5a: The advisory role of the board of directors modifies the link between Board diversity and earnings management.*
>
> *H5b: The advisory role of the board of directors modifies the link between Board diversity and accounting conservatism.*

3.6 Conceptual Framework

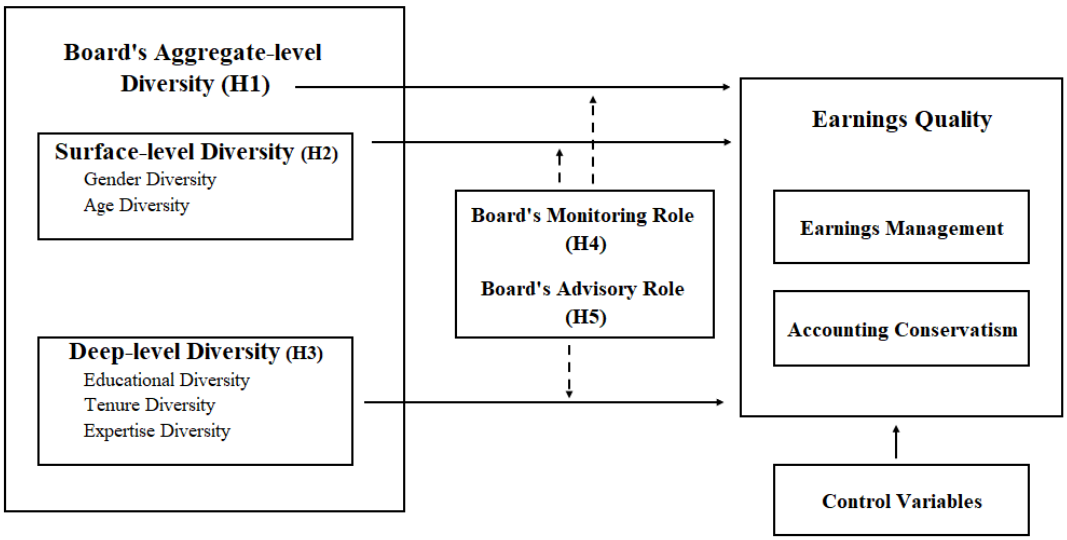
This thesis generates a conceptual framework according to theoretical perspectives and literature discussed earlier, as shown in Figure 3.2 below. The accounting issue that this thesis aims to investigate is earnings quality, which is about earnings management

and accounting conservatism. In addition, with respect to the explanatory variable that captures the phenomenon of CG, this thesis adopts Board diversity as an independent variable, which is categorised into two distinct types: surface-level and deep-level diversity. Surface-level diversity of the Board encompasses gender and age diversity, whereas deep-level diversity of the Board encompasses diversity in education, tenure, and experience/expertise. The solid lines in Figure 3.2 represent the effect of Board diversity on earnings quality and the testable hypotheses, as identified in H1-H3.

This thesis also extends existing research by considering the moderating effects of the Board's roles as suggested by agency and resource dependence theories. In this regard, the Board has two main roles — monitoring and advisory — which are incorporated into the conceptual framework as moderators. The dashed lines in Figure 3.2 illustrate such moderating effects and testable hypotheses, per H4 and H5. In addition, it is to be observed that this study includes control variables in the conceptual framework, which will be described in more detail in Chapter 4, Research Methodology.

Figure 3. 2 The Conceptual Framework

The figure illustrates the conceptual framework that underpins this thesis. Left-hand box is utilised to denote independent variables. The central compartment is symbolic of moderators. Moreover, dependent variables are denoted by the box on the right. Control variables are also illustrated in this figure.



3.7 Conclusion

This chapter presents a range of theoretical perspectives and empirical literature related to CG mechanisms and earnings quality. The chapter is categorised into four main sections. First, it discusses CG mechanisms, highlighting the importance of this topic and introducing one of the most crucial CG mechanisms used in this thesis viz. the Board's diversity and its roles.

Second, it reviews the most relevant theories that underline the relationship between Board diversity and earnings quality. This thesis employs a multiple-theoretical approach, including human capital theory, agency theory, and resource dependence theory. Additionally, this current study proposes a summarised three-theories perspective to better understand the holistic view of this research area. Third, the empirical studies are reviewed in terms of the link between the Board's diversity and earnings quality, as well as the moderating effect of the Board's roles. In this part, literature has been discussed for both developed and emerging countries. Moreover, this part develops research hypotheses concurrently with reviewing empirical evidence. Finally, the fourth section presents the conceptual framework, including explanatory variables, dependent variables, and moderators; and the research hypotheses are illustrated through the conceptual framework.

CHAPTER 4 Research Methodology

4.1 Introduction

In Chapters 2 and 3, the research gaps were identified by reviewing relevant theories and empirical findings regarding the effect of Board diversity and Board roles on earnings quality. In this chapter, a research methodology to address those research gaps will now be discussed. In Section 4.2, the relevant research method is reviewed and discussed. In this section, alternative techniques are compared and contrasted to help the researcher justify the most appropriate technique. Section 4.3 explains the procedures for identifying the sample and collecting data in order to test hypotheses empirically. Section 4.4 illustrates the measurement of variables of interest in this research, which will be utilised in the subsequent analysis, Chapters 5 and 6. Section 4.5 goes into the examination of hypotheses through empirical models. Finally, the concluding remarks of this chapter will be succinctly summed up in section 4.6.

4.2 Research Method

Researchers should consider the research approach that directly affects theory development, research strategy, and methodological choice (Saunders, 2019). Many CG researchers have been applying the deductive approach as they mainly investigate the cause-effect relationship between CG mechanisms and financial results to confirm or reject existing theory, leading to empirical generalisation. Numerous studies have attempted to understand and apply CG-related theories — such as agency theory, resource-based theory, and stakeholder theory, among others — so that researchers can find the orders or regulations governing the business world; the so-called CG principles (Ardalan, 2007).

Regarding the deductive approach, researchers persist in developing hypotheses based on existing theories and then develop a research design. In essence, deductive researchers typically use quantitative methods, which are highly structured and reduce bias. These methods can also be designed to examine a cause-and-effect relationship. The vast majority of CG research has used quantitative methods. Using this approach, researchers can use larger samples and analyse quantitative data using regression analysis. Such work is exemplified in the quantitative research (Alabede, 2016; Martinez-Jimenez et al., 2020; Tee & Rassiah, 2019; Triki Damak, 2018).

Therefore, this thesis uses Ordinary Least Squares (OLS) for regression estimation in its analyses of the relationship between the diversity of a company's Board and the quality of its financial reporting. In the primary analysis of this study, the empirical model is estimated using panel data analysis with fixed effects (see Chapters 5, 6), based on prior research. This estimation is considered the best unbiased linear estimation when the assumptions are satisfied (Gujarati, 2009). These fundamental assumptions are normality, linearity, absence of high collinearity between independent variables (multicollinearity), absence of heteroskedasticity, and absence of autocorrelation (Gujarati, 2009). This thesis endeavours to test the OLS assumptions before implementing them in regression analysis. After employing the aforementioned tests and procedures, OLS is deemed to be the appropriate statistical estimation for conducting the primary analyses of the study.

In Chapters 5 and 6, the estimation and test results of the pooled OLS, fixed effects model (FE), and random effects model (RE) will be presented. It is challenging to determine which estimation model is most credible or efficient. In this case, the pooled OLS technique fails to incorporate the potential influence of individual-specific effects on the cross-sectional unit, as well as the varying durations of time-series data gathered for each individual. Thus, the Pooled OLS approach may not be the most appropriate or credible model.

Regarding the FE model, this estimation is also known as the 'Within estimator' because it applies variation in dependent and independent variables within each cross-sectional observation. The FE model refers to an estimation method used for Panel data models that accounts for time-invariant sources of unobserved heterogeneity in observations (Wooldridge, 2002). Furthermore, it is supposed that such unobserved heterogeneity is correlated with explanatory variables. The RE model also accounts for unobserved effects. However, the RE model presumes that unobserved effects are uncorrelated with explanatory variables. Although both FE and RE models address unobserved effects, they differ in other aspects. Their assumptions regarding the character and distribution of unobserved effects differ.

In most of CG and accounting research, the FE model is believed to be more reliable and realistic than the RE model, and the FE model is preferred over the pooled OLS

models (Collischon & Eberl, 2020). The greatest advantage of FE methods in nonexperimental research is the ability to control for all stable characteristics of the individuals in the study, thereby removing potentially significant sources of bias. Within-subject comparisons are also prevalent in certain types of designed experiments known as changeover or crossover designs (Ziegel & Senn, 1994). In these designs, subjects receive various treatments at various times, and a response variable is measured for each treatment. The best-case scenario is a randomised treatment strategy. The objective of the crossover design is not primarily to reduce bias, but rather to reduce sampling variability, resulting in more robust hypothesis tests (Neuhaus, 2006).

Moreover, Brown et al. (2011) argue, using an econometric framework, that endogeneity is a significant issue in the relationship between a CG mechanism and accounting and finance issues. In order to mitigate the negative impact of endogeneity, this current study employs panel data fixed-effects regression, which can control for unobservable firm heterogeneity (Chi, 2005) and partially mitigate the endogeneity problem (Wooldridge, 2002). A potential issue regarding the relationship between Board diversity and earnings quality is the possibility that the relationship is endogenous, which might introduce bias into the findings. In the case of endogeneity, an independent variable is correlated with unobserved factors (the error term) and is not truly independent. This thesis employs lagged independent variables, which have been extensively used in prior empirical studies, in order to mitigate the potential impact of endogeneity. The present study employs independent and control variables with a one-year lag on dependent variables. Omitted variables are another cause of endogeneity. Directors and companies could match based on variables that were not included, and these variables that were not included in the matching conditions could be related to the outcome variables. In this thesis, the regressions will include a number of control variables that take into account differences in company and Board characteristics in order to account for some of the problems that come up when matching directors with firms.

Regrettably, the present study lacks the capability to employ conventional econometric techniques that mitigate endogeneity concerns. The utilisation of instrumental variable regressions is not feasible in this study due to the extensive incorporation of diverse

Board diversity attributes (gender, age, education, tenure, etc.), which would necessitate several types of valid instruments. Moreover, I am unable to identify a shock event to conduct difference-in-difference tests due to the limited sample period. However, upon careful examination of the sample firms, it was determined that the majority of them fluctuate substantially over time. This study therefore utilises firm-fixed effect regression.

This current study performs the Hausman test (Hausman, 1978), which is used to determine which of the FE and RE models is the most credible, efficient, and adequately explains the study results (Wooldridge, 2002). After performing the Hausman test, this current study finds that all regression estimations rely on FE models. Thus, the main analysis in Chapters 5 and 6 will be undertaken using FE estimations.

4.3 Sample and Data Collection

The sample used in this research includes listed companies in six economies: Australia, Singapore, Hong Kong, Canada, the UK and the US, between 2016 and 2020. To support this selection, Baker et al. (2020), Nguyen et al. (2020) and Zheng and Kouwenberg (2019) found that developed nations dominate the CG literature, with the UK, the US, and Australia dominating the field in terms of academic output on Board attributes. In 1992, with the release of the Cadbury report, the UK became a pioneer in CG. The US and Australia both experienced some of the largest corporate scandals in the early 2000s and were among the first to adopt legislation to address CG issues, and the OECD has emerged as a strong proponent of good CG practices. Despite the predominance of scholarship from Western developed societies in this literature, the topic of CG and boards of directors has attracted the interest of scholars from the Asia-Pacific region (Zheng & Kouwenberg, 2019). This is why two developed Asian markets, Singapore and Hong Kong, are included in the analysis of the current study. Accordingly, six nations were selected from the developed economies of each continent. Additionally, as a response to calls for more research on Board diversity-firm result relationships (Baker et al., 2020; Nguyen et al., 2020; Terjesen et al., 2009), this thesis examines multi-country studies in addition to the predominantly one-country studies.

Moreover, all of the countries in the sample apply one-tier Board functions. Generally speaking, the two most common types of Board structures that have emerged across nations are the one-tier and two-tier Boards (Khan et al., 2020; Tian & Smith, 2020). The one-tier Board structure, as it is known in the United States and the United Kingdom, will be known as the Anglo-American Board structure. It has a single Board that includes both executive and non-executive directors, who are normally nominated and appointed by shareholders (Tan, 2011). On the other hand, the two-tiered Board structure consists of supervisory and management Boards. There is a strict separation between the monitoring function of the supervisory Board and the management function of the executive Board, and members of one Board cannot serve on the other (Rose, 2005). Although one-tier or two-tier Boards can oversee management, these differences in Board structures may be linked to different Board performance and efficiencies in the various jurisdictions, which likely impact company outcomes. As a result, the focus of this study was concentrated on countries with a single-tier Board, which are comparable to one another. Therefore, in relation to the research questions, six developed countries with the same Board function should reflect a comprehensive view of Board characteristics and financial reporting contexts for hypothesis testing in this thesis.

The procedures for selecting samples are summarised in Table 4.1. This current research follows Ferrero-Ferrero et al. (2015), Hidayah (2016), Shukeri et al. (2012) and Widagdo et al. (2022) in using the individual firm as the unit of analysis, as opposed to the country. The primary argument is that CG phenomena represent the organization's practices. In support, CG practices are issued by individual firms on a voluntary basis. It is also flexible in its application due to the 'comply or explain' and 'freedom with accountability' provisions, so businesses have the option of complying with the regulations or explaining why they cannot implement these practices (Cuomo et al., 2016).

The sample is selected from all industries, except for the financial and utility industries, as these are subjected to different regulations. It is a common practice in the literature to exclude such companies (Gull et al., 2018; Hoang et al., 2017; Sharifah, 2012; Wan Mohammad & Wasiuzzaman, 2019). The financial statement data items for the five fiscal years 2016 to 2020 were collected from the S&P Capital

IQ (2021), and Datastream International (2021) (Refinitiv). These databases have been widely used in prior studies (Abdullah & Ismail, 2016; Ghaleb, Kamardin, et al., 2020; Mohammed et al., 2019; Mollah et al., 2019; Okaily et al., 2019). Additionally, each company must have an income statement, a balance sheet, and a cash flow statement for each fiscal year to be included in the sample.

Typically, S&P Capital IQ and Refinitiv provide financial data in local currencies. Therefore, data must be converted to the same currency, which in this case is the US Dollar. Nonetheless, outlier values are also a concern for researchers, even if they employ a ratio, because it may influence the estimation of the regression estimator (Pérez et al., 2014). To alleviate this concern, previous research has utilised the winsorisation[4] technique for 1% at the top and bottom of financial data (Ahmed & Duellman, 2007; Enache & García-Meca, 2018; Kamarudin et al., 2021; Kouaib & Almulhim, 2019; Li & Wahid, 2018; Sultana, 2015; Thiruvadi & Huang, 2011). Thus, winsorisation will also be applied to all financial variables in this research, as per previous procedures.

Regarding Board characteristics data, this was gathered from BoardEx (2021) and S&P Capital IQ (2021), which have been extensively adopted in previous research (Cohen et al., 2014; Faleye et al., 2017; Kaczmarek et al., 2012; Li & Wahid, 2018). To clarify, BoardEx was the primary source of Board information (including variables pertaining to Board diversity, Board roles, and other Board control factors). In order to verify the accuracy and completeness of the data, I subsequently cross-checked this information with the S&P Capital IQ database. Despite the fact that these two databases are still missing some information, I collected and verified additional data manually from the annual reports of each company. In order to be included in the sample, each company must also have Board and director information for each fiscal year.

In terms of data availability, the data utilised to support the findings of this research can be obtained from publicly accessible sources including S&P Capital IQ, Refinitiv,

[4] By replacing outliers (extreme data) with closer values, the winsorising strategy minimises the impact of outliers and reduces the bias in statistical estimation. In this study, all the observations with continuous values greater than 99 percentiles will be replaced with the value of 99 percentiles. And all observations with continuous values less than 1 percentile will be valued at 1 percentile.

and BoardEx. These data sources can be made available upon request. The accessibility of these data is subject to certain limitations, as they were utilised in this study under a licencing agreement. Data are available from this study with the permission of these databases.

In conclusion, observations lacking critical financial data and Board characteristic information for calculating earnings quality and Board proxies, respectively, will be eliminated. After trimming, the total number of observations is 13,522, or 4,080 unique firms, as shown in Table 4.1.

Table 4. 1 Final Set of Samples

The table reports firm-year observations and unique firms applied in this thesis. The data is collected from accessible sources such as S&P Capital IQ, Refinitiv, and BoardEx.

Description	Firm-year observations	Unique firms
Initial observations from S&P Capital IQ Database for 2016 - 2020	27515	5503
Excluded observations:		
- Financial service industry	-630	-126
- Utility industry	-610	-122
- Observations with no key financial data and Board characteristic data	-12753	-1175
Final observations used in the analysis	**13522**	**4080**

4.4 Variable Measures

Based on the conceptual framework presented in Chapter 3, this study aims to investigate the direct and interaction effects of Board diversity and Board roles on earnings quality. This section discusses variable measures, beginning with dependent variables, followed by independent variables, moderators, and then control variables. As stated by Craig and Charles (2004), the objective of quantitative research is to investigate a particular topic or activity by measuring variables in quantifiable terms in order to evaluate the relevant concepts derived from theories.

4.4.1 Dependent Variable Measures

In this study, the outcome variable is earnings quality. As a result of the definition of earnings quality used in this study (and discussed in Chapter 2), earnings management and accounting conservatism will be employed as proxy measures for earnings quality.

4.4.1.1 Estimation of earnings management

Earnings management is the first dependent variable in this study. As discussed in Chapter 2, it can be classified into accruals and real earnings management. As the nature of this variable is not perfectly observable, proxy variables are required.

4.4.1.1.1 Estimation of accruals earnings Management

The amount of accruals, which serves as a proxy for how much management discretion is used in reporting earnings, serves as all accruals-based measures of earning management. Due to the widespread international acceptance and cross-country studies, standard Jones and modified Jones models have been utilised extensively in the literature (Costa & Soares, 2022). Additionally, many researchers believe that the modified Jones model is the most effective model for detecting earnings management because it identifies earnings manipulation better than its time-series counterpart (Bartov et al., 2000; Dechow et al., 1995; Martin et al., 2019).

The original purpose of the Jones model (Jones, 1991) was to investigate whether managers manipulated earnings in order to meet criteria for a variety of satisfaction programmes. For this reason, it is fundamental to the context in which it is used to separate discretionary accruals from total accruals. The total accruals are estimated on the cash flow approach as below:

$$\mathrm{TA}_{i,j,t} = \mathrm{NI}_{i,j,t} - \mathrm{CFO}_{i,j,t} \quad (1)$$

Where $\mathrm{TA}_{i,j,t}$ is total accruals items of firm i from a country j at time t; $\mathrm{NI}_{i,j,t}$ is net income of firm i from a country j in time t; $\mathrm{CFO}_{i,j,t}$ is cash flows from operations of firm i from a country j in year t.

After determining the overall accruals, they are divided into non-discretionary and discretionary parts. The purpose of non-discretionary accruals is to enhance the informational value of financial statements. Thus, discretionary accruals correspond to accruals earnings management.

Accruals earnings management by modified Jones model (AEM1)

This thesis follows Jones (1991) and Dechow et al. (1995), in using the modified Jones' model, to measure accruals earnings management (AEM1). The primary objective of modified Jones is to enhance the calculation of discretionary (abnormal) accruals. Consider normal or nondiscretionary accruals, which are the result of

changes in working capital items such as accounts receivable, accounts payable, and inventory. These accounts are dependent upon a change in revenue. Thus, the change in revenues is incorporated into the model to account for the normal level of accruals resulting from economic performance prior to earnings manipulation by managers. Similarly, gross property, plant, and equipment (PPE) is included in the model to account for the normal accruals associated with its depreciation expense.

In the modified model, Dechow et al. (1995) solved a fundamental problem that arose from the original Jones model: companies can manage revenues, and this effect can be controlled if the possibility of manipulating credit sales is considered. Thus, the modified model will be run by deducting the change in accounts receivable from the change in revenues as follows.

$$\frac{TA_{i,j,t}}{A_{i,j,t-1}} = \alpha_1 \left(\frac{1}{A_{i,j,t-1}}\right) + \beta_1 \frac{\Delta REV_{i,j,t} - \Delta REC_{i,j,t}}{A_{i,j,t-1}} + \beta_2 \frac{PPE_{i,j,t}}{A_{i,j,t-1}} + \gamma_t + \theta_i + \vartheta_j + \varepsilon_{i,j,t} \quad (2)$$

Where $A_{i,j,t-1}$ is total assets of firm i from a country j lagged by one year; $\Delta REV_{i,j,t}$ is the annual change in revenues of firm i from a country j in time t; $\Delta REC_{i,j,t}$ is the change in accounts receivable of firm i from a country j at time t; $PPE_{i,j,t}$ is gross properties plants and equipment of firm i from a country j at time t; γ_t is a set of dummy variables for each year; θ_i and ϑ_j are the fixed individual effects estimated for each firm i and country j; and $\varepsilon_{i,j,t}$ is the error term. The random error term follows the normal distribution with mean of zero and variance of a constant, σ^2.

In addition to the primary test, the abnormal discretionary accruals computed from the Performance-Matched model (Kothari, Leone, and Wasley, 2005) and the accruals quality model created by Dechow and Dichev (2002) will be used as alternative proxies for the robustness test.

Accruals earnings management by the performance-matched model (AEM2)

This thesis also follows Kothari et al. (2005)'s model (AEM2), which is modified from the previous model. This current study also improves the AEM2 model, as suggested by Raman and Shahrur (2008). In this regard, a company with extraordinary financial performance will be considered, which could impact the effectiveness of the accruals model. As a result, AEM2 incorporates the ratio of market value to book value and the return on assets to account for financial performance.

$$\frac{TA_{i,j,t}}{A_{i,j,t-1}} = \alpha_1 \left(\frac{1}{A_{i,j,t-1}}\right) + \beta_1 \frac{\Delta REV_{i,j,t} - \Delta REC_{i,j,t}}{A_{i,j,t-1}} + \beta_2 \frac{PPE_{i,j,t}}{A_{i,j,t-1}} + \beta_3 ROA_{i,j,t} + \beta_4 MTB_{i,j,t} + \gamma_t + \theta_i + \vartheta_j + \varepsilon_{i,j,t} \quad (3)$$

Where $ROA_{i,j,t}$ is the return on assets of firm i from a country j in year t; $MTB_{i,j,t}$ is the ratio of market to book of firm i from a country j in year t.

Accruals earnings management by the accruals quality model (AEM3)

This current study also follows the accruals quality model (AEM3) developed by Dechow and Dichev (2002). In this model, the degree to which earnings are correlated with cash flows from operations is determined by a measure of the quality of the accruals. A stronger relationship indicates a higher quality of earnings. Additionally, the AEM3 model is modified by including the firm's change in revenue and property, plant and equipment, as suggested by Francis et al. (2005) and McNichols (2002). The estimation results of Dechow and Dichev (2002)'s model suggest that incorporating cash flows into the Jones (1991) model could reduce the model's omission of variables that are correlated with the economic fundamentals of sample firms. However, the Dechow and Dichev (2002) model may not consider the some important criteria in determining accruals, due to measurement inaccuracy in their calculation. Therefore, including sales as well as property, plant and equipment levels in the Dechow and Dichev (2002) model provides a useful specification check on the extent of measurement error in their cash flow variables. It can be said that the AEM3 model is a combination of Jones (1991) and Dechow and Dichev (2002) models as follows.

$$\frac{TA_{i,j,t}}{A_{i,j,t-1}} = \alpha_1 + \beta_1 \frac{CFO_{i,j,t-1}}{A_{i,j,t-1}} + \beta_2 \frac{CFO_{i,j,t}}{A_{i,j,t-1}} + \beta_3 \frac{CFO_{i,j,t+1}}{A_{i,j,t-1}} + \beta_4 \Delta REV_{i,j,t} + \beta_5 PPE_{i,j,t} + \gamma_t + \theta_i + \vartheta_j + \varepsilon_{i,j,t} \quad (4)$$

According to the three accruals earnings management models aforementioned, the value of $TA_{i,j,t}$ is the amount of total accruals determined by the activity of the business and the composition of the firm's assets. After running OLS (with industry-country-year fixed effects) to acquire the coefficients (α, and β), the error term in these regressions, which is the difference between observed and estimated accruals, will become a component of managers' discretionary accruals. To clarify, the residual value ($\varepsilon_{i,j,t}$) produced from each equation captures the discretionary or abnormal accruals. In addition, the unsigned value, known as the absolute value of discretionary accruals, will be applied in this study based on the methods used in previous research (Orazalin, 2019; Rojana & Yang, 2019; Salah, 2018; Šušak et al., 2023; Triki Damak,

2018; Wan Mohammad & Wasiuzzaman, 2019; Ye et al., 2010) to account for both downwards and upwards earnings management.

Furthermore, the AEM3 measure is calculated using the standard deviation of the residuals estimated using Equation 4. It describes the degree to which operating cash flows of prior, current, and future years correspond to total accruals. A high value of the accruals quality measure indicates low quality of accruals and earnings.

4.4.1.1.2 Estimation of Real Earnings Management

Real earnings management (REM) is described as the deviation from normal business activities to manipulate the financial report in order to achieve or conceal financial goals. This study employs the Roychowdhury (2006) empirical models to identify these phenomena. REM can be classified into the following three operational activities: sales, discretionary expenditure, and inventory production.

First, according to Roychowdhury (2006), sales transactions can be manipulated by giving out unusual discounts or processing credit sales more quickly than usual. Such operating methods would thus result in higher sales volume in the current period but could also result in reduced cash flows from operations. Therefore, the first real earnings management is measured from the abnormally lower cash flow from operations for sales manipulation (ABCFO) as the following regression.

$$\frac{\mathrm{CFO_{i,t,j}}}{\mathrm{A_{i,t-1,j}}} = \alpha_0 + \alpha_1\left(\frac{1}{\mathrm{A_{i,t-1,j}}}\right) + \beta_1\frac{\mathrm{SALE_{i,t,j}}}{\mathrm{A_{i,t-1,j}}} + \beta_2\frac{\Delta\mathrm{SALE_{i,t,j}}}{\mathrm{A_{i,t-1,j}}} + \gamma_t + \theta_i + \vartheta_j + \varepsilon_{\mathrm{i,t,j}} \quad (5)$$

Where $\mathrm{SALE_{i,t,j}}$ is firm i's sales in year t.

Second, a higher quantity of reported earnings should result from policies that limit discretionary spending on things like marketing, advertising, and research and development (R&D). Due to managers' attempts to postpone such expenses in order to increase current earnings, these strategies could, however, result in reduced cash flow in the future and so adversely impact the long-term competitiveness of the firm. Thus, the second real earnings management is the measure of abnormally lower discretionary expenses for discretionary expenses manipulation (ABDIS) as in the following regression;

$$\frac{\mathrm{DISEX_{i,t,j}}}{\mathrm{A_{i,t-1,j}}} = \alpha_0 + \alpha_1\left(\frac{1}{\mathrm{A_{i,t-1,j}}}\right) + \beta_1\frac{\mathrm{SALE_{i,t-1,j}}}{\mathrm{A_{i,t-1,j}}} + \gamma_t + \theta_i + \vartheta_j + \varepsilon_{\mathrm{i,t,j}} \quad (6)$$

Where $DISEX_{i,t,j}$ is firm i's selling, general, administrative expenses (SG&A) in year t.

Third, a reduced cost of goods sold can result from overproduction, which boosts the operating margin. The fixed manufacturing costs will be mitigated by excessive inventories resulting from the company producing more than usual. In other words, companies will have a lower cost of goods sold and a greater operating margin in the current period due to the deflation in inventory cost per unit. Thus, the third real earnings management is the measure of the abnormally higher production cost for overproduction manipulation (ABPRO), as shown in the following regression.

$$\frac{PROD_{i,t,j}}{A_{i,t-1,j}} = \alpha_0 + \alpha_1\left(\frac{1}{A_{i,t-1,j}}\right) + \beta_1\frac{SALE_{i,t,j}}{A_{i,t-1,j}} + \beta_2\frac{\Delta SALE_{i,t,j}}{A_{i,t-1,j}} + \beta_3\frac{\Delta SALE_{i,t-1,j}}{A_{i,t-1,j}} + \gamma_t + \theta_i + \vartheta_j + \varepsilon_{i,t,j} \quad (7)$$

Where $PROD_{i,t,j}$ is firm i's cost of goods sold plus a change in inventory in year t.

The same procedures used for accruals earnings management will be employed for real earnings management models. To clarify, individual real activity manipulations will be captured by the residuals ($\varepsilon_{i,j,t}$) from models ABCFO, ABDIS and ABPRO. Additionally, according to the individual REM aforementioned, their activities are expected to have a negative impact on cash flow from operations (ABCFO) and discretionary spending (ABDIS), but a positive impact on production costs (ABPRO). Therefore, in line with Cohen and Zarowin (2010) and Ghaleb, Al-Duai, et al. (2020), this study multiplies ABCFO and ABDIS by negative one (-1) so that they have a positive connection with real earnings management activities.

Real earnings management by aggregating ABCFO and ABDIS (REM1)

Prior studies either incorporate all three individual values of real earnings management or combine only two individual values to calculate the aggregate REM proxy. For instance, Cohen and Zarowin (2010) proposed an aggregate REM proxy that combines only abnormal cash flows from operations and abnormal discretionary expenses (ABCFO + ABDIS). They argue that the aggregate proxy should not be calculated by adding abnormal cash flow from operations along with abnormal production costs because these two activities reduce cash flow from operations. Such that, adding them may result in double counting. Subsequent studies also use the aggregate proxy of combining ABCFO and ABDIS (Braam, 2015; Debnath et al., 2019; Ipino &

Parbonetti, 2016; Liao & Ouyang, 2019). This idea is used to quantify REM1 in the present study.

$$\textbf{\textit{REM1}} = (\text{ABCFO} \times -1) + (\text{ABDIS} \times -1) \quad (8)$$

Where REM1 is the sum of abnormal cash flow and abnormal discretionary expenses

Real earnings management by aggregating ABDIS and ABPRO (REM2)

Zang (2011) suggests the total of real earnings management activities by including both abnormal discretionary expenditures and abnormal production (ABDIS + ABPRO). In his study, he does not investigate abnormal cash flows from operations (ABCFO) because real earnings management has ambiguous effects on cash flows from operations in different directions. In particular, price discounts, channel stuffing[5], and overproduction all reduce cash flows from operations, whereas cutting discretionary expenditures increases them (Roychowdhury, 2006). The argument is that in light of the fact that any manipulation of real activities will impact cash flow from operations, ABCFO should not be included in the aggregate REM. Therefore, this current study also applies this concept to measure REM2 as follows.

$$\textbf{\textit{REM2}} = (\text{ABDIS} \times -1) + \text{ABPRO} \quad (9)$$

Where REM2 is the sum of abnormal discretionary expenses and abnormal production

Real earnings management by aggregating three REMs (REM3)

Many previous studies explain that managers can employ many REM strategies in actual operations (Al-Absy, 2022; Almashaqbeh et al., 2019; Debnath et al., 2019; Ghaleb, Al-Duai, et al., 2020; Ghaleb, Kamardin, et al., 2020; Ghaleb et al., 2021; Ghazali et al., 2019; Khan et al., 2022; Li et al., 2021; Liao & Ouyang, 2019; Ramadan et al., 2021; Rojana & Yang, 2019; Zalata et al., 2021). Therefore, in order to capture all potential REM approaches that the firm may employ, the aggregate of three individual REM will also be used in this study as follows.

$$\textbf{\textit{REM3}} = (\text{ABCFO} \times -1) + (\text{ABDIS} \times -1) + \text{ABPRO} \quad (10)$$

[5] According to Jackson and Wilcox (2000), channel stuffing can be employed as a strategy to accomplish financial reporting targets by offering sales price reductions to encourage the customer purchases.

Where REM3 is the sum of three individual real earnings management

In this current study, the primary analysis will be based on the aggregate value of three individual real earnings management variables (REM3), as this is likely to encompass all possible real earnings management techniques employed by the company. In addition, the remaining two aggregate REM proxies, REM1 and REM2, will be utilised as alternative proxies in the robustness test.

The residuals of REM models will capture manipulations based on real activity. In contrast to AEM, which can be used to either increase or decrease reported earnings, REM proxies will use the signed value of residuals because managers tend to use real earnings management techniques to increase the bottom line rather than decrease it (Liao & Ouyang, 2019; Roychowdhury, 2006; Zang, 2011).

Moreover, in this current study, cross-sectional accruals and real earnings management models will be performed on a country-industry-year basis. According to Ghaleb, Kamardin, et al. (2020), regression estimation should be conducted by country-year-industry approach in order to obtain the residual for AEM and REM. In prior research, accruals and real earnings management by the cluster are also examined (Chen et al., 2010; Doukakis, 2014; Francis et al., 2016). In addition, each industry-year group should include at least eight observations to ensure that sufficient data are available for estimating earnings management levels (Doukakis, 2014; Roychowdhury, 2006); this thesis meets these criteria. The current study classifies industry groups using the Industry Classification Benchmark (ICB), similar to prior studies (Chapple & Humphrey, 2013; Nasr & Ntim, 2018; Nguyen et al., 2015). Consequently, the classification yields nine industry categories.

4.4.1.2 Estimation of accounting conservatism

The second dependent variable in this current study is accounting conservatism. The nature of this variable is not clearly observable, which necessitates a proxy. Furthermore, because there is no generally accepted definition of conservatism, it is challenging to assess its degree by a single measure or even as a set of measurements (Givoly & Hayn, 2000). In light of this, this thesis examines accounting conservatism

based on two primary measures: conditional conservatism (CON) and unconditional conservatism (UNCON).

4.4.1.2.1 Estimation of conditional conservatism

Following Basu (1997), the current research examines accounting conservatism, which claims that earnings respond to bad news (losses) more quickly when compared to good news (gains). In essence, more timely loss recognition in reported earnings is an indication of more conservative accounting. The following is an equation for the Basu regression model.

$$Y_{i,j,t} = \alpha_0 + \alpha_1 DR_{i,j,t} + \beta_0 R_{i,j,t} + \beta_1 R_{i,j,t} * DR_{i,j,t} + \gamma_t + \theta_i + \vartheta_j + \varepsilon_{i,j,t} \quad (11)$$

Where $Y_{i,j,t}$ is earnings per share of firm i from a country j at time t scaled by the stock price at the beginning of fiscal year t; $R_{i,j,t}$ is the stock returns of firm i from a country j over 12 months beginning 10 months prior to fiscal year t through two months after fiscal year; $DR_{i,j,t}$ is a dummy variable which is equal to 1 if $R_{i,j,t}$ is negative (bad news) and 0 if it is positive (good news); and $\varepsilon_{i,j,t}$ is the error term.

In order to understand the based-Basu regression model, β_0 depicts how good news transforms into current earnings. The good news timeliness measure is β_0. While the incremental effect of bad news compared to good news on current earnings, accounting conservatism, is captured by β_1. Therefore, total bad news timeliness is $\beta_0 + \beta_1$.

Conditional conservatism by C-Ratio model (CON1)

The first measure of accounting conservatism (CON1) is the relative sensitivity of earnings to bad news compared with their sensitivity to good news (Almutairi & Quttainah, 2019; Givoly & Hayn, 2000; Khalifa & Trabelsi, 2022; Saeed & Saeed, 2018). CON1 can be measured by the ratio, conservatism ratio (C-Ratio), as below. According to conservative accounting, this ratio should be higher than one; the higher the ratio, the more conservative the firm is.

$$CON1_{i,j,t} = \frac{(\beta_0 + \beta_1)}{\beta_0} \quad (12)$$

Where $CON1_{i,j,t}$ is accounting conservatism measured by the ratio of bad news to good news.

In order to initially obtain β_0 and β_1 of firm i in year t, this current study uses a rolling Basu regression on a ten-year window backwards, following Chan et al. (2009) and Kim and Pevzner (2010). As an illustration, β_0 and β_1 of firm i in the year 2020 are

calculated by regressing firm i's annual earnings on its current return from the year 2011 to 2020.

Conditional conservatism by Change NI model (CON2)

The second conditional conservatism is also founded by Basu (1997) in the concept of the news-dependent persistence of accounting measures. Timely gain and loss incorporation was measured as the tendency for accounting income increases and decreases to reverse, an indicator of transitory gain and loss components (Ball & Shivakumar, 2005). As a consequence of conservatism, earnings persist less during bad news periods than during good news periods. The argument asserts that timeliness and persistence are distinct perspectives on the same phenomenon. On the one hand, more timeliness means that more news with current value relevance is recognised at the same time in earnings, resulting in less news with current value relevance to be recognised in future earnings. On the other hand, more persistence implies less news of current value relevance being reported in current earnings and more of it being reported in future earnings.

According to Basu (1997), the example of the persistent view, a permanent change in earnings, suggests that current earnings reflect only a small portion of the value-relevant information contained in current returns. In the example of the timeliness perspective, a temporary or one-time change in earnings implies that earnings reflect all value-relevant information in returns simultaneously. In this situation, earnings is predicted to be more timely because of the negative news.

Conservatism implies that earnings anticipate future losses by simultaneously disclosing an estimate of the anticipated future cash flow consequences of current negative news. Future periods' reported earnings are protected from current negative news, so that the next period's earnings will be close to what they would have been if no negative news had been received. The negative news reflected in current earnings will appear as a temporary shock or a one-time decrease in the earnings process from a time-series perspective. In contrast, the effects of a current positive shock will be distributed across multiple future earnings periods as expected gains are realised. Thus, positive news events are likely to occur as persistent earnings shocks (Basu, 1997).

This thesis estimates the specifications of Basu (1997)'s piecewise-linear regression in order to identify transitory gain and loss components in accounting income as follows.

$$\Delta NI_{i,j,t} = \alpha_0 + \alpha_1 D\Delta NI_{i,j,t-1} + \alpha_2 \Delta NI_{i,j,t-1} + \alpha_3 \Delta NI_{i,j,t-1} * D\Delta NI_{i,j,t-1} + \gamma_t + \theta_i + \vartheta_j + \varepsilon_{i,j,t} \quad (13)$$

Where $\Delta NI_{i,j,t}$ is a change in net income from year t-1 to t of firm i from a country j scaled by total assets at the end of t-1; $D\Delta NI_{i,j,t}$ is a dummy variable which is equal to 1 if $\Delta NI_{i,j,t-1}$ is negative (bad news) and 0 if it is positive (good news); and $\varepsilon_{i,j,t}$ is the error term.

Under conditional conservatism, one can anticipate an asymmetry between the timing of recognising income decreases and income increases (Nichols et al., 2009). Economic gains must satisfy a higher verification threshold in order to be recognised in accounting income; consequently, earnings increases are likely to be less timely and more persistent than earnings decreases, implying that α_2 should be positive. In contrast, a lower verification threshold is anticipated, resulting in more timely recognition of earnings decreases as opposed to increases. This model thus predicts a negative value for α_3.

Thus, similar to CON1, good news can be measured by α_2 while α_3 captures the incremental effect of economic losses that are recognised more quickly than gains, which is accounting conservatism. Therefore, total bad news timeliness is $\alpha_2 + \alpha_3$. This thesis derives the ratio (CON2) in accordance with the model specified in Equation (13), which is consistent with previous research (Ball & Shivakumar, 2005; García-Sánchez et al., 2017; Kanagaretnam et al., 2014; Kim & Pevzner, 2010).

$$CON2_{i,j,t} = \frac{(\alpha_2 + \alpha_3)}{\alpha_2} \quad (14)$$

Where $CON2_{i,j,t}$ is accounting conservatism measured by the ratio of accounting measure persistence contingent on news.

Conditional conservatism by C-Score model (CON3)

The third measure of accounting conservatism (CON3) is the conservatism score, C-Score. Khan and Watts (2009) applied and modified the based-Basu model, as shown in Equation (11), by controlling the time-series and cross-sectional variation by adding firm-year characteristics, including firm size, market-to-book ratio, and firm leverage. The annual cross-sectional regression model used to estimate C-score is shown below.

$$Y_{i,j,t} = \alpha_0 + \alpha_1 DR_{i,j,t} + R_{i,j,t}(\mu_1 + \mu_2 SIZE_{i,j,t} + \mu_3 MB_{i,j,t} + \mu_4 LEV_{i,j,t}) + R_{i,j,t} * DR_{i,j,t}(\lambda_1 + \lambda_2 SIZE_{i,j,t} + \lambda_3 MB_{i,j,t} + \lambda_4 LEV_{i,j,t}) + (\delta_1 SIZE_{i,j,t} + \delta_2 MB_{i,j,t} + \delta_3 LEV_{i,j,t} + \delta_4 DR_{i,j,t} SIZE_{i,j,t} + \delta_5 DR_{i,j,t} MB_{i,j,t} + \delta_6 DR_{i,j,t} LEV_{i,j,t}) + \gamma_t + \theta_i + \vartheta_j + \varepsilon_{i,j,t} \quad (15)$$

Where $SIZE_{i,j,t}$ is the size of firm i, measured by the logarithm of the market value of common equity, from a country j at time t; $MB_{i,j,t}$ is the market-to-book ratio of firm i from a country j in time t; and $LEV_{i,j,t}$ is the financial leverage of firm i from country j at time t, measured by the debt-to-equity ratio.

For each year of the sample period, this thesis estimates the cross-sectional regression in Equation (15) to determine the amount of conservatism. Then, Equation (16) below is used to calculate a firm-year-specific measure of conservatism called the C-Score for each firm-year observation. The estimated coefficients λ_1, λ_2, λ_3, and λ_4 are generated from Equation (15).

$$CON3_{i,j,t} = \lambda_1 + \lambda_2 SIZE_{i,j,t} + \lambda_3 MB_{i,j,t} + \lambda_4 LEV_{i,j,t} \quad (16)$$

Where $CON3_{i,j,t}$ is accounting conservatism measured by C-Score

It is significant to notice that while the estimated coefficients λ_1, λ_2, λ_3, and λ_4 vary with time; they remain constant among firms in each year since they are estimated from annual cross-sectional regressions. Thus, the C-Score varies between firms through cross-sectional variations in the company attributes SIZE, MB, and LEV associated with conservatism, and over time through inter-temporal variation in λ and firm characteristics. A firm with a higher C-Score is regarded as more conservative, indicating that conservatism is increasing.

Numerous previous researchers have extensively investigated the C-score because it captures the time-series and cross-sectional variations in conservatism so well (Almutairi & Quttainah, 2019; Chi et al., 2009; Isaboke & Chen, 2019; Khalifa & Trabelsi, 2022; Nguyen et al., 2019; Shimamoto & Takeda, 2020; Sultana, 2015; Teymouri & Sadeghi, 2020; Wu et al., 2013). Furthermore, since the current study is more concerned with the asymmetric timeliness of earnings (news-dependent, conditional conservatism) and research analyses are conducted at the level of the individual firm, the C-score measure suits the purpose of the thesis and should be used to strengthen the research findings.

4.4.1.2.2 Estimation of unconditional conservatism

Another form of accounting conservatism discussed in Chapter 2 is unconditional conservatism (UNCON), which is based on the balance-sheet-oriented definition of conservative accounting proposed by the theoretical framework. The UNCON measure will be explored in this section.

Unconditional conservatism by a book-value-based measure (UNCON1)

Based on Beaver and Ryan (2000), the first measure of unconditional conservatism is the book-to-market ratio (BTM) component that reflects biased accounting due to earlier recognition of expenses and losses and deferred revenue recognition. Their research relies on the Feltham and Ohlson (1995) definition of conservatism, which links conservatism to the difference between book value and market value. Specifically, their study's key purpose is the association between book-to-market ratio and future book return on equity, as well as earlier research on expectations of book return on equity in the discounted residual income valuation model (Beaver & Ryan, 2000).

Beaver and Ryan (2000) identify two components of the BTM ratio, namely biases and lags, which have implications for the BTM ratio's ability to estimate future book return on equity. First, there is a bias if the book value is consistently greater (lower) than the market value, resulting in a BTM ratio that is consistently higher (lower) than one. The bias component of the BTM ratio is caused by both the effect of accounting principles (such as conservatism or the historical cost principle) and the economic environment (such as an ongoing flow of positive present value projects). Second, lags are unanticipated economic gains or losses that are occasionally recognised in book value instead of immediately. Consequently, delays temporarily cause the BTM ratio to be higher or lower than its mean, but eventually, it reverts to its mean (if there is no bias). Similarly to bias, the accounting process and economic environment can cause lags. Thus, lags are caused by accounting system principles such as debt at amortised cost and the economic environment, which cause unanticipated changes in positive present value projects (Gokmen, 2013).

In conclusion, Beaver and Ryan (2000) hypothesise that future book return on equity is adversely affected by bias and lag components of BTM, with the bias component

tending to persist and the lag component likely to disappear over time. Furthermore, numerous previous studies employed BTM-conservatism measures (Adyunita et al., 2021; Ahmed & Duellman, 2007; Givoly & Hayn, 2000; Gokmen, 2013; Qiang, 2007; Wu et al., 2013), because this measure reflects the cumulative effects of conservatism since the firm's inception (Ahmed & Duellman, 2007). Therefore, this study applies the book-value-based measures of conservatism proposed by Beaver and Ryan (2000) to measure UNCON1[6] by decomposing BTM into a recognition lag component and a bias component. Importantly, the bias component in this instance will be interpreted as unconditional accounting conservatism. This thesis regresses the BTM ratio on current and lagging stock returns (up to six years) using the fixed effects regression below.

$$\mathrm{BTM_{i,t}} = \gamma_t + \gamma_i + \sum_{j=0}^{6} \beta_j \, \mathrm{R}_{t-j,i} + \varepsilon_{t,j} \qquad (17)$$

Where $\mathrm{BTM_{i,t}}$ is book-to-market ratio; γ_t is fixed time variation in BTM ratio; γ_i is firm effect (bias component of BTM ratio); $\mathrm{R}_{t-j,i}$ is current and six lagged return on equity (lag component of BTM ratio); β_j is the regression coefficient of $\mathrm{R}_{t-j,i}$

According to the above equation, γ_t is the time intercept that reflect the common year-to-year variation in BTM among sample firms. And, γ_i is the firm effect that cannot be explained by the time effect, current returns, or lagged returns. According to Beaver and Ryan (2000), this is the unconditional conservatism measure that captures the firm-specific persistent bias component of BTM. The annual return on equity has been used for the lag component.

Unconditional conservatism by an accruals-based measure (UNCON2)

The second measure of unconditional conservatism is derived from Givoly and Hayn (2000). This measure assumes that conservative accounting practices result in persistently negative accruals — the more conservative the accounting, the more negative the average accruals over the respective periods. The measure is unaffected by prospective economic rents or potential for growth. However, it does not reflect

[6] According to Beaver and Ryan (2000), the use of the simple book-to-market ratio instead of a bias component provides very similar results. Consequently, this thesis only reports results based on the BTM regression on current and lagging returns, which represents a bias component or unconditional conservatism.

total or cumulative conservatism because it disregards the effects of conservatism in earlier periods (Ahmed & Duellman, 2007).

In the long term, unbiased accounting causes the cumulative amount of net income before depreciation and amortisation to converge on operating cash flows. Therefore, as both positive and negative accruals reverse over time, the net cumulative accruals should approach zero. Conservative accounting, on the other hand, provides a pattern of negative accruals that persists over time. This suggests that a firm's average accruals over a reasonably lengthy period serves as an accounting-based proxy for conservatism (Ahmed et al., 2002).

Givoly and Hayn (2000) divide the accruals into two categories: operating and non-operating accruals. Operating accruals are those resulting from the company's day-to-day operations. To differentiate total accruals from operational accruals, these remaining accruals are referred to as 'non-operating' accruals. Note that while some of these accruals are required by GAAP, the timing or quantity of the majority of them is subject to the discretion of management. Thus, conservatism accruals measured by this model (UNCON2) are calculated following this equation.

$$\mathrm{UNCON2}_{\mathrm{i,j,t}} = \frac{Total\ accruals - Operating\ accruals}{Total\ assets} \times -1 \qquad (18)$$

Where $\mathrm{UNCON2}_{\mathrm{i,j,t}}$ is an accruals-based measure of unconditional conservatism;
Total accruals is net income $+$ depreciation and amortisation expenses $-$ operating cash flows ;
Operating accruals is ΔAccountings receivable $+$ ΔInventories $+$ ΔPrepaid expenses $-$ ΔAccounts payable $-$ ΔTaxes payable

According to Equation 18 above, unconditional conservatism is measured by non-operating accruals[7] deflated by the average total assets and averaged over a three-year period, then multiplied by a negative one. Now, a positive UNCON2 value indicates a greater conservatism. Additionally, averaging over multiple periods also ensures that the effects of any temporary large accruals are mitigated, as accruals typically reverse within one to two years (Ahmed & Duellman, 2007; Richardson et al., 2005). This measure is also consistent with many previous investigations (Adyunita et al.,

[7] Using non-operating accruals instead of total accruals yields similar outcomes. As a consequence, this thesis only presents results based on non-operating accruals, which represents unconditional conservatism.

2021; Boussaid et al., 2015; Enache & García-Meca, 2018; Husein Pulungan & Sadat, 2014; Makhlouf et al., 2018; Nasr & Ntim, 2018; Saeed & Saeed, 2018).

4.4.1.3 Estimation of earnings quality

According to the Conceptual Framework for Financial Reporting, as described in Chapter 2, the two most critical qualitative characteristics of useful financial information are relevance and faithful representation. This thesis defines earnings management as a measure of reliability, whereas conservatism aims to represent the relevance of value. Furthermore, accounting-based and market-based measures of earnings quality are frequently used in the literature, as discussed in Chapter 2. In this thesis, earnings management is viewed from an accounting perspective, whereas conservatism is viewed as a market-based earnings characteristic. In addition, an aggregate earnings quality measure would be useful for a comprehensive view of the earnings quality attribute. Significantly, to mitigate the effects of potential measurement errors in the individual accounting measures of earnings attributes used in this study, this thesis combines the four earnings attribute measures — accruals earnings management, real earnings management, conditional conservatism, and unconditional conservatism — into a standardised aggregate earnings quality score. This technique is in line with those of previous studies (Benkraiem et al., 2021; Biddle & Gilles, 2006; Biddle et al., 2009; Gaio & Raposo, 2011; Hoang et al., 2017; Leuz et al., 2003).

Moreover, Kaiser and Rice (1974) developed the Kaiser-Meyer-Olkin[8] (KMO) test, which measures the adequacy of sampling. Table 4.2 demonstrates that KMO is 0.51 for the overall evaluation and greater than 0.50 for each earnings attribute measure, which are greater than the commonly recommended value of greater than 0.5 (Hair, 2019). In support, Bartlett's Test of Sphericity[9] (Bartlett, 1951) is also significant ($\chi^2(6) = 1595$, $p < 0.000$). Consequently, it may be advantageous to use a dimension-

[8] The KMO test (Kaiser-Meyer-Olkin test) measures the degree of coherence between variables to determine the suitability of data for factor analysis. The score ranges from 0 to 1, and values greater than 0.50 are deemed appropriate for factor analysis (Kaiser and Rice, 1974).

[9] Bartlett's sphericity test evaluates the homogeneity hypothesis of the correlation matrix. In the instance where the homogeneity hypothesis is rejected, this indicates that the variables in the correlation matrix are sufficiently interrelated for factor analysis. When correlations between variables are large enough to be used in factor analysis, Bartlett's test is significant. Therefore, Bartlett's test is valid when the significance value is less than 0.05 (Bartlett, 1951).

reduction technique to identify a linear subspace that explains the majority of the data variation. This factor analysis suggests that these four earnings attribute measures are represented by a single factor. Therefore, it is appropriate to combine the four measures of earnings attributes into a singular aggregate standardised measure of earnings quality.

Table 4. 2 Results of KMO and Bartlett's Sphericity Test for Aggregate EQ

The table displays the results of the Kaiser-Meyer-Olkin (KMO) measure, which is utilised to evaluate the factorisability of earnings quality variables. Additionally, it displays the outcomes of Bartlett's Sphericity test, which is employed to evaluate the interrelatedness for factor analysis in reducing the dimension of earnings quality.

Variable	Kaiser-Meyer-Olkin measure of sampling adequacy
Accruals earnings management	0.51
Real earnings management	0.52
Conditional conservatism	0.51
Unconditional conservatism	0.51
Overall	0.51
	Bartlett's Test of Sphericity
Chi-square	1595
P-value	0.000

Regarding the calculation of the aggregate earnings quality, the nature of earnings management demonstrates that the higher the value of earnings management, the lower the earnings quality. Consequently, this study ranks earnings management values in descending order so that a higher-ranked value now indicates a higher quality of earnings. In contrast, two accounting conservatism values, conditional and unconditional conservatism, are ranked in ascending order because higher values indicate higher earnings quality. Next, the decile ranking (rescaled to range from 0 to 1) is utilised for each of the earnings quality attributes. The standardised aggregate earnings quality score of a company is then determined by averaging the firm's rankings for the four individual earnings quality measures.

This study decomposes the aggregate earnings quality score into three measures as below. EQ1 will be used as the primary test because all four individual earnings quality attributes computed for this measure are derived from the baseline variable, while EQ2 and EQ3 will be utilised as alternative analyses.

$$EQ1_{i,j,t} = \frac{DAEM1_{i,j,t} + DREM3_{i,j,t} + DCON1_{i,j,t} + DUNCON1_{i,j,t}}{4} \quad (19)$$

$$EQ2_{i,j,t} = \frac{DAEM2_{i,j,t} + DREM3_{i,j,t} + DCON3_{i,j,t} + DUNCON1_{i,j,t}}{4} \quad (20)$$

$$EQ3_{i,j,t} = \frac{DAEM3_{i,j,t} + DREM3_{i,j,t} + DCON2_{i,j,t} + DUNCON1_{i,j,t}}{4} \quad (21)$$

Where EQ1, EQ2, and EQ3 are aggregate measures of earnings quality; DAEM1 is decile ranking of AEM1; DAEM2 is decile ranking of AEM2; DAEM3 is decile ranking of AEM3; DREM3 is decile ranking of REM3; DCON1 is decile ranking of CON1; DCON2 is decile ranking of CON2; DCON3 is decile ranking of CON3; DUNCON1 is decile ranking of UNCON1.

This thesis adheres to REM3-based real earnings management and UNCON1-based unconditional conservatism. This is due to the fact that REM3 considers all of the actual activities that the management team can engage in to be earnings manipulation. In addition, UNCON1, which measures for conservatism using the book-to-market ratio, can represent a market-based measure of earnings quality. Consequently, based on the aforementioned development of aggregate EQs, two types of earnings management depict the qualitative financial characteristics with regard to faithful representation in the accounting-based measure of earnings quality. Additionally, in the market-based measure of earnings quality, two categories of conservatism represent the qualitative financial characteristics of value relevance.

4.4.2 Independent Variable Measures

Board diversity is an independent variable. Under a conception of diversity as variety, continuous distances are not meaningful, but qualitative distinctions are meaningful (David & Katherine, 2007). It is hypothesised that the cognitive and demographic variety of a unit increases when its members are distributed across qualitatively distinct or novel categories. Standard deviation (SD) is inappropriate when the variable varies across members belonging to one of k = 1,... k possible categories, such as different educational backgrounds represented by the team members. Thus, Blau's index[10] (Bell et al., 1978) is the most widely used and optimal measurement of diversity as variety, to capture differences (i.e. variations) within a group of individuals (David & Katherine, 2007).

Thus, this thesis applies Blau's index to measure the demographic and cognitive diversity of a Board (gender, age, educational qualifications, tenure,

[10] Blau's index is also referred to as Herfindahl's (1950) index and Hirschman's (1964) index, but Simpson (1949) first proposed it as a measure of species diversity in an ecosystem.

experience, and expertise). Up to now, a number of studies have used the Blau Index (Almutairi & Quttainah, 2019; An, 2021; Bear et al., 2010; Hoang et al., 2017; Hodgson et al., 2022; Li & Wahid, 2018; Strydom et al., 2016; Tee, 2019; Tee & Rassiah, 2019). The calculation and interpretation of Blau's index are both straightforward, which contributes to its popularity. It follows from the formula.

$$\text{DIVERSITY}_{\,i} = 1 - \left[\sum_{j=1}^{k} (P_j)^2\right] \qquad (22)$$

where P_j is the proportion of members of a group belonging to category j for each of (k) categories present in the group.

Equation 22 is defined as the probability that randomly selected group members belong to the same category. It has a theoretical range of 0 to 1, where 0 represents complete homogeneity, and 1 represents complete diversity. This interpretation is intuitively appealing for measuring work group diversity; it corresponds to the inverse probability that a group member would encounter someone with similar characteristics within the group. This probability would be higher for less diverse groups and lower for more diverse groups.

As described in Equation 22, Blau's index poses challenges in comparing individual attributes of Board diversity. This is due to the fact that an increase in the number of categories results in a corresponding increase in the maximum value of Blau's index. As an illustration, the educational Blau's index attains its highest possible value of 0.75[11] in this scenario due to the existence of four distinct educational categories: below Bachelor's degree, Bachelor's degree, Master's degree, and Doctoral degree. It is assumed that each category is equally represented in the population. The value of the index rises to 0.80[12] when the population is divided into five categories such as based on age diversity: individuals under 36 years old, those between 36 and 45 years old, those between 46 and 55 years old, those between 56 and 65 years old, and those older than 65 years old. Later, Agresti and Agresti (1978) modified the Blau index

[11] Educational Blau's index = $1 - (0.25^2 + 0.25^2 + 0.25^2 + 0.25^2) = 0.75$
[12] Age Blau's index = $1 - (0.20^2 + 0.20^2 + 0.20^2 + 0.20^2 + 0.20^2) = 0.80$

with the concept of the qualitative variation index[13] (Wilcox, 1973), which has been utilised in many disciplines (particularly sociology) using the following formula;

$$\text{DIVERSITYADJ}_{\,i} = 1 - \left[\sum_{j=1}^{k}(P_j)^2\right] \times \frac{K}{K-1} \qquad (23)$$

Where k represents the total number of categories within the group

Similar to the Blau index, however, it is multiplied by k/(k – 1). A maximum value of 1 for all groups is reached when all group members belong to a unique category or when all categories are represented equally. This genuinely ranges from 0 to 1, such that a value closer to 1 represents higher Board diversity. The adjusted Blau Index in each dimension is computed as the following equations. An example and further explanation of the computation of Board diversity can be found in Appendix U.

Gender diversity

$$\text{GEN}_i = 1 - \left[\sum_{j=1}^{k}\left(\frac{\text{gender}_i}{\text{total number of directors}}\right)^2\right] \times \frac{K}{K-1}\ , \qquad (24)$$

Where GEN_i is the adjusted-gender-Blau Index; gender_i is the number of directors in each gender cohort (female and male) of firm i; K is categories – in this case, K = 2.

Age diversity

$$\text{AGE}_i = 1 - \left[\sum_{j=1}^{k}\left(\frac{\text{age}_i}{\text{total number of directors}}\right)^2\right] \times \frac{K}{K-1}\,, \qquad (25)$$

where AGE_i is the adjusted-age-Blau Index; age_i is the number of directors in each age cohort (less than 36 years, 36-45 years old, 46-55 years old, 56-65 years old and older than 65 years old) of firm i; K is categories – in this case, K = 5.

Educational level diversity

$$\text{EDU}_i = 1 - \left[\sum_{j=1}^{k}\left(\frac{\text{education}_i}{\text{total number of directors}}\right)^2\right] \times \frac{K}{K-1}, \qquad (26)$$

[13] The index of qualitative variation (IQV) is a statistical measure that examines the dispersion in nominal distributions. Various indices are employed for analysing nominal data, including but not limited to the range, standard deviation, variance, and other similar measures. One notable contribution in this area is the work of Wilcox (1973), who has summarised and devised a number of these statistics. These statistics are designed to adhere to standardised features. The degree of variation ranges from 0 to 1. The value of variation is equal to zero if and only if all examples are classified under a singular category. The condition for a variation of 1 is met when the distribution of instances is equally spread across all categories.

Where EDU_i is the adjusted-educational-Blau Index; $education_i$ = the number of directors in each education cohort (below Bachelor's degree, Bachelor's degree, Master's degree and Doctoral degree) of firm i; K is categories – in this case, K = 4.

Tenure diversity from his/her experience

$$TEN_i = 1 - \left[\sum_{j=1}^{k}\left(\frac{tenure_i}{\text{total number of directors}}\right)^2\right] \times \frac{K}{K-1}, \quad (27)$$

Where TEN_i is the adjusted-tenure-Blau Index; $tenure_i$ = the number of directors in each tenure cohort (less than 4 years, 4-6 years, 7-9 years, and more than 9 years) of firm i; K is categories – in this case, K = 4.

Expertise/experience diversity

$$EXP_i = 1 - \left[\sum_{j=1}^{k}\left(\frac{exper_i}{\text{total number of directors}}\right)^2\right] \times \frac{K}{K-1}, \quad (28)$$

Where EXP_i is the adjusted-expertise/experience-Blau Index; $exper_i$ = the number of directors in each expertise/experience cohort (directors with expertise and/or experience in business management, finance/ accounting, law, art, science, industry, and others) of firm i; K is categories – in this case, K = 7.

The aggregate level of Board diversity

As previously stated, the majority of the extant literature has measured Board diversity in terms of a particular Board diversity characteristic, such as gender, age, education, and others. This study also investigates the combined effect of numerous Board diversity attributes, which are consistent with previous studies (Ararat et al., 2015; Ben-Amar et al., 2013; Kagzi & Guha, 2018b). Thus, the current study investigated Board diversity from individual and aggregate perspectives. This section will measure the effect of total Board diversity by combining the following five Board characteristics: gender, age, education, tenure, and experience. This study develops an index called SUMDIVERSITY for this purpose.

$$SUMDIVERSITY_{i,j,t} = GEN_{i,j,t} + AGE_{i,j,t} + EDU_{i,j,t} + TEN_{i,j,t} + EXP_{i,j,t} \quad (29)$$

Where $SUMDIVERSITY_{i,j,t}$ is the total Board diversity index of firm i from a country j in year t

Additionally, the adequacy of sampling was assessed using the Kaiser-Meyer-Olkin (KMO) test, as presented in Table 4.3. The results indicate that the KMO value for the overall evaluation is 0.56, surpassing the commonly recommended threshold of 0.5 (Hair, 2019). Moreover, each Board diversity attribute also exhibits KMO values exceeding 0.50. The Bartlett's Test of Sphericity yielded a significant result ($\chi^2(6)$ =

1612, p < 0.000). Accordingly, employing a dimension-reduction methodology can prove beneficial in identifying a linear subspace that effectively accounts for the predominant portion of the variation in the data. Hence, combining the five categories of Board characteristics into an integrated standardised measure of Board diversity is deemed suitable.

Table 4. 3 Results of KMO and Bartlett's Sphericity Test for Aggregate Board Diversity

The table displays the results of the Kaiser-Meyer-Olkin (KMO) measure, which is utilised to evaluate the factorisability of Board diversity variables. It also displays the outcomes of Bartlett's Sphericity test, which is employed to evaluate the interrelatedness for factor analysis in reducing the dimension of Board diversity.

Variable	Kaiser-Meyer-Olkin measure of sampling adequacy
Board gender diversity	0.56
Board age diversity	0.57
Board education diversity	0.57
Board tenure diversity	0.54
Board experience diversity	0.57
Overall	0.56
	Bartlett's Test of Sphericity
Chi-square	1612
P-value	0.000

The surface and deep levels of Board diversity

Furthermore, the present study examines two additional dimensions of aggregate Board diversity, namely surface and deep levels, as illustrated in the equations below. This perspective is substantiated by previous researchers (F. Ali et al., 2022; Harjoto et al., 2018; Webber & Donahue, 2001), who posit that Board characteristics that have a strong correlation with job performance are referred to as deep-level diversity, such as tenure and education. Nevertheless, attributes with a weaker correlation with job performance are classified as surface-level diversity, including gender and age. These measures also provide support for the second and third hypotheses posited in Chapter 3 of this thesis.

$$\mathrm{SURFACE}_{\mathrm{I,j,t}} = \mathrm{GEN}_{\mathrm{I,j,t}} + \mathrm{AGE}_{\mathrm{I,j,t}} \quad (30)$$

$$\mathrm{DEEP}_{\mathrm{i,j,t}} = \mathrm{EDU}_{\mathrm{i,j,t}} + \mathrm{TEN}_{\mathrm{i,j,t}} + \mathrm{EXP}_{\mathrm{i,j,t}} \quad (31)$$

Where $\mathrm{SURFACE}_{\mathrm{i,j,t}}$ is the Board's surface level diversity index of firm i from a country j in year t; $\mathrm{DEEP}_{\mathrm{i,j,t}}$ is the Board's deep-level diversity index of firm i from a country j in year t

In conclusion, this current study standardises the Blau values for differences in the number of categories by dividing each by its maximal theoretical value. In addition, a composite Board diversity index will be created by adding the Blau values for each attribute, as well as a combined Board diversity index. This thesis employs the Blau Index to create a composite Board diversity measure, rather than simple statistical methods such as summing, averaging, or weighted averaging because the Blau Index easily handles categorical attributes. In addition, the created composite index considers the number of combining attributes, the number of categories within each attribute, and the proportion of members within each category. Importantly, it can be standardised to accommodate variations in the number of categories for each attribute.

4.4.3 Moderator Measures

The Board's roles are considered as the moderators in this study. Most research on CG has categorised the Board's roles into monitoring and advisory functions (Adams & Ferreira, 2007; Faleye et al., 2011; Hsu & Hu, 2016; Mustafa et al., 2018; Upadhyay et al., 2014). The present study examines the many categories of committees that organisations establish. This thesis centres on the advisory and monitoring functions of the Board, contending that both categories of committees are crucial components of efficient Board supervision. According to Latané et al. (1979), scholars in the field of social psychology contend that the identifiability of persons plays a role in mitigating social loafing within teams. As a result, many regulations require comprehensive disclosure of the members of committees, such as audit, nominating, or compensation committees. It might be argued that this disclosure about committee membership helps prevent social loafing among directors. Thus, the specificity of the responsibilities, coupled with the identification of the directors accountable for completing crucial duties, may increase the effectiveness of the Board. This section provides an analysis of two distinct measures pertaining to Board functions.

Board of director's roles measured by Board committees

To date, much of the current literature on the Board measures Board's roles by the Board's committee. Many researchers have classified monitoring committees into three types: (i) audit, (ii) compensation, and (iii) nominating committees (Faleye et al., 2011; Ntim, 2013; Osma & Noguer, 2007; Reeb & Upadhyay, 2010; Upadhyay et al.,

2014). To clarify, the audit committee is responsible for monitoring the financial reporting processes, while the compensation committee is accountable for evaluating and approving the appropriate amount paid to executives. The nominating committee's responsibilities are recruiting the proper Board members and assessing top management's performance.

This thesis uses three monitoring committees to assess the monitoring functions of the Board. The selection is motivated by the historical dominance of audit committees as the principal regulatory mechanism for subordinate Board structures over the previous six decades. After 2003, the prominent stock exchanges, in response to the Securities and Exchange Commission's implementation of the Sarbanes-Oxley Act of 2002, enforced the requirement for companies to establish a compensation committee and a nominating or corporate governance committee. Consequently, it became mandatory for publicly-traded corporations to establish these three monitoring subcommittees inside their Board structure (Reeb & Upadhyay, 2010).

According to Fama and Jensen (1983), Boards of directors also fulfil advising functions by supervising long-term investments and the development of strategic plans. Involving the Board's advisory role by advisory committees, Reeb and Upadhyay (2010) and Zalata et al. (2019) have defined advisory committees as committees other than monitoring committees. These include finance, investment, public issues, diversity, mergers and acquisitions, ethics, environment, and other advising-related committees. Therefore, this study defines the Board's monitoring committee as audit, compensation, and nominating committees, while advisory committees are those that are not monitoring committees.

Board of director's roles measured by Board directorship

Another aspect of the Board's role is evaluated through the Board's directorship. According to prior research (Faleye et al., 2011; Hsu & Hu, 2016; Zalata et al., 2019), directors who serve on at least two monitoring committees are commonly referred to as monitoring directors. There are many considerations to be taken into account under this definition. Initially, it is worth noting that Board committees can be categorised into two main types, namely monitoring committees and advising committees, as previously noted. Additionally, the majority of directors often hold positions on two

or fewer committees. This finding indicates that directors who are members of more than two monitoring committees are much less likely to participate in further committees. Hence, the present study categorises these directors as monitoring-intensive, given the majority of their responsibilities are centred around monitoring activities. The present study then combines this measure at the Board level. This assists in identifying companies where directors as a group (Board) are obviously engaged in monitoring duties.

The measure of an advisory director can be determined by examining the composition of the Boards' directorship. Hsu and Hu (2016) posit that directors can be categorised as advisory directors if they do not hold a position on the audit committee. The inclusion of these directors is considered to be the potential consequence of allocating a director as a member of the audit committee, which may lead to a substantial commitment of time in overseeing the financial reporting procedures of the firms and consequently limit their availability for offering managerial advice.

Subsequently, Faleye et al. (2013) and Zalata et al. (2019) have presented an expanded perspective on advisory directors, defining them as directors with a minimum of one year of directorial experience who do not hold positions on monitoring committees. This implies that they hold directorships on at least one advisory committee. The underlying justification for this proposition is that chief executive officers (CEOs) may experience dissatisfaction in response to rigorous examination by the Board. According to Adams and Ferreira (2007), the separation of Board advising directors from monitoring tasks within a company may result in CEOs who are more pleasant, trusted, and willing to share internal information with the Board. This, in turn, can improve group task performance and ultimately enhance the overall worth of the firm.

In conclusion, the roles of the Board that are evaluated by Board committees will serve as the main test. To clarify, the Board monitoring committee (MONIC) consists of the audit, compensation, and nominating committees, whereas the Board advisory committee (ADVIC) consists of all committees other than monitoring committees. Additionally, the roles of Board directors, which are evaluated through Board directorship, will be employed as an alternative test. To provide more clarification, it can be stated that monitoring directors (MONID) are individuals who have

directorship positions on a minimum of two monitoring committees. On the other hand, advisory directors (ADVID) are those who do not hold any directorship positions on monitoring committees. Please see more details and example of classification of Board roles in Appendix T.

4.4.4 Control Variable Measures

In order to examine the impact of Board diversity on earnings quality, as previously discussed, it is imperative to account for variables that may be linked to either earnings quality or Board diversity. The present study incorporates various characteristics referred to as 'innate determinants' in previous literature on earnings quality outputs (Francis et al., 2005), and employs them as control variables. The control variables mentioned are commonly known as intrinsic determinants due to their very stable nature in the short term.

In the present study, the multivariate model incorporates many control variables at the firm level. This current study has considered the influence of several company characteristics, such as size, age, return on assets, and growth, to adjust for their potential effects. Firm size (SIZE) is calculated by taking the logarithm of the market capitalization. The variable representing firm age (AGE) is calculated as the natural logarithm of the age of the firm. The calculation of Return on Assets (ROA) involves dividing the income derived from the yearly report by the average value of assets. Firm growth, denoted as GROWTH, is quantified by the annual percentage variation in sales.

In addition to examining the influence of CG characteristics on companies, this study has also considered the firm's probability of bankruptcy, as measured by the Z-score (ZSCORE) calculated using the Altman Z-score formula. This study additionally considers the influence of accounting standards and auditing firms, two components of financial accounting that could affect earnings quality. The International Financial Reporting Standard (IFRS) is represented as a binary variable, denoted as a dummy variable, taking a value of 1 if the company implements IFRS and 0 if it does not. The variable BIG4 is a binary indicator, taking a value of 1 if the auditing firm belongs to the Big Four and 0 otherwise.

Moreover, this study has included industry-specific variables, known as industry dummies, in the regression models to address industry-specific impacts. The model additionally incorporates nation dummies in order to address the presence of unobserved variation between countries. Furthermore, the model incorporates year dummies to address temporal effects and capture changes in the macroeconomic environment across the research period. In order to address the potential presence of heteroskedasticity and autocorrelation, the standard errors have been adjusted to be robust and clustered within the company. In conclusion, the variable measurement will be shown in Appendix A and afterwards utilised to construct the empirical models for regression analysis.

4.5 Empirical Tests of Hypotheses

This section provides an overview of the empirical tests conducted to examine the hypotheses presented in the preceding chapter. First, section 4.6.1 describes the analyses associated with the hypothesis concerning the effect of Board diversity on earnings management. Second, section 4.6.2 provides the analyses for the hypotheses concerning the effect of Board diversity on accounting conservatism. Lastly, section 4.6.3 outlines the analyses pertaining to the hypotheses regarding the association between Board diversity and earnings quality.

4.5.1 Board Diversity and Earnings Management

The hypotheses posit a negative relationship between earnings management and Board diversity. Therefore, the following regression models of earnings management are estimated to test these hypotheses. In the context of earnings management through accruals, the primary study will involve utilising the absolute value of discretionary accruals derived from the Jones (1991) model, referred to as AEM1. The primary test for real earnings management, specifically REM3, will be employed, which is based on the aggregation of three components of real earnings management as proposed by Roychowdhury (2006).

Model 4.1: Baseline accruals earnings management model

$$\begin{aligned}\mathrm{AEM1}_{i,j,t} = {} & \beta_0 + \beta_1(\mathrm{DIVERSITY}_{i,j,t-1}) + \beta_2(\mathrm{SIZE}_{i,j,t-1}) + \beta_3(\mathrm{AGE}_{i,j,t-1}) + \beta_4(\mathrm{ROA}_{i,j,t-1}) \\ & + \beta_5(\mathrm{GROWTH}_{i,j,t-1}) + \beta_6(\mathrm{ZSCORE}_{i,j,t-1}) + \beta_7(\mathrm{IFRS}_{i,j,t-1}) + \beta_8(\mathrm{BIG4}_{i,j,t-1}) \\ & + Industry\ dummy_k + Year\ dummy_t + Country\ dummy_j + \varepsilon_{i,j,t-1}\end{aligned}$$

Model 4.2: Baseline real earnings management model

$$\begin{aligned}\mathrm{REM3}_{i,j,t} = {} & \beta_0 + \beta_1(\mathrm{DIVERSITY}_{i,j,t-1}) + \beta_2(\mathrm{SIZE}_{i,j,t-1}) + \beta_3(\mathrm{AGE}_{i,j,t-1}) + \beta_4(\mathrm{ROA}_{i,j,t-1}) \\ & + \beta_5(\mathrm{GROWTH}_{i,j,t-1}) + \beta_6(\mathrm{ZSCORE}_{i,j,t-1}) + \beta_7(\mathrm{IFRS}_{i,j,t-1}) + \beta_8(\mathrm{BIG4}_{i,j,t-1}) \\ & + Industry\ dummy_k + Year\ dummy_t + Country\ dummy_j + \varepsilon_{i,j,t-1}\end{aligned}$$

Where:

- $\mathrm{AEM1}_{i,j,t}$ = Accruals earnings management by modified Jones model
- $\mathrm{REM3}_{i,j,t}$ = Real earnings management; which is computed by the sum of abnormal cash flow, abnormal discretionary expenses and abnormal production
- $\mathrm{DIVERSITY}_{i,j,t}$ = Board diversity; which can be aggregated, surface-level, deep-level, gender, age, education, tenure, expertise and experience diversity
- $\mathrm{SIZE}_{i,j,t}$ = Firm′s size (log of market capitalisation)
- $\mathrm{AGE}_{i,j,t}$ = Firm′s age (the number of years of existence)
- $\mathrm{ROA}_{i,j,t}$ = Return on Assets ratio
- $\mathrm{GROWTH}_{i,j,t}$ = Firm′s growth (annual percentage in sales)
- $\mathrm{ZSCORE}_{i,j,t}$ = Altman Z-score
- $\mathrm{IFRS}_{i,j,t}$ = Accounting Standard (dummy variable; 1 if the firm applies IFRS; otherwise, 0)
- $\mathrm{BIG4}_{i,j,t}$ = Big4 auditor (dummy variable; 1 if the firm uses one of the big FOUR audit firms as the auditor; otherwise, 0)
- $_i$ = Firm i
- $_k$ = Industry k
- $_j$ = Country j
- $_t$ = Time period (2016 – 2020)
- ε = Error term

Moreover, the equation below represents the moderating effects of Board roles on the direct relationship between Board diversity and earnings management. In particular, the moderating model estimates the conditional effect as opposed to the partial effect, as described in Baseline Models 4.1 and 4.2. In the model, earnings management can be accruals or real earnings manipulation.

Model 4.3: Baseline interaction earnings management model

$$EM_{i,j,t} = \beta_0 + \beta_1(DIVERSITY_{i,j,t-1}) + \beta_2(MONIC_{i,j,t-1}) + \beta_3(DIVERSITY_{i,j,t-1} \times MONIC_{i,j,t-1}) + \beta_4(ADVIC_{i,j,t-1}) + \beta_5(DIVERSITY_{i,j,t-1} \times ADVIC_{i,j,t-1}) + \beta_6(SIZE_{i,j,t-1}) + \beta_7(AGE_{i,j,t-1}) + \beta_8(ROA_{i,j,t-1}) + \beta_9(GROWTH_{i,j,t-1}) + \beta_{10}(ZSCORE_{i,j,t-1}) + \beta_{11}(IFRS_{i,j,t-1}) + \beta_{12}(BIG4_{i,j,t-1}) + Industry\ dummy_k + Year\ dummy_t + Country\ dummy_j + \varepsilon_{i,j,t-1}$$

Where:

- $MONIC_{i,j,t}$ = Boards′ monitoring role: Monitoring Committee
- $ADVIC_{i,j,t}$ = Boards′ advisory role: Advisory Committee

4.5.2 Board Diversity and Accounting Conservatism

The following baseline models depict the empirical framework employed to investigate the impact of Board diversity on accounting conservatism. In the primary analysis concerning conditional conservatism, this current study will utilise the relative sensitivity of earnings to negative news in comparison to their sensitivity to positive news, as outlined in the Basu (1997) model, CON1. The primary proxy for unconditional conservatism in this study will be UNCON1, a measure of conservatism based on book values, as proposed by Beaver and Ryan (2000).

Model 4.4: Baseline conditional conservatism model

$$CON1_{i,j,t} = \beta_0 + \beta_1(DIVERSITY_{i,j,t-1}) + \beta_2(SIZE_{i,j,t-1}) + \beta_3(AGE_{i,j,t-1}) + \beta_4(ROA_{i,j,t-1}) + \beta_5(GROWTH_{i,j,t-1}) + \beta_6(ZSCORE_{i,j,t-1}) + \beta_7(IFRS_{i,j,t-1}) + \beta_8(BIG4_{i,j,t-1}) + Industry\ dummy_k + Year\ dummy_t + Country\ dummy_j + \varepsilon_{i,j,t-1}$$

Model 4.5: Baseline unconditional conservatism model

$$UNCON1_{i,j,t} = \beta_0 + \beta_1(DIVERSITY_{i,j,t-1}) + \beta_2(SIZE_{i,j,t-1}) + \beta_3(AGE_{i,j,t-1}) + \beta_4(ROA_{i,j,t-1}) + \beta_5(GROWTH_{i,j,t-1}) + \beta_6(ZSCORE_{i,j,t-1}) + \beta_7(IFRS_{i,j,t-1}) + \beta_8(BIG4_{i,j,t-1}) + Industry\ dummy_k + Year\ dummy_t + Country\ dummy_j + \varepsilon_{i,j,t-1}$$

Where:

- $CON1_{i,j,t}$ = Conditional conservatism ratio by Basu model
- $UNCON1_{i,j,t}$ = Unconditional conservatism: book-to-market ratio multiplied by negative one

The subsequent model depicts the moderating influence of Board roles on the direct relationship between Board diversity and accounting conservatism. This model

encompasses two forms of accounting conservatism, namely conditional conservatism and unconditional conservatism.

Model 4.6: Baseline interaction accounting conservatism model

$$\begin{aligned}\mathrm{CON}_{i,j,t} = {} & \beta_0 + \beta_1(\mathrm{DIVERSITY}_{i,j,t-1}) + \beta_2(\mathrm{MONIC}_{i,j,t-1}) + \beta_3(\mathrm{DIVERSITY}_{i,j,t-1} \times \mathrm{MONIC}_{i,j,t-1}) \\ & + \beta_4(\mathrm{ADVIC}_{i,j,t-1}) + \beta_5(\mathrm{DIVERSITY}_{i,j,t-1} \times \mathrm{ADVIC}_{i,j,t-1}) + \beta_6(\mathrm{SIZE}_{i,j,t-1}) \\ & + \beta_7(\mathrm{AGE}_{i,j,t-1}) + \beta_8(\mathrm{ROA}_{i,j,t-1}) + \beta_9(\mathrm{GROWTH}_{i,j,t-1}) + \beta_{10}(\mathrm{ZSCORE}_{i,j,t-1}) \\ & + \beta_{11}(\mathrm{IFRS}_{i,j,t-1}) + \beta_{12}(\mathrm{BIG4}_{i,j,t-1}) + Industry\ dummy_k + Year\ dummy_t \\ & + Country\ dummy_j + \varepsilon_{i,j,t-1}\end{aligned}$$

4.5.3 Board Diversity and Earnings Quality

According to hypotheses, the diversity of the Board is positively related with earnings quality. Hence, the regression models will be formulated as follows. The primary study will utilise the measure of aggregate earnings quality (EQ1). In a manner similar to the baseline models of earnings management and accounting conservatism, the moderating effects of Board roles on the direct relationship between Board diversity and earnings quality will also be investigated in the following model.

Model 4.7: Baseline earnings quality model

$$\begin{aligned}\mathrm{EQ1}_{i,j,t} = {} & \beta_0 + \beta_1(\mathrm{DIVERSITY}_{i,j,t-1}) + \beta_2(\mathrm{SIZE}_{i,j,t-1}) + \beta_3(\mathrm{AGE}_{i,j,t-1}) + \beta_4(\mathrm{ROA}_{i,j,t-1}) \\ & + \beta_5(\mathrm{GROWTH}_{i,j,t-1}) + \beta_6(\mathrm{ZSCORE}_{i,j,t-1}) + \beta_7(\mathrm{IFRS}_{i,j,t-1}) + \beta_8(\mathrm{BIG4}_{i,j,t-1}) \\ & + Industry\ dummy_k + Year\ dummy_t + Country\ dummy_j + \varepsilon_{i,j,t-1}\end{aligned}$$

Where: $\mathrm{EQ1}_{i,j,t}$ = Earnings quality: averaging the decile-ranked values of AEM1, REM3, CON1, and UNCON1

Model 4.8: Baseline interaction earnings quality model

$$\begin{aligned}\mathrm{EQ1}_{i,j,t} = {} & \beta_0 + \beta_1(\mathrm{DIVERSITY}_{i,j,t-1}) + \beta_2(\mathrm{MONIC}_{i,j,t-1}) + \beta_3(\mathrm{DIVERSITY}_{i,j,t-1} \times \mathrm{MONIC}_{i,j,t-1}) \\ & + \beta_4(\mathrm{ADVIC}_{i,j,t-1}) + \beta_5(\mathrm{DIVERSITY}_{i,j,t-1} \times \mathrm{ADVIC}_{i,j,t-1}) + \beta_6(\mathrm{SIZE}_{i,j,t-1}) \\ & + \beta_7(\mathrm{AGE}_{i,j,t-1}) + \beta_8(\mathrm{ROA}_{i,j,t-1}) + \beta_9(\mathrm{GROWTH}_{i,j,t-1}) + \beta_{10}(\mathrm{ZSCORE}_{i,j,t-1}) \\ & + \beta_{11}(\mathrm{IFRS}_{i,j,t-1}) + \beta_{12}(\mathrm{BIG4}_{i,j,t-1}) + Industry\ dummy_k + Year\ dummy_t \\ & + Country\ dummy_j + \varepsilon_{i,j,t-1}\end{aligned}$$

4.6 Conclusion

The present thesis is grounded on the philosophical framework of objectivism as its ontological premise. It employs a positivist-epistemological approach to investigate

the relationship between Board diversity and the quality of earnings. Furthermore, the present study employs a deductive technique to formulate hypotheses based on existing theories. Subsequently, the research design is constructed utilising a quantitative approach. The current research conducted an assessment of the Ordinary Least Squares (OLS) assumptions prior to their application in regression analysis. The results indicated that OLS is the suitable statistical estimation method for performing the analyses of the study.

Consequently, it suggests the use of a worldwide dataset for the purpose of testing the proposed hypotheses. This research employs secondary data, encompassing Board features, financial data, and accounting information. The data was obtained from BoardEx (WRDS), DataStream (Refinitiv), and S&P Capital IQ. The research sample comprises publicly listed companies in six economies, namely Australia, Singapore, Hong Kong, Canada, the United Kingdom, and the United States. The data collection period spans from 2016 to 2020.

This chapter employs different techniques to construct variable measures in order to examine the central research question: 'Does Board diversity enhance the quality of earnings?'. This study considers three primary dimensions of accounting quality as dependent variables: earnings management, accounting conservatism, and earnings quality. This study also develops a Board diversity measure by employing the Blau index. This study categorises the duties of the Board as moderators into two primary tasks, namely monitoring and advisory, employing different approaches. The construction of control variables in this chapter serves to improve the internal validity of the study by restricting the impact of confounding and other extraneous variables. The presentation of data analysis, findings, and discussion will be presented in Chapters 5 and 6.

CHAPTER 5 Empirical Results and Analysis of the Impact of Board Diversity on Earnings Management

5.1 Introduction

Based on the review of the literature discussed in Chapters 2 and 3, it has been purported that the presence of diversity within a company's Board has a positive impact on the quality of earnings generated by the organisation. In this context, the concept of high quality of earnings refers to a situation where there is a minimal degree of earnings management (EM). The objective of this chapter is to examine the impact of Board diversity on EM, specifically in the areas of accruals earnings management (AEM) and real earnings management (REM). This chapter also explores the roles of the Board, namely their monitoring and advisory functions, as a moderator in the relationship between Board diversity and EM.

This chapter provides empirical findings and an analysis of the effect of Board diversity on EM. Section 5.2 presents and discusses the descriptive statistics of EM, Board diversity, Board roles, and control variables. Following descriptive statistics, sections 5.3 and 5.4, respectively, show and discuss univariate and correlation analyses. In section 5.5, the main regression analysis is performed and described. In sections 5.6 through 5.8, supplementary analyses are provided to corroborate the conclusions of the main tests. The conclusion of the chapter is given in section 5.9.

5.2 Descriptive Statistics

Table 5. 1 Descriptive Statistics of Earnings Management

This table presents the descriptive statistics of earnings management, the dependent variable, classified by country. In panel A, the mean and standard deviation of accruals earnings management are presented, whereas in panel B, they pertain to real earnings management. The outliers in the distribution were subjected to winsorisation, at the 1st and 99th percentiles.

			Panel A: Accruals Earnings Management					
			AEM1		*AEM2*		*AEM3*	
Country	N	Firms	Mean	SD	Mean	SD	Mean	SD
AU	303	115	0.125	0.205	0.125	0.205	0.076	0.085
CA	931	301	0.116	0.195	0.116	0.195	0.092	0.092
HK	1155	355	0.090	0.109	0.090	0.109	0.088	0.098
SN	519	165	0.102	0.174	0.102	0.174	0.087	0.106
UK	1360	447	0.116	0.190	0.116	0.190	0.080	0.098
US	9254	2697	0.138	0.253	0.138	0.253	0.082	0.102
Pooled Sample	13522	4080	0.129	0.231	0.129	0.231	0.082	0.101

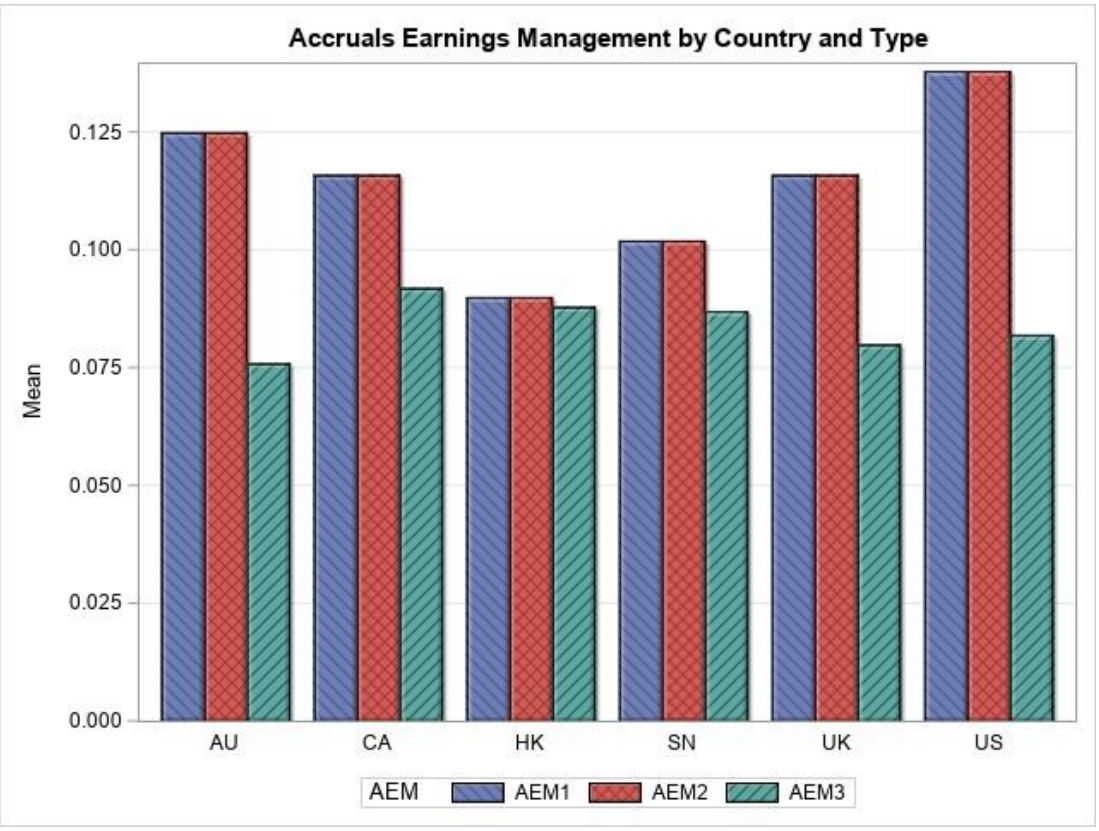
			Panel B: Real Earnings Management					
			REM1		*REM2*		*REM3*	
Country	N	Firms	Mean	SD	Mean	SD	Mean	SD
AU	303	115	0.016	0.208	-0.001	0.148	0.019	0.232
CA	931	301	-0.007	0.191	-0.004	0.125	-0.006	0.216
HK	1155	355	0.008	0.139	-0.004	0.102	0.008	0.190
SN	519	165	-0.028	0.202	-0.001	0.072	-0.030	0.214
UK	1360	447	-0.010	0.177	-0.006	0.151	-0.011	0.209
US	9254	2697	-0.007	0.248	0.006	0.159	-0.007	0.278
Pooled Sample	13522	4080	-0.006	0.228	0.003	0.149	-0.007	0.258

5.2.1 Accruals Earnings Management

Panel A of Table 5.1 displays the mean and standard deviation of accruals earnings management for the sample companies between 2016 and 2020. AEM1 will be utilised for the primary test, while the others will serve as alternate proxies for the robustness estimation. Table 5.1 indicates that the average absolute accruals earnings management (AEM1, AEM2, and AEM3) ranges between 0.082 and 0.129, which is comparable to the figures found by Orazalin (2019) and Wan Mohammad and Wasiuzzaman (2019). The findings indicate that the aggregate AEM accounts for roughly 8.2% - 12.9% of the previous period's total assets in the dataset employed for this study. What is surprising is that, on average, the US-listed companies engage the highest AEM compared to other sample countries, as shown in Figure 5.1. Prior studies on the US market's abnormal discretionary accruals reported a comparable level of AEM, which is reasonably high and comparable to this current study (for instance, Liu et al. (2017)). Moreover, the absolute value of accruals quality, as demonstrated by AEM3 at an average of 0.082 and derived from the model of Dechow and Dichev (2002), is lower than the AEM produced by Jones (1991), as shown in AEM1 and AEM2. This is consistent with the findings of Francis et al. (2005), Hoang et al. (2017), Kapoor and Goel (2017) and Srinidhi et al. (2011), who found that the average accruals quality value ranges between 0.03 and 0.07.

Figure 5. 1 The Levels of Accruals Earnings Management by Country

This figure illustrates the average value of three different types of accruals earnings management, categorised according to the following six nations: Australia, Canada, Hong Kong, Singapore, the United Kingdom, and the United States.



As shown in Figure 5.1, Hong Kong and Singapore, the Asian stock markets in the sample have the lowest average value of accruals earning management compared to other developed markets. In accordance with the present results, previous studies have demonstrated that the average value of absolute discretionary accruals in Hong Kong and Singapore is around 0.09 (Fuad et al., 2022; Jarne-Jarne et al., 2022), which aligns with the findings of the present thesis (approximately 0.10).

5.2.2 Real Earnings Management

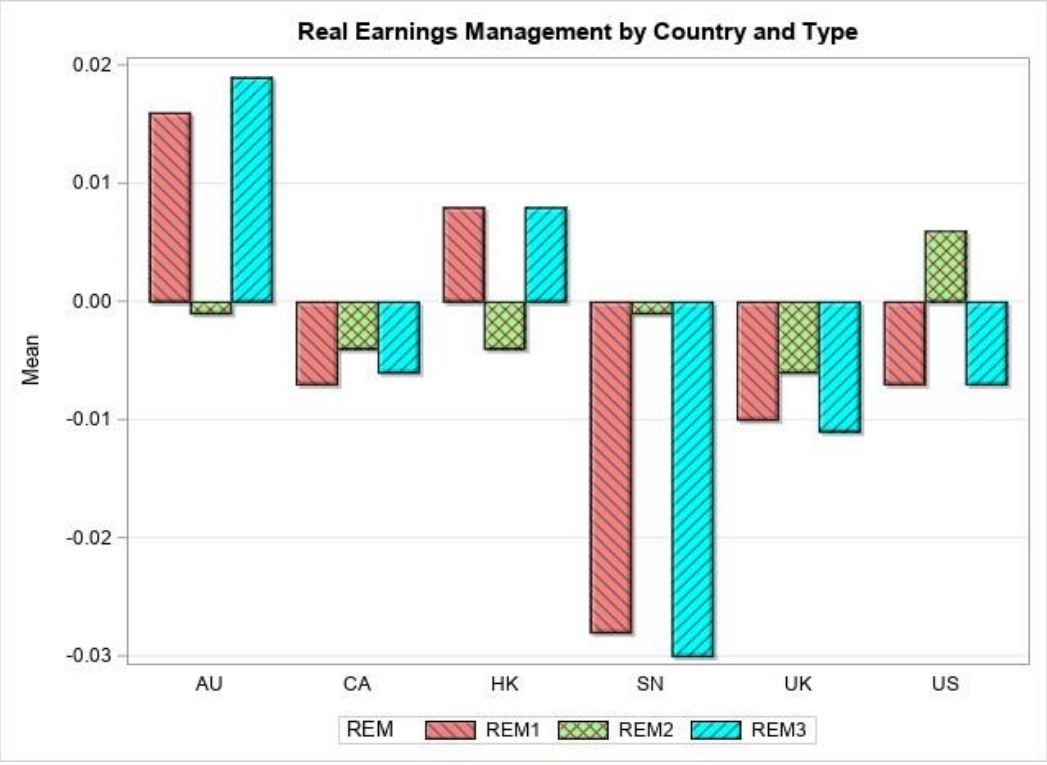
Real earnings management can be seen in Panel B of Table 5.1, which displays the mean, and standard deviation. REM3 will be used for the main test since it is an aggregation of three different proxies, which are abnormally low cash flows from operations, abnormally high production costs, and abnormally low discretionary expenses. The average value of aggregate REM3 is -0.007. This result implies that the total REM represents approximately 0.7% of lagged total assets in the dataset used

for this study, and sample companies generally engage in REM designed to decrease earnings. This study supports evidence from previous research that found negative REM (Ben Amar & Sayadi, 2022; Liao & Ouyang, 2019). It was also found that the average value of REM1 is negative, at -0.006. In contrast, the average value of REM2 is positive (at 0.003), meaning that most sampled companies try to increase earnings by overproduction in order to obtain a lower cost of goods sold.

Panel B also includes the descriptive statistics of aggregate REMs for particular countries. Briefly, the mean of REMs varies from country to country. Interestingly, three countries – Canada, Singapore, and the UK – have negative REMs in all proxies, as shown in Figure 5.2. These results seem to be consistent with other research which found negative REMs (Alhebri et al., 2021; Choi et al., 2018; Ghaleb, Kamardin, et al., 2020). Figure 5.2 further reveals that the magnitude of REM2 is less than that of REM1, as can be seen from REM2 values closer to zero. This suggests that sample companies are more likely to manipulate their real earnings through sales manipulation than through production cost transactions.

Figure 5. 2 The Levels of Real Earnings Management by Country

This figure shows the average value of three different types of real earnings management, categorised according to the following six nations: Australia, Canada, Hong Kong, Singapore, the United Kingdom, and the United States.



5.2.3 Board Diversity

Table 5. 2 Descriptive Statistics of Board Diversity

This table presents the descriptive statistics of Board diversity, the independent variable, classified by country. The outliers in the distribution were winsorised at the 1st and 99th percentiles.

Board Diversity by Country	Mean	SD	Min	Max
Aggregate-level diversity				
AU	3.123	0.758	1.153	4.581
CA	3.267	0.604	1.380	4.477
HK	3.102	0.524	0.778	4.599
SN	3.137	0.584	1.582	4.486
UK	3.248	0.687	0.729	4.446
US	3.213	0.624	0	4.532
Pooled Sample	3.206	0.625	0	4.599
Surface-level diversity				
AU	1.066	0.450	0	1.821
CA	1.118	0.381	0	1.847
HK	1.062	0.364	0	1.914
SN	1.067	0.383	0	1.903
UK	1.150	0.415	0	1.914
US	1.127	0.369	0	1.938
Pooled Sample	1.119	0.377	0	1.938
Deep-level diversity				
AU	2.057	0.475	0.762	2.793
CA	2.149	0.396	0.857	2.860
HK	2.040	0.393	0.757	2.810
SN	2.070	0.397	0.887	2.833
UK	2.098	0.428	0.519	2.851
US	2.086	0.427	0	2.830
Pooled Sample	2.086	0.423	0	2.860
Gender diversity				
AU	0.398	0.391	0	1
CA	0.438	0.331	0	1
HK	0.356	0.315	0	1
SN	0.340	0.337	0	1
UK	0.458	0.366	0	1
US	0.431	0.325	0	1
Pooled Sample	0.423	0.332	0	1
Age Diversity				
AU	0.668	0.173	0	0.903
CA	0.680	0.162	0	0.969
HK	0.706	0.162	0	0.957

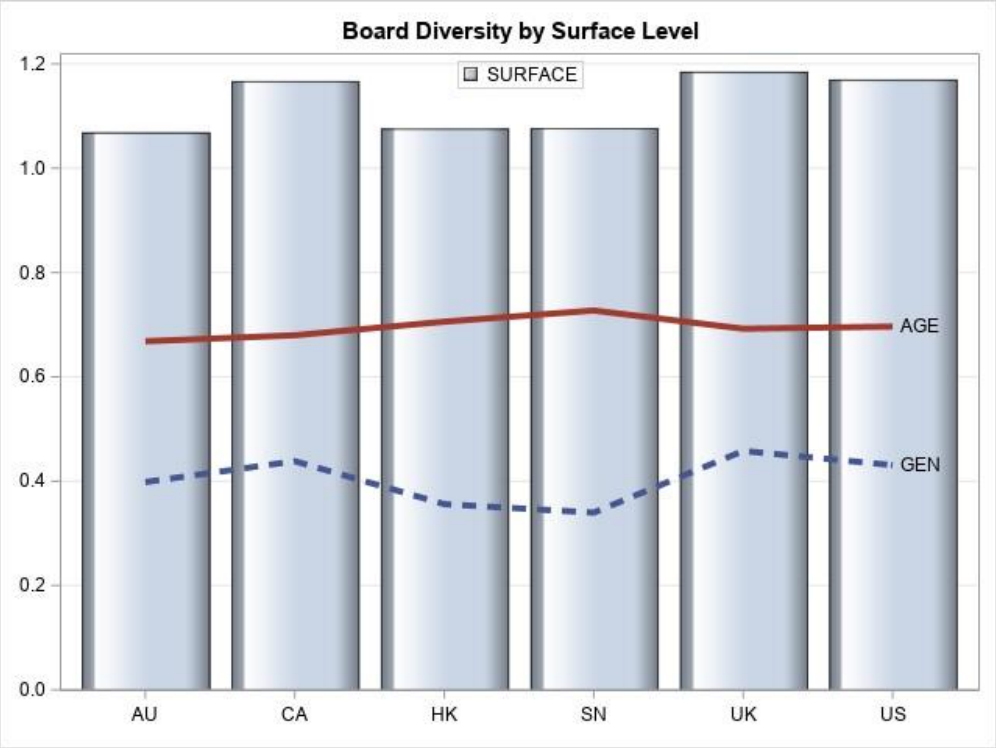
Board Diversity by Country	Mean	SD	Min	Max
SN	0.727	0.147	0	0.977
UK	0.692	0.166	0	0.938
US	0.696	0.153	0	0.988
Pooled Sample	0.696	0.157	0	0.988
Education Diversity				
AU	0.589	0.260	0	0.960
CA	0.661	0.174	0	0.980
HK	0.709	0.156	0	0.988
SN	0.656	0.176	0	0.960
UK	0.629	0.229	0	0.963
US	0.688	0.173	0	0.980
Pooled Sample	0.679	0.182	0	0.988
Tenure Diversity				
AU	0.596	0.310	0	1
CA	0.570	0.320	0	1
HK	0.531	0.329	0	1
SN	0.542	0.319	0	1
UK	0.572	0.334	0	1
US	0.493	0.359	0	1
Pooled Sample	0.513	0.350	0	1
Experience/Expertise Diversity				
AU	0.872	0.080	0.474	0.980
CA	0.919	0.047	0.519	0.992
HK	0.800	0.133	0	0.985
SN	0.871	0.092	0.373	0.980
UK	0.897	0.067	0.438	1
US	0.905	0.059	0	0.994
Pooled Sample	0.894	0.077	0	1

As shown in Table 5.2, the average aggregate Board diversity index for the sample is 3.206, with a range of 3.102 to 3.267 across six countries. In general, the sampled companies are more likely to have a diverse Board, as a value closer to 5 (which is derived from five characteristics: gender, age, education, tenure, and expertise/experience) indicates a more diverse Board. The average surface-level diversity of the Board for the sample is 1.119. The more diverse the Board, the closer the index score is to 2, as surface-level diversity is determined by two factors: gender and age. It is encouraging to compare this figure with that found by F. Ali et al. (2022),

who discovered that the average value of surface-level diversity of Board is 1.25[14]. As seen by the solid line depicted in Figure 5.3, there is a notable similarity in the level of age diversity observed among different countries. According to Figure 5.3, it can also be concluded that, in terms of surface-level attributes, age is more diverse than gender, as indicated by the solid and dashed lines, respectively. This conclusion aligns with the results of Grant Thornton's survey, which indicate that a significant majority of organisations consider the presence of an age-diverse team to be the foremost element when considering different types of demographic diversity (Grant Thornton, 2018). This is because age is potentially the most straightforward aspect to integrate within the organisational design.

Figure 5. 3 Board Diversity by Surface level

This figure shows the average value of two different types of Board's surface level diversity (age, and gender), categorised according to the following six nations: Australia, Canada, Hong Kong, Singapore, the United Kingdom, and the United States.



[14] According to the research conducted by Ali et al. (2022), the average values for gender and age diversity are 0.252 and 0.598, respectively. In order to obtain an adjusted Blau index between 0 and 1, I multiply these values by "categories / (categories - 1)" comparable to this current study. In this case, gender diversity is multiplied by 2, while age diversity is multiplied by 1.25. Thus, the sum of the Board's surface-level diversity is 1.25.

Furthermore, it is worth noting that the average level of gender diversity across all samples is approximately 0.423. This finding raises a contentious suggestion as a potential solution to the ethical concern of gender inequalities in boardrooms: the implementation of a quota system for gender representation among boardrooms. The introduction of the quota rule in Norway was initially announced in November 2002, requiring a minimum of 40% representation from each gender on boards of directors (Terjesen & Sealy, 2016). Following this, numerous countries, particularly those in Scandinavia, implemented quotas, while ones adopted voluntary rules to promote female inclusion on corporate Boards. It is important to note that despite the fact that the sample used in this study is from countries with "comply or explain" legislation, the result of gender diversity reflects the status quo of gender inequality.

The overall sample average for deep-level diversity in the boardroom is 2.086, as shown in Table 5.2. Since there are three dimensions — Education, Tenure, and Experience/Expertise — to consider when measuring deep-level diversity, a value that is closer to 3 indicates the boardroom to be more diverse. As shown by the bar graphs in Figure 5.4, the mean of the Board's deep-level diversity is similar across countries.

Figure 5. 4 Board Diversity by Deep level

This figure shows the average value of three different types of Board's deep level diversity (experience, education, and tenure), categorised according to the following six nations: Australia, Canada, Hong Kong, Singapore, the United Kingdom, and the United States.

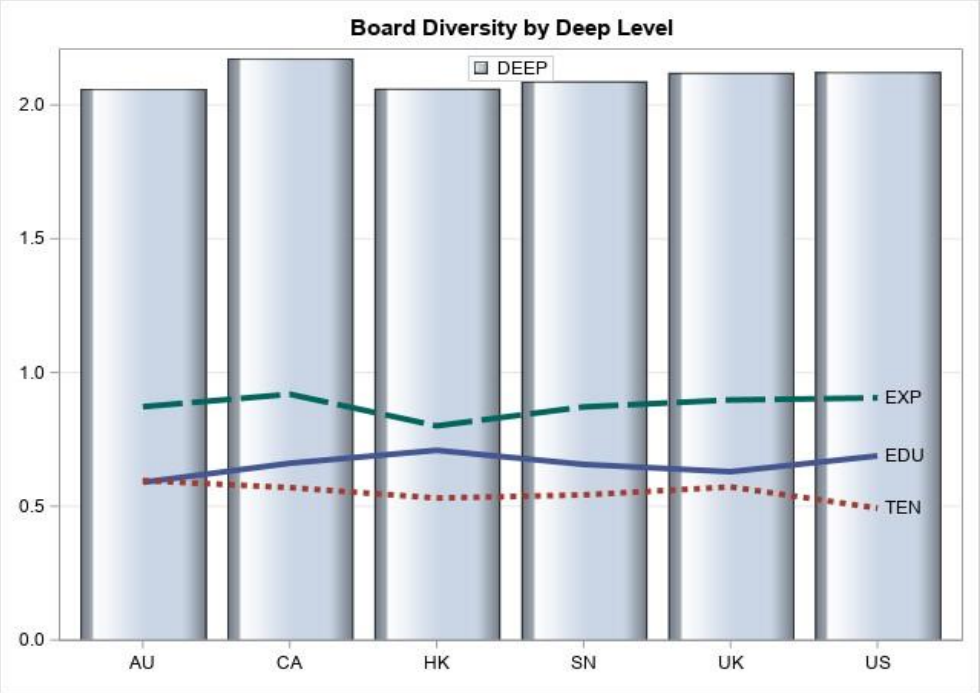


Table 5.2 shows that the educational index has an average value of 0.679. This result is in agreement with studies conducted by Ararat et al. (2010)[15], Imran Khan et al. (2019)[16], Bin Khidmat et al. (2020)[17], and F. Ali et al. (2022)[18]. However, this finding is contrary to previous studies in emerging markets, which have suggested a lower educational index (e.g. Hoang et al. (2017) in Vietnam at 0.38, Hodgson et al. (2022) in Thailand at 0.43[19], Dedunu and Anuradha (2020) in Sri Lanka at 0.51[20]). One possible explanation for this phenomenon is the relatively lower effectiveness of CG mechanisms in emerging countries when compared to developed countries. This can be observed through several indicators, such as the prevalence of high family ownership concentration, weaker investor protection measures, less stringent information disclosure requirements, and less mature markets for corporate control (La Porta et al., 2000). An additional potential consideration contributing to the lower educational diversity found in developing nations is the insufficient study of how the demographic attributes of upper echelons may influence corporate performance, particularly in countries that have implemented a two-tier Board structure (Darmadi, 2013).

Table 5.2 shows that the average value of Board tenure diversity is 0.513, while the average value of Board experience and expertise diversity is just below 0.90. These are in line with those of previous studies (F. Ali et al., 2022; An, 2021; Bear et al., 2010; Hodgson et al., 2022; Khan & Baker, 2022; Ismail Khan et al., 2019). As also seen by the dotted line in Figure 5.4, tenure diversity appears to be lower than other types of deep-level diversity. Tenure is a concept that is linked to an individual's level of familiarity with a company (Vafeas, 2003). It refers to the duration of time that a director can serve on the Board. While it appears that Board tenure can contribute to knowledge and confidence in investment decisions and strategy changes (Sun & Bhuiyan, 2020), it is worth noting that the significance of this element may be overshadowed by the importance of Board experience and expertise diversity. The

[15] The index of 0.514 was multiplied by 1.25 (five categories), resulting in a Blau index of 0.643.
[16] The index of 0.462 was multiplied by 1.33 (four categories), resulting in a Blau index of 0.614.
[17] The index of 0.5003 was multiplied by 1.33 (four categories), resulting in a Blau index of 0.665.
[18] The index of 0.450 was multiplied by 1.25 (five categories), resulting in a Blau index of 0.563.
[19] The index of 0.32 was multiplied by 1.33 (four categories), resulting in a Blau index of 0.43.
[20] The index of 0.405 was multiplied by 1.25 (five categories), resulting in a Blau index of 0.51.

reason for this is that the range of experience and expertise among director members encompasses many forms of professional skills, qualifications, experience, and expertise that are relevant to directors (Gray & Nowland, 2017). Therefore, it is evident from the data presented in Figure 5.4 that the firm may necessitate a greater diversity of experience and expertise in its Board members (dashed line), rather than focusing solely on their length of service on the Board (dotted line).

5.2.4 Board of Director's Roles

Table 5. 3 Descriptive Statistics of Board Roles

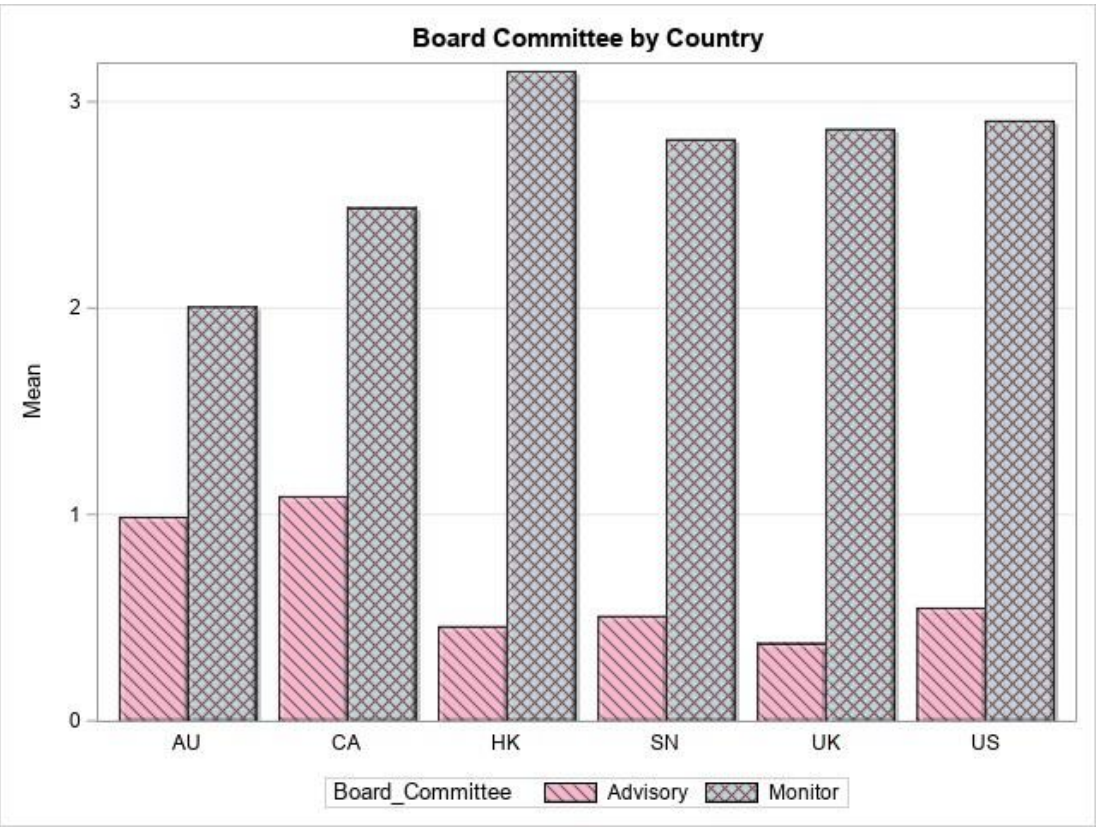
This table presents the descriptive statistics of Board of directors' roles, the moderator, classified by country. The outliers in the distribution were winsorised at the 1st and 99th percentiles.

Board Roles by Country	Mean	SD	Min	Max
Number of monitoring committee				
AU	2.01	0.78	0	5
CA	2.49	0.69	1	6
HK	3.15	0.57	1	5
SN	2.82	0.72	1	5
UK	2.87	0.61	1	5
US	2.91	0.56	0	6
Pooled Sample	2.87	0.62	0	6
Number of advisory committee				
AU	0.99	1.09	0	6
CA	1.09	1.07	0	9
HK	0.46	0.71	0	5
SN	0.51	0.89	0	4
UK	0.38	0.74	0	5
US	0.55	0.84	0	5
Pooled Sample	0.57	0.86	0	9

Considering the Board's roles in Table 5.3, the average monitoring committee is around three, which is consistent with other researcher (Reeb & Upadhyay, 2010; Upadhyay et al., 2014). However, Figure 5.5 shows that the low average advisory committee is below one, especially in UK companies that occupy only 0.38 advisory committees. This is justified by the fact that advisory committees are not required by any regulation; rather, they may organise voluntarily inside each corporation. However, there is a similarity between the average number of the advisory committee in this study and that found by Reeb and Upadhyay (2010).

Figure 5. 5 Board of Director's Roles by Country

This figure shows the average value of two different types of Board committee (advisory, and monitoring committees), categorised according to the following six nations: Australia, Canada, Hong Kong, Singapore, the United Kingdom, and the United States.



5.2.5 Control Variables

Table 5. 4 Descriptive Statistics of Control Variables

This table shows the descriptive statistics of control variables, classified by country. The outliers in the distribution were winsorised at the 1st and 99th percentiles. All variables are defined in Appendix A.

Control Variables	*Lg Firm size*		*Lg Firm age*		*ROA*		*Firm growth*	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
AU	5.27	2.60	3.27	0.86	-0.05	0.21	0.26	1.02
CA	5.76	2.30	3.28	0.89	-0.04	0.21	0.14	0.64
HK	6.53	1.85	3.24	0.64	0.02	0.06	0.22	0.81
SN	5.87	2.08	3.19	0.86	0.02	0.08	0.10	0.53
UK	5.62	2.81	3.49	1.07	-0.02	0.21	0.19	0.76
US	6.27	2.59	3.38	0.87	-0.08	0.28	0.20	0.79
Pooled Sample	6.15	2.54	3.36	0.88	-0.06	0.25	0.20	0.78

Control Variables	*Z-score*		*IFRS*		*Big4*	
	Mean	SD	Mean	SD	Mean	SD
AU	3.57	10.03	0.95	0.21	0.72	0.45
CA	1.82	5.43	0.82	0.38	0.83	0.37
HK	3.24	6.00	0.90	0.29	0.76	0.42
SN	2.39	5.13	0.97	0.16	0.79	0.41
UK	3.56	6.46	0.99	0.12	0.66	0.47
US	1.92	8.61	0.00	0.06	0.69	0.46
Pooled Sample	2.25	7.98	0.29	0.46	0.71	0.45

As discussed in the preceding chapters, the regression models that have been developed incorporate seven control variables at the firm level. As shown in Table 5.4, the average log of market capitalisation is about six, which can be comparable to other research (Hsu & Hu, 2016; Kyaw et al., 2015; Srinidhi et al., 2011; Wan Mohammad & Wasiuzzaman, 2019). The total sample's average log of age is around three, or approximately 41 years. Studies by Kapoor and Goel (2017) and Khan and Baker (2022) indicate that the average age of a company was 38 and 41 years, respectively, so this current study compares to that figure. It is interesting to see that almost all country samples have negative average values for return on assets, which averages out to -6 percent for the overall sample. Some studies indicated a positive average return on assets (Abdullah & Ismail, 2016; Arun et al., 2015; Kyaw et al., 2015; Tee, 2019; Tee & Rassiah, 2019; Wan Mohammad & Wasiuzzaman, 2019). However, some researchers discovered a negative average return on assets (Fuad et al., 2022; Kim et al., 2017). It is plausible to assert that this variable may exhibit significant variation across different studies, influenced by the industry and country of the sample.

Additionally, firm growth has a mean value of 20 percent and a range of 10 percent to 26 percent. This finding was also reported by previous research (Fuad et al., 2022; Ntim, 2013; Upadhyay et al., 2014). The average Altman Z score[21] is 2.25. This score means that the likelihood of a company going bankrupt increases as the value approaches zero (Altman, 1968). As indicated in Table 5.4, the Australian companies have the most stable financial positions, with the highest Altman Z score at 3.57. Table 5.4 also reveals that most samples apply IFRS for accounting standards, except for U.S.-based companies, which adopt US GAAP instead. The analysis also indicates that, on average, firms audited by the big four auditors make up roughly 71 percent of the sample companies. This result is consistent with other studies (Ismail Khan et al.,

[21] The Altman Z score is a scoring system developed by Edward I. Altman in 1968. It is utilised as a formula to assess the likelihood of a company experiencing bankruptcy. The present methodology possesses the capability to forecast the likelihood of a corporate entity's potential declaration of bankruptcy within a specified timeframe. This methodology effectively forecasts the occurrence of financial crisis in any given company. The score is computed by taking into account the risk, profitability, liquidity, and activity ratios during the computation process. Furthermore, the Altman Z score is a valuable tool for assessing the financial well-being of a business entity, as it incorporates various balance sheet figures and corporate income. A higher value of the Z score indicates that the company is in a more secure financial position.

2019; Ntim, 2013; Wan Mohammad & Wasiuzzaman, 2019). However, Abdullah and Ismail (2016) and Tee and Rassiah (2019) revealed that only 57% and 59% of companies, on average, were audited by the big four auditing firms. This contrasts with the results reported here, which may result from a distinct national environment.

5.3 Univariate Analysis of Earnings Management

Table 5. 5 Univariate comparison in Means of Earnings Management

This table reports the univariate comparison of firms. Tests of difference in means are computed using a two-tailed t-test. All variables are defined in Appendix A.

Variables	Mean	Mean	Diff	t-value	p-value
Panel A: Difference in Means of Earnings Management between US and Non-US firms					
	US	***Non-US***			
AEM1	0.108	0.138	-0.030	-8.170	<.0001
REM3	-0.005	-0.007	0.003	0.590	0.558
Panel B: Difference in Means of Earnings Management between Firms with High and Low Board Diversity					
	High Diversity	***Low Diversity***			
AEM1	0.087	0.174	-0.087	-21.660	<.0001
REM3	0.008	-0.022	0.030	6.700	<.0001
Panel C: Difference in Means of Earnings Management between Firms with High and Low Board Monitoring Role					
	High Monitoring	***Low Monitoring***			
AEM1	0.124	0.148	-0.024	-4.270	<.0001
REM3	-0.009	-0.006	-0.003	-0.420	0.672
Panel D: Difference in Means of Earnings Management between Firms with High and Low Board Advisory Role					
	High Advisory	***Low advisory***			
AEM1	0.099	0.148	-0.049	-12.980	<.0001
REM3	-0.013	0.004	-0.017	-4.090	<.0001

Table 5.5 displays the results of a t-test analysis, a statistical method for determining whether the means of two sample groups are significantly different (Hair et al., 2018), which helps to better understand earnings management. Since the average values of earnings management provided in Table 5.1 are likely to vary, this study first divides the pooled sample into US and non-US companies. This is due to the fact that the sample from the United States constitutes the majority of observations in this research study. As the size of the two samples increases, the representation of the population from which they were collected improves (Christopher, 2017). Thus, the present

study's findings exhibit a higher likelihood of generalisability from the sample to the broader population. From a mathematical perspective, it can be observed that an increase in the sample size within each group leads to a reduction in the denominator of the t-test statistic. Consequently, this decrease in the denominator results in a decrease in the standard error of the mean difference, ultimately leading to an increase in the magnitude of the t-test statistic.

Panel A of Table 5.5 displays the findings, demonstrating that, at a significance level of 1%, the means of AEM as measured by AEM1[22] are statistically different between the United States and all other nations. In other words, non-U.S. companies have a lower AEM. However, the average value of REM as estimated by REM3[23] is not significantly different between the two groups. A possible explanation for this might be that the practice of AEM changes throughout nations, whereas the practice of real earnings management does not.

In addition, a t-test is conducted to determine whether the average value of earnings management differs amongst companies with diverse Boards. In this sense, firms are divided into two categories: those with high or low levels of diversity in their boardrooms. As a threshold, the pooled sample mean[24] of Board diversity at the aggregate level is employed. For instance, firms whose Board diversity is greater than or equal to the sample mean would be categorised as having high diversity. Panel B of Table 5.5 displays the result, which reveals that at the 1% significance level, there is a significant difference in the mean of AEM between companies with high and low Board diversity. In other words, firms with greater Board diversity have a lower mean AEM value (0.087) than those with a less diverse Board (0.174). Panel B also demonstrates that there is a significant difference between companies with high and low Board diversity, with a 1% significance level, when it comes to the average value of REM. Contrary to the hypothesis presented in Chapter 3, an unexpected discovery emerges, indicating that companies exhibiting a higher level of diversity within their

[22] Replacing AEM2 or AEM3 for AEM1 in the t-test analysis provides the same significant result as that shown in Table 5.6.
[23] Replacing REM1 or REM2 for REM3 in the t-test analysis provides the same significant result as that shown in Table 5.6.
[24] The results are the same if medians of the pooled samples are used rather than means.

Board are more inclined to participate in REM compared to companies with a less diverse Board.

Panel C of Table 5.5 displays the results of a test comparing the mean earnings management practices of companies with a high and a low Board monitoring role. As shown in Panel C, the mean earnings management of firms with a high Board monitoring role is lower than that of firms with a low Board monitoring role, indicating that the more the Board monitors the management team, the lower the earnings management. However, statistically significant evidence of a difference in the mean for AEM can only be discovered at a significance level of 1%, but no such evidence is found for REM.

Evidence of difference (a significant level of 1%) in the mean of earnings management between companies with a high and low Board advisory role is found in Panel D of Table 5.5. The result shows that the mean earnings management of companies with a high Board advisory function is lower than that of companies with a low Board advisory role. These outcomes were discovered in both accruals and real earnings management. This suggests that the more the Board advises the management team, the less earnings are managed.

Overall, the univariate analysis, t-test, gives valuable insights into how the average value of earnings management varies between companies with diverse Boards and varied Board functions. Hence, it may be inferred that the presence of diversity within the Board, as well as the particular roles of monitoring and advising performed by the Board, may have an influence on the practice of earnings management.

5.4 Correlation Analysis

Table 5. 6 Correlations: Diversity, Earnings Management

The table presents the correlation matrix of variables used in this study. All variables are defined in Appendix A. **Bold text** in the table indicates significance at the 10% level or higher.

	DIVERSITY	*SURFACE*	*DEEP*	*GEN*	*AGE*	*EDU*	*TEN*	*EXP*
DIVERSITY	1							
SURFACE	**0.750**	1						
DEEP	**0.808**	**0.216**	1					
GEN	**0.708**	**0.910**	**0.234**	1				
AGE	**0.306**	**0.478**	**0.026**	**0.071**	1			
EDU	**0.413**	**0.104**	**0.517**	**0.092**	**0.056**	1		
TEN	**0.695**	**0.179**	**0.867**	**0.208**	-0.010	**0.059**	1	
EXP	**0.299**	**0.128**	**0.328**	**0.121**	**0.051**	**0.204**	**0.071**	1
MONIC	**0.104**	**0.087**	**0.076**	**0.075**	**0.051**	**0.109**	**0.029**	**0.029**
ADVIC	**0.259**	**0.148**	**0.250**	**0.176**	**-0.018**	**0.083**	**0.233**	**0.118**
SIZE	**0.428**	**0.358**	**0.314**	**0.378**	**0.061**	**0.160**	**0.258**	**0.169**
FIRMAGE	**0.281**	**0.181**	**0.253**	**0.211**	-0.011	**0.037**	**0.270**	**0.076**
ROA	**0.250**	**0.174**	**0.214**	**0.190**	**0.016**	**0.039**	**0.234**	**0.019**
GROWTH	**-0.079**	**-0.034**	**-0.087**	**-0.050**	**0.024**	0.000	**-0.103**	-0.010
ZSCORE	**0.082**	**0.102**	**0.031**	**0.108**	**0.015**	**0.034**	**0.020**	0.002
IFRS	**-0.015**	**-0.030**	0.005	**-0.038**	0.007	**-0.080**	**0.086**	**-0.176**
BIG4	**0.308**	**0.295**	**0.192**	**0.305**	**0.062**	**0.111**	**0.143**	**0.142**
AEM1	**-0.215**	**-0.146**	**-0.187**	**-0.148**	**-0.039**	**-0.043**	**-0.193**	**-0.050**
AEM2	**-0.215**	**-0.146**	**-0.187**	**-0.148**	**-0.039**	**-0.043**	**-0.193**	**-0.050**
AEM3	**-0.147**	**-0.082**	**-0.145**	**-0.076**	**-0.035**	**-0.066**	**-0.126**	**-0.065**
REM1	**0.077**	**0.044**	**0.074**	**0.044**	0.013	**0.015**	**0.083**	-0.003
REM2	**-0.027**	0.013	**-0.050**	0.003	**0.024**	-0.009	**-0.058**	0.009
REM3	**0.069**	**0.042**	**0.065**	**0.042**	0.011	0.010	**0.074**	-0.004

Table 5. 6 (Continued) Correlations: Diversity, Earnings Management

	MONIC	*ADVIC*	*SIZE*	*FIRMAGE*	*ROA*	*GROWTH*	*ZSCORE*	*IFRS*	*BIG4*
MONIC	1								
ADVIC	**-0.071**	1							
SIZE	**0.173**	**0.287**	1						
FIRMAGE	**0.020**	**0.200**	**0.256**	1					
ROA	**0.024**	**0.151**	**0.407**	**0.207**	1				
GROWTH	-0.003	**-0.044**	**-0.030**	**-0.088**	**-0.053**	1			
ZSCORE	**0.037**	0.014	**0.283**	**0.036**	**0.376**	**0.024**	1		
IFRS	**-0.086**	**0.017**	**-0.074**	**0.016**	**0.117**	**-0.015**	**0.059**	1	
BIG4	**0.086**	**0.194**	**0.536**	**0.162**	**0.291**	**-0.031**	**0.137**	**0.056**	1
AEM1	**-0.052**	**-0.103**	**-0.379**	**-0.121**	**-0.385**	**0.055**	**-0.197**	**-0.058**	**-0.234**
AEM2	**-0.052**	**-0.103**	**-0.379**	**-0.121**	**-0.385**	**0.055**	**-0.197**	**-0.059**	**-0.234**
AEM3	**-0.043**	**-0.084**	**-0.209**	**-0.089**	**-0.432**	**0.023**	**-0.144**	**-0.041**	**-0.160**
REM1	0.007	**0.026**	**0.078**	**0.049**	**0.018**	**-0.050**	0.000	0.005	0.011
REM2	0.009	**-0.023**	**0.020**	**-0.024**	**0.050**	**0.040**	**0.042**	**-0.031**	0.000
REM3	0.004	**0.024**	**0.075**	**0.046**	**0.020**	**-0.049**	0.002	0.005	**0.018**

This section investigates the potential for multicollinearity. An assumption of regression analysis is likely to be falsified when there is a strong linear relationship between two or more independent variables (Gujarati, 2009). Thus, this research employs the Pearson correlation approach by calculating the correlation matrix to analyse relationships between variables. As shown in Table 5.6, the highest correlation between the two variables of interest, surface-level diversity and gender diversity, is 0.91. The second strongest correlation is between deep-level diversity and tenure diversity, with a value of 0.866. Since there are such high collinearities within Board diversity variables, multicollinearity must be avoided by regressing them separately. Thus, this study investigates the influence of Board diversity using the separation of the regression model. This supports the hypotheses established in the previous chapters.

In addition, the correlation results in Table 5.6 reveal that all Board diversity variables — aggregate, surface, deep, gender, age, education, tenure, expertise, and experience diversity — are significantly and negatively correlated with accruals earnings management (AEM1[25]). In comparison, Board diversity variables are positively correlated with real earnings management (REM3[26]). It is also important to note the significant negative correlation between the Board's roles, which include monitoring and advisory functions, and AEM1, as anticipated. On the other hand, REM3 is positively associated with Board's roles. Importantly, Table 5.6 demonstrates that multicollinearity across the variables in separate regression models is not an issue because the coefficients do not exceed 0.70 (Gujarati, 2009).

Moreover, this study also utilised the Variance Inflation Factor (VIF) and Tolerance Statistics (TOL) tests to determine whether or not variables had a multicollinearity issue. If VIF reaches ten and TOL is close to zero, there may be a serious issue (Gujarati, 2009; Hair et al., 2018). Table 5.7 reveals that the maximum value of VIF is 2.53 and the minimum value of TOL is 0.40, indicating that multicollinearity across

[25] AEM2 and AEM3 provide the similar correlation result as AEM1, which can be seen in Table 5.10.
[26] REM1 and REM3 show comparable correlation results. However, REM2 provides a different result, which can be seen in more detail in Table 5.10.

variables is not an issue. In short, as seen by the correlation matrix, VIF, and TOL, multicollinearity does not significantly violate the OLS assumptions.

Table 5. 7 VIF and TOL tests of Multicollinearity

This table shows the Variance Inflation Factor (VIF) and Tolerance Statistics (TOL) tests used in check multicollinearity issues.

Variable	TOL	VIF
DIVERSITY	0.75983	1.31609
SIZE	0.54483	1.83542
AGE	0.85741	1.16630
ROA	0.71931	1.39022
GROWTH	0.98555	1.01466
ZSCORE	0.82462	1.21268
IFRS	0.39640	2.52269
BIG4	0.68686	1.45589
TIME	0.98195	1.01839
COUNTRY	0.39594	2.52561
INDUSTRY	0.95510	1.04701

However, these correlation coefficients only indicate the relationship between two variables; therefore, they cannot be used to make inferences. Consequently, the analysis, undertaken by multiple regression, is undertaken in the subsequent sections to assess the total explanatory power of all variables of interest in relation to the dependent variable.

5.5 Regression Results

As discussed in Chapter 4, the Pooled OLS approach may not be the most appropriate or credible model. The Hausman test (Hausman, 1978) is used to determine which of the fixed-effects and random-effects models most adequately explains the study results (Wooldridge, 2002). After applying the Hausman test, it was found that all models in this study rely on fixed-effects regression. The subsequent section will give the statistical outcome of the Hausman test. Additionally, to examine the effect of Board diversity on earnings management, this current study employs an OLS regression with heteroskedastically robust standard errors (White, 1980) to account for the fact that the variance of the observed value of the dependent variable does not remain constant around the regression line.

Table 5. 8 Multiple Regression Analysis for Accruals Earnings Management

The table presents fixed-effects regressions of Board diversity where the dependent variable is accruals earnings management (AEM). All variables are defined in Appendix A. All explanatory variables are lagged by one year in order to avoid simultaneous problems. Standard errors are also clustered at the firm level and are reported in parentheses. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.016	0.009	0.003	-0.001	0.015	0.007	-0.001	0.124
		(0.119)	(0.119)	(0.119)	(0.119)	(0.119)	(0.119)	(0.119)	(0.124)
Independent Variables									
DIVERSITY	(-)	-0.008*	-0.014**	-0.003	-0.011	-0.023*	0.009	-0.001	-0.149***
		(0.004)	(0.007)	(0.007)	(0.008)	(0.012)	(0.015)	(0.008)	(0.041)
Control Variables									
SIZE		-0.008***	-0.008***	-0.008***	-0.008***	-0.008***	-0.008***	-0.008***	-0.008***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
AGE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA		-0.060***	-0.060***	-0.060***	-0.060***	-0.061***	-0.060***	-0.061***	-0.060***
		(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
GROWTH		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
ZSCORE		-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.001***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
IFRS		-0.069**	-0.068**	-0.070**	-0.069**	-0.069**	-0.070**	-0.070**	-0.072**
		(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
BIG4		-0.009	-0.009	-0.010	-0.009	-0.010	-0.010	-0.010	-0.009
		(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		13522	13522	13522	13522	13522	13522	13522	13522
R-Squared		0.222	0.220	0.222	0.220	0.220	0.220	0.223	0.220
Durbin-Watson		2.403	2.403	2.402	2.403	2.403	2.403	2.402	2.404
F-Stat		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

All empirical investigations conducted in this chapter and Chapter 6 utilise SAS software version 9.4 for Windows, as it is considered appropriate for panel data regression (Neuhaus, 2006). The SAS software offers a variety of procedures that can be effectively utilised for the implementation of fixed effects methods. This study applies PROC GLM command, a widely used approach for conducting fixed effects analysis, to examine linear models. This section divides the regression results into two distinct categories: accruals earnings management (AEM) and real earnings management (REM).

5.5.1 Multiple Regression Analysis for Accruals Earnings Management

The findings of testing hypotheses 1a1, 2a1 and 3a1 are presented in Table 5.8, using AEM1 as the dependent variable and Board diversity as the independent variables (Model 4.1 in Chapter 4). Since there are different variables of interest, the results will be discussed separately in the following section.

5.5.1.1 The Effect of Board′s Aggregate-level Diversity

The regression results for Board diversity at the aggregate level with industry-country-year fixed effects are presented in the first column of Table 5.8. This finding is associated with hypothesis 1a1 and demonstrates an adjusted coefficient of determination (r-squared) value of 0.22. It demonstrates that 22 percent of AEM of the sample's listed companies can be explained by the Board diversity variable and the control variables. The remaining 78% are explained by variables not included in the study. Furthermore, the F-test value of less than 0.01 indicates that the observed link is statistically significant.

Table 5.8 also demonstrates that the diversity of a Board at the aggregate level has a statistically significant and negative relationship with AEM1, therefore supporting hypothesis 1a1. As highlighted in Chapter 3, the majority of past research has focused mainly on particular characteristics of Board diversity. Hence, there exists a dearth of research pertaining to the aggregate level of diversity within corporate boards. However, this study supports evidence from previous studies. For example, Onuoha et al. (2021) discovered that Board Diversity index has a negative and statistically significant impact on the earnings management of Nigerian-listed companies. This

finding was also reported by Hoang et al. (2017), who examined diversity-in-boards indices and earnings quality in Vietnam.

5.5.1.2 The Effect of Board's Surface-level Diversity

The second column of Table 5.8 displays the regression outcomes for Board diversity at the surface level, accounting for industry-country-year fixed factors. The adjusted r-squared is 0.22, which is comparable to the prior result. Research findings indicate a negative association between AEM and the level of demographic diversity within the Board. Put simply, a greater diversity in observable characteristics among the Board is associated with a decrease in earnings management, leading to an improvement in the quality of earnings. As can be seen in Table 5.8, the coefficient of diversity at the surface level is -0.014 (p-value 0.05). It suggests that the absolute value of abnormal discretionary accruals will fall by approximately 1.4% of lagged total assets if Board diversity increases by 1%. Therefore, the second hypothesis, H2a1, is accepted in this instance.

This finding is consistent with that of Kouaib and Almulhim (2019), who discovered that boardroom composition diversity (gender and nationality) is negatively related to accruals-based earnings management. Nonetheless, earlier research has revealed no evidence of Board demographic diversity on earnings management [e.g. Augustine Enofe et al. (2017)]. In addition, a number of examples of prior research have shown mixed findings of Board diversity at the particular surface level with regard to AEM. For example, Hashim and Ahmed (2019) and Rojana and Yang (2019) found that age diversity, nationality diversity, and ethnicity diversity have a significant effect on earnings quality, but gender diversity does not. This may be due to the fact that only their individual effects on earnings quality have been studied, as opposed to their combined effects. In this current research, the empirical finding also supports resource dependence theory, which posits that increased questioning, critiquing, advising, and counselling associated with diversity-in-board can enhance a company's moral or ethical development (Labelle et al., 2010). Therefore, it is possible that Board diversity can improve the quality of earnings (Hoang et al., 2017).

5.5.1.3 The Effect of Board's Deep-level Diversity

The regression results for Board diversity at the deep level with industry-country-year fixed effects can be found in the third column of Table 5.8. Human capital theory states that an individual's talent, background, and other attributes increase their creative and cognitive abilities, which benefit the group and organisation. This study's finding indicates a negative relationship between Board diversity and the absolute value of discretionary accruals, but it is not statistically significant. Consequently, hypothesis 3a1 is likewise rejected. In accordance with the present results, previous studies have demonstrated that Board diversity at a deep level — education, expertise and experience diversity — does not appear to influence the practice of earnings management (Abdullah & Ismail, 2016; Li & Wahid, 2018; Okaily et al., 2019; Rojana & Yang, 2019). The empirical findings of the latter works also indicate a weak relationship between Board diversity and accruals earnings management. Although aggregate Board diversity — at a deep level — was found to have no link with the absolute value of abnormal discretionary accruals, the individual effects of diversity may have a considerable impact on AEM. The following sections will provide an analysis of these outcomes, under the term 'supporting tests'.

Board's Gender Diversity

Regression analysis suggests a negative relationship between Board gender diversity and the absolute value of discretionary accruals (column 4 of Table 5.12). Contrary to expectation, there is no statistically significant relationship between these two variables in this study. There may be a lack of evidence because other governance mechanisms — such as the diversity of the Board in terms of functional backgrounds, education, age, tenure, and others — can be used to enhance CG practises and hence improve earnings quality.

Board's Age Diversity

The result for Board age diversity shown in Table 5.8, column 5, suggests that the active monitoring and advisory hypothesis is provided in this study is accepted at the 10% level of statistical significance (coefficient -0.023). This result may be explained by the fact that younger and older Board members can offer distinct ways of thinking and viewpoints that result in successful decision-making, hence enhancing the quality

of financial information. Hence, the primary rationale for supporting the notable link between the surface-level diversity of the Board and AEM is in the aspect of age, rather than gender diversity. This assertion is supported by the statistically significant coefficients associated with these variables, as presented in Table 5.8.

Board's Education Diversity

The result for Board education diversity is contrary to expectation. The education diversity coefficient is 0.009, which is not statistically significant at any traditional level. This current study's results may be explained by the fact that listed companies may prefer a more homogenous Board if director members have advanced degrees rather than a diverse group of people with varying levels of education. Directors with a higher level of education typically have more intellectual capacity, creative ideas, and unique perspectives to handle challenging situations and give the boardroom with useful strategic techniques to enhance Board task performance (Makhlouf et al., 2018; Westphal & Milton, 2000).

Board's Tenure Diversity

The outcome of the regression analysis shown in column 7 of Table 5.8 indicates that the tenure diversity of Board members has a negative relationship with the absolute value of discretionary accruals, but the link is not statistically significant. In support of this, Elzahar et al. (2022) discovered that long-tenure directors significantly improve monitoring directors' abilities to control earnings management, but short-tenure directors are not statistically significant. Hence, it demonstrates that the longer a monitoring director serves on the Board, the more knowledge he or she gains about the accounting processes of their firms. This has the implication that Board of the company may not need to be very diverse in terms of tenure.

Board's Experience and Expertise Diversity

Both agency theory and resource dependence theory suggest that a diverse set of perspectives and experiences on the Board can help it better oversee and provide advice to the top management. Regression analysis results shown in Table 5.8, column 8, reveal a negative relationship between the diversity of Board expertise and experience and the absolute value of discretionary accruals. Diversity on the Board

has a statistically significant coefficient of -0.149 at the 1% level. This finding is consistent with those of Cohen et al. (2014) and Puat Nelson and Devi (2013), who discovered that director members connect firms with external resources, such as expertise and experience in finance, accounting, and other fields, can assist the firm in gaining a competitive advantage, particularly with regard to the quality of financial reporting.

Therefore, according to the findings shown in Table 5.8, it is evident that the cognitive aspect of Board diversity, particularly in terms of experience and expertise diversity, has a considerable impact on AEM. This is supported by the significant coefficients seen in relation to unobservable Board diversity. In summary, the comprehensive dimensions of Board diversity have the potential to mitigate the extent of AEM. This aligns with the implementation of an active monitoring mechanism in accordance with the principles of agency theory. This finding can also be explained by resource-dependent theory, which posits the importance of generating diverse perspectives within the boardroom, as discussed in Chapter 3.

5.5.1.9 The Findings of Control Variables

Based on prior research and as outlined in Chapter 4, the analysis includes seven control variables that are also likely to influence AEM. First, market capitalisation, which represents the company's size, has a statistically significant negative impact on AEM, with its coefficient negative at -0.008. Second, a negative link was observed between the return on assets of the firm and the practice of AEM. Discretionary accruals are statistically significant at the 1% level, and their coefficient is negative (-0.060), as shown in Table 5.8. The finding indicates that a larger company is less likely to engage in earnings management. This might be the case since large companies maintain their reputation and credibility and draw in various stakeholders. In this case, this study's result is similar to previous findings (Gull et al., 2018; Kyaw et al., 2015; Okaily et al., 2019; Onuoha et al., 2021; Triki Damak, 2018; Waweru & Prot, 2018; Zalata et al., 2021).

Thirdly, the Z-score coefficient is -0.002 and statistically significant at the 1% level. This implies that companies with a lower probability of bankruptcy are less likely to engage in earnings management. As such, distressed companies engage in higher

earnings management. This current study's finding is consistent with other researchers (Jaggi & Lee, 2002; Rakshit & Paul, 2021; Rosner, 2003), who found that financially distressed firms are engaged in AEM practices.

Considering the accounting standard utilised by the company, table 5.8 demonstrates a negative relationship between IFRS and discretionary accruals; the IFRS coefficient is around -0.070 and statistically significant at the 5% level. In other words, the companies applying for IFRS seem less likely to adopt earnings management approaches. This is consistent with prior evidence, for example, Kouaib and Almulhim (2019) and Zéghal et al. (2011). However, the findings of the OLS estimation with the industry-country-year fixed effects provided in Table 5.8 indicate that neither firm age nor firm growth nor Big4 auditors are associated with AEM. These results are in agreement with other studies (Agrawal & Chatterjee, 2015; Khan et al., 2022; Orazalin, 2019; Sial et al., 2019; Zalata et al., 2021).

5.5.2 Multiple Regression Analysis for Real Earnings Management

Table 5.9 displays the results of testing Hypotheses 1a2, 2a2, and 3a2 using REM3 as the dependent variable and Board diversity as the explanatory variables (Models 4.2 in Chapter 4).

Table 5. 9 Multiple Regression Analysis for Real Earnings Management

The table presents fixed-effects regressions of Board diversity where the dependent variable is real earnings management (REM). All variables are defined in Appendix A. All explanatory variables are lagged by one year in order to avoid simultaneous problems. Standard errors are also clustered at the firm level and are reported in parentheses. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		-0.065	-0.034	-0.020	0.002	-0.024	-0.006	0.001	-0.036
		(0.257)	(0.257)	(0.257)	(0.256)	(0.257)	(0.257)	(0.257)	(0.267)
Independent Variables									
DIVERSITY	(-)	0.030***	0.052***	0.014	0.064***	0.036	0.012	0.015	0.045
		(0.010)	(0.014)	(0.014)	(0.018)	(0.026)	(0.033)	(0.017)	(0.088)
Control Variables									
SIZE		-0.029***	-0.029***	-0.029***	-0.029***	-0.029***	-0.029***	-0.029***	-0.029***
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
AGE		0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA		-0.123***	-0.123***	-0.123***	-0.124***	-0.123***	-0.123***	-0.123***	-0.123***
		(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
GROWTH		-0.005	-0.006	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
ZSCORE		-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
IFRS		-0.259***	-0.262***	-0.257***	-0.262***	-0.258***	-0.257***	-0.257***	-0.257***
		(0.061)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)
BIG4		-0.136***	-0.136***	-0.135***	-0.137***	-0.134***	-0.134***	-0.135***	-0.134***
		(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		13522	13522	13522	13522	13522	13522	13522	13522
R-Squared		0.313	0.313	0.312	0.313	0.312	0.312	0.312	0.312
Durbin-Watson		2.162	2.162	2.161	2.163	2.161	2.161	2.161	2.161
F-Stat		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

5.5.2.1 The Effect of the Board's Aggregate-level Diversity

Table 5.9 displays the results of the fixed effects robust model, which employs clustered standard error to account for certain assumption violations. In the first column of the table, it is observed that Model 4.2, which corresponds to hypothesis 1a2, exhibits an adjusted r-squared value of 0.31. This shows that the Board diversity and control variables explain 31% of the variance in the REM of the sample's listed companies. Sixty-nine percent of the variance can be accounted for by other factors. The F-statistic yields a p-value of less than 0.01, suggesting that the overall model, encompassing all predictor variables, is capable of explaining a substantial proportion of the variability observed in the dependent variable.

Based on the hypothesis posited in Chapter 3, it is hypothesised that there exists a negative relationship between Board diversity and REM. Contrary to expectations, the outcome for Board diversity at the aggregate level shown in Table 5.9 does not support hypothesis 1a2. The diversity of the Board is statistically significant at the 1% level, with a coefficient of 0.030. In other words, the greater the diversity of the Board, the greater the management team's involvement in REM. Consequently, the 1a2 hypothesis is rejected. This current research's result agrees with that of Rojana and Yang (2019), who revealed that the tenure of the top management team had a positive effect on REM. Correspondingly, Ghaleb, Al-Duai, et al. (2020) discovered that directors with legal expertise are significantly and positively associated with real earnings manipulation.

However, this study's finding is contrary to previous studies, which have suggested that Board industry expertise can reduce REM (Faleye et al., 2017). In a similar vein, Ghaleb, Kamardin, et al. (2020) observed that directors with financial expertise can lower the amount of REM, but the relationship between these factors is not statistically significant. On the same page as gender diversity, it was found to be negatively and significantly associated with REM, as Ghaleb et al. (2021) and Ramadan et al. (2021) discovered.

This current study's results may be explained by the fact that, unlike previous research, this study measures Board diversity as a whole instead of focusing only on specific components. Also, previous research studied the characteristics of the Board without

considering whether the Board should be diverse or not. Hence, few prior studies can be compared to this current study. Additionally, a possible explanation for this present research's findings may be the trade-off between AEM and REM, which will be discussed in the following section.

5.5.2.2 The Effect of Board's Surface-level Diversity

As proposed by hypothesis 2a2, increasing the surface diversity of the Board is predicted to reduce the likelihood of REM. However, the result presented in column 2 of Table 5.9 is inconsistent with the prediction. The coefficient of the Board's diversity at the surface level is positive (0.052) and significant at the 1% level. This research's finding contradicts prior evidence (Almashaqbeh et al., 2019; Ghaleb et al., 2021; Janahi et al., 2022; Kouaib & Almulhim, 2019; Li et al., 2021; Mgammal, 2022; Ramadan et al., 2021; Sial et al., 2019). Such research illustrates the negative relationship between Board diversity and REM. However, it may be argued that the negative findings were due to the fact that the previous researchers only examined specific types of diversity on Boards, namely gender or age, whereas this current research investigated the overall diversity of Boards (surface level). These results should therefore be interpreted with caution.

Moreover, this current study's finding corresponds to other studies (Anh & Khuong, 2022; Debnath et al., 2019; Ghazali et al., 2019; Khan et al., 2022). They discovered a positive link between gender diversity and real activity manipulation. In addition, Al-Absy (2022) investigated the surface level of Board diversity and discovered inconsistent effects of each attribute of the Board chairman on REM. In their analysis, it appears that the characteristics of the Board chairman are ineffective in reducing REM, with the exception of the Board chairman's age. Nevertheless, the results may alter if the Board chairperson is a female director. It is possible that different outcomes can be attributed to the fact that there is no unified CG system that works for all countries. As a result, each country should design their Board structures in a way that considers its unique economic, political, legal, and institutional situations (Attia et al., 2022).

5.5.2.3 The Effect of Board's Deep-level Diversity

According to hypothesis 3a2, REM should be negatively related to Board diversity at the deep level. The coefficient of the Board's deep-level variety shown in Table 5.9, column 3, is positive (0.014) but statistically insignificant at all conventional levels. In contrast to the evidence presented by Faleye et al. (2017) and Ghaleb, Kamardin, et al. (2020), whose findings indicate that a higher level of Board diversity restricts real earnings manipulations, this current finding demonstrates that a higher level of Board diversity has no effect on real earnings manipulations. Nonetheless, the findings of this study are similar to those of Al-Absy (2022), who discovered no significant effect of Board tenure on REM. Zalata et al. (2021), in the same vein, found no statistically significant link between the presence of women on Boards with relevant financial experience and the manipulation of real earnings. It seems to be that accruals and real earnings management appear to be unaffected by the Board diversity at the deep level. This current research will therefore go into the specifics of each Board characteristic, with findings described in the following section.

Board's Gender Diversity

The result given in column 4 of Table 5.9 contradicts this study's expectation because the coefficient of Board gender diversity is positive (0.064) and statistically significant at the 1% level. Put another way, a more gender-diverse Board means the management team is more committed to achieving REM. A possible explanation for this might be that managers favoured REM over discretionary accruals because it is more difficult to identify manipulation of real earnings than accruals (Graham et al., 2005). This finding is supported by the outcomes of the accruals model analysis, which indicate that gender diversity has the potential to restrict the practice of AEM. Therefore, the Board would opt to make a trade-off between real activity manipulation and accruals earnings management in order to meet shareholders' expectations and manage the operational process. The analysis of trade-offs will be addressed in the subsequent section.

Board's Age Diversity

According to the findings in Table 5.9, specifically in column 5, it has been observed that an age-diverse Board has a positive effect on REM. The age diversity coefficient

is positive (0.036) and statistically insignificant at all levels of confidence. However, these findings correspond with previous research, which demonstrated that Board age diversity had a detrimental impact on task performance, resulting in a decline in firm performance [e.g. Ellwart et al. (2013), Hagendorff and Keasey (2012) and Talavera et al. (2018)].

Board's Education Diversity

In column 6 of Table 5.9, the determinants of Board education diversity on the manipulation of real earnings are described. In relation to the degree of REM, the coefficient on education diversity is positive (0.012) but statistically insignificant. While the findings of this study did not provide evidence to support the hypothesis, it is possible to offer a logical explanation for this outcome. It is plausible that the different levels of REM can be attributed to the application of professional education backgrounds by Board members, who strategically select methods to manipulate earnings. This study's result agrees with Chiang et al. (2016)'s, who discovered a positive correlation between the Board's educational backgrounds and REM. Although a positive relationship was observed between the presence of educational diversity on Boards and REM, it should be noted that this link did not reach statistical significance. The findings are consistent with other researchers such as Janahi et al. (2022) and Rojana and Yang (2019).

Board's Tenure Diversity

The observed results for the diversity of Board tenure, as presented in column 7 of Table 5.9, do not align with the expected outcomes of this study. The Board's diversity coefficient is 0.015, which is not statistically significant at any conventional level. Possible explanations for these results include the fact that previous research concentrated on the average tenure of director members without considering their diversity. The combination of longer *and* shorter tenure in the boardroom appears to improve the quality of financial reporting, despite the current analysis not providing evidence on Board tenure diversity affecting REM. This will be further discussed in the following regression analysis.

Board's Experience and Expertise Diversity

The result of the Board's diversified experience and expertise is illustrated in the final column of Table 5.9. The coefficient on Board diversity is positive (0.045) but statistically insignificant, showing that there is no relationship between Board experience and expertise diversity and REM. However, these present findings are comparable with other researchers (Ghaleb, Kamardin, et al., 2020; Janahi et al., 2022; Khan et al., 2022; Rojana & Yang, 2019; Zalata et al., 2021), who found no relationship between these two variables. This could be explained by the trade-off effect between accruals and real earnings management. As can be seen in the final column of Table 5.8, the relationship between Board experience/expertise diversity and AEM is negatively significant. In the following part, the findings of the trade-off regression will be discussed.

In summary, the influence of Board diversity on earnings management can be characterised as follows: Board diversity has a negative impact on AEM, whereas conversely, it demonstrates a positive impact on REM. Further investigation is needed to explore the inverse link identified in this study, which could perhaps be attributed to the trade-off effect between accruals and real earnings management.

Another notable discovery in this part is the influence of demographic attributes of directors on earnings management, which surpasses the impact of cognitive diversity within the Board. This aligns with the viewpoint of other academics who have highlighted the significance of incorporating individuals from varied demographic backgrounds within a group, as it facilitates the generation of successful ideas and decisions (Sanad et al., 2020). While CG guidelines do not mandate demographic characteristics diversity, it is widely seen as a crucial element in protecting stakeholders' interests (Labelle et al., 2010). Furthermore, it has been seen that directors with diverse demographic characteristics exhibit greater levels of independence (Carter et al., 2003) , which subsequently results in increased monitoring of the management team. Previous research has predominantly focused on measuring statutory Board diversity (such as independent directorships and audit committee membership) while neglecting demographic diversity. These studies show that statutory Board diversity alone is not sufficient to control managers' opportunistic

behaviour (Fama & Jensen, 1983). Therefore, results from this current study suggest a need for further research in this field.

5.5.2.9 The Findings of Control Variables

The results of the OLS estimate shown in Table 5.9 indicate that the control variables of the REM model share the same effect as the AEM model. At a significance level of 1%, the company's size and return on assets have a negative relationship with the aggregate REM. In particular, this research finding indicates that larger organisations are less likely to be involved in REM. These negative links are also reported in prior research (Al-Absy, 2022; Attia et al., 2022; Debnath et al., 2019; Ghaleb, Kamardin, et al., 2020; Ghaleb et al., 2021; Ghazali et al., 2019; Khan et al., 2022; Li et al., 2021; Ramadan et al., 2021; Yuan et al., 2023; Zalata et al., 2021). In addition, Table 5.9 demonstrates a positive relationship between the age of a company and aggregate REM. Opportunities for earnings management rise as a company's age increases. Accordingly, this study supports evidence from previous studies [e.g. Ghaleb et al. (2021), Khan et al. (2022), Sial et al. (2019) and Yuan et al. (2023)].

Regarding the accounting standards a corporation applied, IFRS was found to have a negative relationship with real activity manipulation, which is similar to the discretionary accruals model. The result confirms that firms adopting IFRS tend to have lower REM. This finding was also reported by Hasan et al. (2022), Sellami and Fakhfakh (2013) and Setiawan (2020). In addition, strong support has been revealed indicating a negative relationship between the Big Four auditing firms and the practice of real earnings manipulation. This is to say that companies that have been audited by one of the Big Four auditing firms are less likely to engage in earnings management. This finding is consistent with other studies (Al-Absy et al., 2019; Chiang et al., 2016; Ghaleb, Al-Duai, et al., 2020; Ghaleb et al., 2021; Hasan et al., 2022; Li et al., 2021; Yuan et al., 2023).

5.6 Robustness Tests: The Effect of Board Diversity on Earnings Management

This section displays and discusses the results of various robustness analyses. This section's primary purpose is to determine the sensitivity or robustness of the findings arising from the initial regression analysis to alternative estimations and models. Particularly, this section is aimed at achieving the following three goals. First, whether

the main findings are robust against alternative earnings management measures. Second, whether the OLS's main results are sensitive to fixed or random effects. Lastly, the trade-off between accruals and real earnings management is investigated.

5.6.1 Robustness Tests on Accruals Earnings Management Model

The primary findings, which were previously presented in Table 5.8, and the robustness results are reported in Appendix B from Table B1 to Table B2 to simplify comparisons between the main and robust findings. As evidenced by the magnitude of the coefficient and the level of significance, these analyses demonstrate that the main results are robust, particularly at the aggregate level of Board diversity. Put simply, Board diversity can lower AEM in general. This section provides a thorough analysis of these findings.

5.6.1.1 Results Based on Alternatives Accruals Earnings Management Proxy

As previously mentioned in Chapter 4, the Modified Jones (1995) Model is well-known and generally applied in CG and accounting studies to analyse AEM. However, the Modified Jones model has been criticised and may not be a solution to the problem; it has also had difficulty identifying earnings management on occasion (Chen, 2012; DeFond, 2010; Islam, 2011). Consequently, this current study implements two alternative proxies of AEM. First, the absolute value of abnormal discretionary accruals based on the Modified Jones (1995) model, which is then developed into the Performance-matched Model by Kothari et al. (2005) and Raman and Shahrur (2008), is called AEM2. Second, the quality of accruals presented by Dechow and Dichev (2002), which is modified by Francis et al. (2005) and McNichols (2002), is called AEM3.

The AEM2 and AEM3 are substituted for the AEM1 in equation 4.1 (Chapter 4), and the results are shown in Table B1 (Appendix). The adjusted r-square of Model 2 for AEM2 employing the adjusted Performance-Matched Model is 22 percent. In comparison, the adjusted r-square of Model 3 for the adjusted accruals quality model used to compute AEM3 is 25 percent. These adjusted r-square values are comparable to the adjusted r-square reported by Baseline Model (AEM1), 22 percent (see Table 5.8). In addition, the results demonstrate that the use of different AEM proxies does

not materially change the primary findings. Put simply, alternative AEMs provides comparable results to AEM1 in terms of coefficient magnitude and significance level.

In particular, Board diversity at the aggregate level continues to have a negative and significant relationship with AEM, as measured by AEM2 and AEM3. The level of significance is 10% (p-value 0.10), which is the same as the outcome of Board diversity revealed in the primary study. Other Board diversity variables - which are surface-level, experience and expertise diversity - remain unchanged in terms of their signs of coefficients and their levels of significance. In addition, AEM3 was found to have significant negative relationships with deep-level, gender, and education diversity. It is interesting to note that none of the AEM models can identify a link with tenure diversity. However, overall, it is possible to conclude that the effect of Board diversity is qualitatively comparable to the primary research and robust to the alternative proxies of AEM.

As indicated in Table B1's Panel control variables, regardless of small differences in the magnitude of the coefficients, significance level, and direction of the coefficients for AEM2 and AEM3, the findings remain mostly the same when AEM1 is tested. First, results based on the AEM2 and AEM3 models indicate a statistically significant and negative relationship between company size, return on assets and AEM, which are consistent with the initial discovery. Second, the AEM3 model's results uncovered additional evidence for control variables. A strong and negative link between firm age and AEM was discovered, suggesting that opportunities for engaging in earnings management decrease as a company's age increases.

Third, a positive link between firm growth and AEM3 was discovered. This result is in line with previous studies (Khan et al., 2022; Okaily et al., 2019). Contrary to expectations and initial findings, it was discovered that AEM3 has a significant positive link with IFRS and the big four auditing companies. These findings were also reported by Chiang et al. (2016) and Gull et al. (2018). This could be explained by the fact that both IFRS and US GAAP can influence earnings management. In addition to the big four auditing firms, other auditing firms can also impact how companies participate in earnings management. It may be that the accounting and auditing standards used by listed companies around the world are becoming harmonised.

Hence, accounting factors in terms of accounting standards and audit quality of sample companies influence earnings management in the same manner.

5.6.1.2 Results Based on Random Effects Model

According to the pooled OLS estimation, analyses are undertaken where firm characteristics vary between firms but remain constant over time (Gujarati, 2009). In this regard, unobserved firm characteristics might impact earnings management because of differences in the difficulties and opportunities faced by businesses. Hence, one might apply either a fixed or random effects model to examine the extent to which the OLS estimation results are sensitive to firm characteristics. The Hausman test (Hausman, 1978) is used to determine the suitability of the fixed effects model versus the random effects model. The null hypothesis of this test is that the random effects model is suitable, whereas the alternative hypothesis is that the fixed effects model is adequate.

Table 5. 10 Hausman Test: Accruals Earnings Management

This table shows the Hausman Test to determine which of the fixed-effects and random-effects most adequately explains the study results.

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	195.3967	9	0

According to Table 5.10[27], the statistically significant result indicates that the null hypothesis can be rejected. In order to control for unobserved firm characteristics, the fixed-effects model was employed in the investigation, as shown in Table 5.8 in the preceding section. The present study primarily examines fixed-effects estimations, but it also includes the results of the random effects model and OLS analysis in Table B2 (Appendix) to provide a comparative analysis. As shown in Table B2, the provided results for both analyses (OLS and FE) are similar in terms of the size of the coefficient and level of statistical significance. Overall, the primary analysis results employing Fixed-effects estimation are consistent with the Random-effects model.

5.6.2 Robustness Tests on Real Earnings Management Model

This part implements alternative proxies of real earnings management and estimating techniques to assure the validity of the findings given in the main analysis. The main

[27] This outcome is derived from the diversity at the aggregate level. However, other Board diversity variables produce similarly and statistically significant results.

findings are shown in Table 5.9, while the robustness results are presented in Tables C1 and C2 in Appendix. As indicated by the magnitude of the coefficient and the level of significance, these analyses demonstrate that the main findings are reliable, notably between REM1 and REM3. In essence, Board diversity increases real earnings management. This section offers a comprehensive examination of the findings.

5.6.2.1 Results Based on Alternatives Real Earnings Management Proxy

This study employs two alternative proxies for REM: the sum of abnormal cash flow from operations and abnormal discretionary expenses (REM1), and the sum of abnormal production costs and abnormal discretionary expenses (REM2). Table C1 illustrates that the important findings presented in the Model, with REM1 as the dependent variable, exhibit qualitative similarity to the results reported in the primary analysis (Table 5.9).

The positive impact of Board diversity on the composite of abnormal cash flow from operations and abnormal discretionary expenses is influenced by three specific factors: the aggregate level, surface level, and gender aspects. In addition, the coefficients and significant results of the control variables in the REM1 Model, as presented in Table C1, are qualitatively similar to the main finding.

In contrast, the findings presented in Table C1 indicate limited support for the relationship between Board diversity and real earnings manipulation when REM2 is considered as the dependent variable. In this case, the significant effect of such a variable on REM2 disappears. Specifically, all characteristics of Board diversity with the exception of age diversity, did not affect REM2. This implies that Board diversity is unrelated to real earnings manipulation through production activities. This result reflects other studies (Khan et al., 2022; Li et al., 2021; Ramadan et al., 2021), who also found that Board gender diversity had no significant relationship with real earnings manipulation in overproduction. In the same vein, Khan et al. (2022) find no evidence of Board expertise diversity on real activity manipulation by abnormal production cost.

In general, the findings of the primary and robust analyses are comparable in terms of real earnings manipulations through abnormal operating cash flow and abnormal discretionary expenses, as both analyses predict a similar sign, magnitude, and level

of significance in any Board diversity characteristics. One potential rationale for the absence of evidence for REM2 in this study may be attributed to the inappropriate calculation of the aggregate REM proxy, wherein abnormal cash flow from operations and abnormal production costs are combined. The reason for this is because both of these activities result in a decrease in cash flow from operations. Therefore, the inclusion of these items may lead to a duplication of the result.

5.6.2.2 Results Based on Random Effects Model

The robust results of regressing REM on Board diversity and control variables are presented in Table C2 (Appendix). Even though the Hausman test depicted in Table 5.11 is performed and the outcome favours Fixed-Effects Estimation (Prob>chi2 = 0.0000), this section compares the results of random effects and OLS estimations.

Table 5. 11 Hausman Test: Real Earnings Management

This table shows the Hausman Test to determine which of the fixed-effects and random-effects most adequately explains the study results.

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	226.0352	9	0

As shown in Table C2 (see Appendix), in general, the findings of the primary and robust analyses are comparable, as the signs for the coefficient, magnitude of coefficient, and level of significance are identical, particularly at the aggregate level of Board diversity. To clarify, the findings identify a significant and positive link between the combined Board diversity index and REM. Although minor sensitivity in coefficient, magnitude, and significance level can be observed, these results show that the main findings are robust, with respect to unobservable firm characteristics.

5.6.3 The Trade-Off between Accruals and Real Earnings Management

According to Table 5.8, there is a significant negative relationship between Board diversity and AEM. As shown in Table 5.9, however, diversity on the Board has a significant positive impact on REM. This is a noteworthy result of the investigation. Thus, this section offers more evidence concerning the trade-off between accruals and real earnings management. This current study may be explained by the fact that sample companies may switch between earnings management strategies, shifting from accruals earnings management to real earnings management. These results provide additional evidence for the notion of a substitution effect between AEM and REM

(Chang et al., 2018; Cohen et al., 2008; Cohen & Zarowin, 2010; Enomoto et al., 2018; Ferentinou & Anagnostopoulou, 2016; Ipino & Parbonetti, 2016; Mnif & Ben Hamouda, 2020).

Table 5. 12 Multiple Regression Analysis for Trade-off: Adding REM[28] into AEM Model

The table shows fixed-effects regressions of Board diversity, with accruals earnings management as the dependent variable and real earnings management as an additional explanatory variable. All variables are defined in Appendix A. All explanatory variables are lagged by one year in order to avoid simultaneous problems. Standard errors are clustered at the firm level and are reported in parentheses. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		-0.005	-0.052	-0.024	-0.078	-0.059	0.011	-0.078	0.379
		(0.394)	(0.393)	(0.394)	(0.393)	(0.394)	(0.394)	(0.393)	(0.409)
Independent Variables									
DIVERSITY	(-)	-0.033**	-0.037*	-0.035*	-0.045*	-0.027	-0.138***	0.006	-0.542***
		(0.015)	(0.022)	(0.022)	(0.028)	(0.039)	(0.050)	(0.025)	(0.135)
Control Variables									
REM	(-)	-0.124***	-0.124***	-0.125***	-0.124***	-0.125***	-0.125***	-0.125***	-0.125***
		(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
SIZE		-0.031***	-0.031***	-0.032***	-0.031***	-0.031***	-0.031***	-0.031***	-0.031***
		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
AGE		-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA		-0.665***	-0.665***	-0.665***	-0.665***	-0.666***	-0.666***	-0.666***	-0.665***
		(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
GROWTH		0.011**	0.011**	0.011*	0.011*	0.011*	0.011*	0.011*	0.011**
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
ZSCORE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
IFRS		0.244***	0.246***	0.241***	0.245***	0.243***	0.242***	0.242***	0.233**
		(0.094)	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)
BIG4		0.098***	0.097***	0.097***	0.097***	0.096***	0.097***	0.096***	0.097***
		(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		13522	13522	13522	13522	13522	13522	13522	13522
R-Squared		0.258	0.257	0.258	0.256	0.257	0.258	0.257	0.258
Durbin-Watson		2.360	2.360	2.360	2.360	2.361	2.359	2.361	2.360
F-Stat		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

[28] This test added REM3 into the AEM model, yielding comparable outcomes to the inclusion of REM1 and REM2 in the AEM model.

In this regard, this study provides a trade-off analysis by adding REM as one of the predictor variables into the AEM models in the following equation:

Equation 5.1: Baseline trade-off between AEM and REM Model

$$\begin{aligned} AEM_{i,j,t} = {} & \beta_0 + \beta_1(DIVERSITY_{i,j,t-1}) + \beta_2(REM_{i,j,t}) + \beta_3(SIZE_{i,j,t-1}) + \beta_4(AGE_{i,j,t-1}) \\ & + \beta_5(ROA_{i,j,t-1}) + \beta_6(GROWTH_{i,j,t-1}) + \beta_7(ZSCORE_{i,j,t-1}) + \beta_8(IFRS_{i,j,t-1}) \\ & + \beta_9(BIG4_{i,j,t-1}) + Industry\ dummy_k + Year\ dummy_t + Country\ dummy_j \\ & + \varepsilon_{i,j,t-1} \end{aligned}$$

Table 5.12 displays the outcomes of such a model specification. The negative coefficients of REM[29] (coefficient -0.124, $p < 0.01$) indicate that real and accruals earnings management may be substituted in this study. Due to the difference in timing between AEM and REM, managers will likely adjust the degree of accruals manipulation to the level of real activities management. In particular, manipulation of real activities through operating policies may occur within the accounting period, whereas manipulation of accruals through accounting estimations often occurs at the end of the accounting period. Therefore, these two strategies of earnings management may be substituted, with the extent of real earnings management determining the extent of accruals manipulation (Choi et al., 2018; Cohen et al., 2008; Zang, 2011).

Furthermore, Graham et al. (2005) support the notion that managers prefer real earnings management activities over accruals-based earnings management. This is because REM can be indistinguishable from optimal business decisions, making their detection more difficult. Table 5.12 also shows that the impact of explanatory variables — in terms of the magnitude of coefficient and significance level — on AEM remains unchanged despite the inclusion of REM. It suggests that the alternative model specification does not alter the effect of Board diversity on AEM.

This current study also provides robustness tests by examining the possibility of a differential impact of Board diversity on AEM and REM. To analyse the trade-off between AEM and REM, the relationship between the ratio of REM to AEM and Board diversity will be investigated. In accordance with Enomoto et al. (2018) and

[29] Adding REM1 and REM2 to the trade-off equation results in the same outcomes as REM3.

Evans et al. (2014), this current study computes the ratio of REM to AEM and regress it on Board diversity in the following equation:

Equation 5.4: Robust trade-off between AEM and REM Model

$$\begin{aligned}\mathrm{RATIOEM}_{i,j,t} = {} & \beta_0 + \beta_1(\mathrm{DIVERSITY}_{i,j,t-1}) + \beta_2(\mathrm{SIZE}_{i,j,t-1}) + \beta_3(\mathrm{AGE}_{i,j,t-1}) + \beta_4(\mathrm{ROA}_{i,j,t-1}) \\ & + \beta_5(\mathrm{GROWTH}_{i,j,t-1}) + \beta_6(\mathrm{ZSCORE}_{i,j,t-1}) + \beta_7(\mathrm{IFRS}_{i,j,t-1}) + \beta_8(\mathrm{BIG4}_{i,j,t-1}) \\ & + Industry\ dummy_k + Year\ dummy_t + Country\ dummy_j + \varepsilon_{i,j,t-1}\end{aligned}$$

Where; $\mathrm{RATIOEM}_{i,j,t}$ = The ratio of REM to AEM

When there is a trade-off between AEM and REM as Board diversity increases, the coefficient on Board diversity should be significantly positive. As demonstrated in Table D1 (see Appendix D), Board diversity at the aggregate level has a significantly positive coefficient (coefficient at 0.274, $p < 0.05$). As a result, one may argue that Board diversity has a differential influence on AEM and REM, implying a shift from AEM to REM.

In conclusion, Board diversity is effective in limiting earnings management. Based on the findings of the present study, it can be concluded that the impact of Board diversity on earnings management remains consistent across several proxies used to measure earnings manipulation. Using pooled OLS, fixed-effects, and random-effects estimations, they are also robust to alternative estimation techniques. By incorporating real earnings management as one of the explanatory variables and using the ratio of REM to AEM, the results are also robust to alternative trade-off model assumptions. This implies that AEM and REM exhibit a substitution effect. In the following sections, the moderating effects of Board roles that may influence the link between Board diversity and earnings management will be explored.

5.7 The Interaction Analysis

An interaction effect, also known as a moderating effect, implies that the relationship between two variables depends on the values of a third variable (the moderator). Interaction effects characterise the conditions under which the strength and/or direction of links change, also known as a marginal or conditional effect (Aguinis & Gottfredson, 2010; Berry et al., 2012; Hayes, 2018). However, in reviewing the literature, it is strongly suggested that an unconditional effect model, which in this case is the Baseline Models 4.1 and 4.2, should be individually estimated and excluded

from the conditional model. This implies that the effect of a one-unit change in Board diversity on earnings management is independent of all moderators, as it does not depend on the interaction effect (Brambor et al., 2006; Hayes, 2018). This is the reason why the effect of Board diversity on earnings management was analysed separately as a firm-level analysis in the preceding section.

Regarding the importance of interaction terms, previous researchers suggested that analysts should always include interaction factors when testing a conditional hypothesis. Failing to do so will bias the moderating effect, which may lead to ambiguity in interpretation. As was described in Chapter 3, thus, this study's conditional hypothesis is 'Do Board monitoring and advising functions modify the connection between Board diversity and earnings management?'. The sections that follow describe the interaction effect of Board functions and Board diversity on earnings management.

Moreover, to further clarify the function of the interaction effect, visualisation is required to understand such an effect (Hayes, 2018). Thus, this current study develops a graph of the marginal effect of independent variables on the dependent variable at a particular value of the moderator. The graphical visualisation method can simplify the interpretation of interaction effects, hence eliminating the need for arbitrary categorisations (Lamina et al., 2012).

5.7.1 The Interaction Analysis for Accruals Earnings Management

In the moderating Model 4.3 (Chapter 4), the statistical coefficient of an interaction term indicates whether the effect of a change in Board diversity on AEM varies across moderator levels. The subsequent sections describe the results in response to the proposed hypotheses (H4 and H5), which account for the moderating effect of Board directors' functions.

Table 5. 13 The Moderating Effect of the Board of Director's Roles on the Link between Board Diversity and Accruals Earnings Management

The table shows fixed-effects regressions of Board diversity, with accruals earnings management as the dependent variable and Board roles as moderators. All variables are defined in Appendix A. All explanatory variables are lagged by one year in order to avoid simultaneous problems. Standard errors are clustered at the firm level and are reported in parentheses. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

		Panel A			Panel B		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		0.177	0.066	0.174	0.021	0.009	0.012
		(0.131)	(0.123)	(0.130)	(0.120)	(0.119)	(0.120)
Independent Variables							
DIVERSITY	(-)	-0.050***			-0.010**		
		(0.016)			(0.005)		
SURFACE	(-)		-0.046*			-0.014*	
			(0.027)			(0.008)	
DEEP	(-)			-0.072***			-0.008
				(0.024)			(0.007)
Moderators							
MONIC	(-)	-0.055***	-0.019*	-0.059***			
		(0.018)	(0.011)	(0.018)			
ADVIC	(-)				-0.013	-0.005	-0.025
					(0.016)	(0.010)	(0.016)
Interactions							
*DIVERSE*MONIC*	(+ , -)	0.015***					
		(0.005)					
*SUFRACE*MONIC*	(+ , -)		0.011				
			(0.009)				
*DEEP*MONIC*	(+ , -)			0.024***			
				(0.008)			
*DIVERSE*ADVIC*	(+ , -)				0.005		
					(0.005)		
*SURFACE*ADVIC*	(+ , -)					0.001	
						(0.007)	

Variables	Expected Sign	Panel A			Panel B		
		Aggregate	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
*DEEP*ADVIC*	(+ , -)						0.013*
							(0.007)
Control Variables							
SIZE		-0.008***	-0.008***	-0.008***	-0.008***	-0.008***	-0.008***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
AGE		0.000	0.000	0.000	0.000	0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA		-0.061***	-0.061***	-0.061***	-0.060***	-0.060***	-0.061***
		(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
GROWTH		0.001	0.001	0.001	0.001	0.001	0.001
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
ZSCORE		-0.002***	-0.002***	-0.001***	-0.002***	-0.002***	-0.002***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
IFRS		-0.069**	-0.069**	-0.069**	-0.069**	-0.068**	-0.070**
		(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
BIG4		-0.010	-0.009	-0.010	-0.009	-0.009	-0.010
		(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Country Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Observations		13522	13522	13522	13522	13522	13522
R-Squared		0.222	0.220	0.223	0.223	0.221	0.223
Durbin-Watson		2.404	2.404	2.402	2.403	2.403	2.403
F-Stat		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

5.7.1.1 The Moderating Effect of Board Monitoring Role

As indicated in Panel A of Table 5.13, these findings suggest that Board diversity at any level plays a crucial role in curbing the practices of AEM. Even when the interaction term is considered, the coefficients of Board diversity at the aggregate, surface, and deep levels (β_1 = -0.050, -0.046, and -0.072, respectively) are still negative and statistically significant. As also illustrated in Panel A of Table 5.13, the Board's monitoring function has a negatively significant relationship with AEM, as seen by the negative coefficients of the Board monitoring role. This can be said that the amount of earnings management may be decreased as a result of the Board's monitoring responsibilities.

In addition, Panel A in Table 5.13 demonstrates that the moderator's role in Board monitoring revealed statistical differences. There is a significant difference in AEM when Board monitoring roles are functioning, as shown by the significant interactions of the Board monitoring role with Board diversity. Statistically speaking, the coefficients of interaction term at the aggregate and deep levels of diversity are significant, all other factors being held constant. Consequently, this current study demonstrates that the effect of Board diversity on AEM is contingent on the Board's monitoring function. As stated previously, this current study discovers a negative association between Board diversity and AEM, as well as a negative relationship between Board monitoring role and AEM. However, the moderating effect of the Board's monitoring function is positive and statistically significant, indicating that the interaction between high Board diversity and high Board monitoring function boosted the firm's tendency to engage in AEM. These results suggest that either Board diversity or Board's monitoring functions still have an effect on AEM. It might be said that they serve as substitute roles which will be discussed in the following paragraphs.

A regression model that includes the product of moderating variables is an abstract mathematical representation of one's data that can be more difficult to understand than a model without such a product. And the coefficients of the interaction term are conditional effects that may not have any substantial meaning and are interpreted as a difference between differences that can be hard to figure out without additional

information (Brambor et al., 2006; Hayes, 2018). Thus, Berry et al. (2012), Brambor et al. (2006) and Hayes (2018) suggested that when attempting to interpret a regression model with a product of moderators, a visual of the model can be a significant interpretative aid.

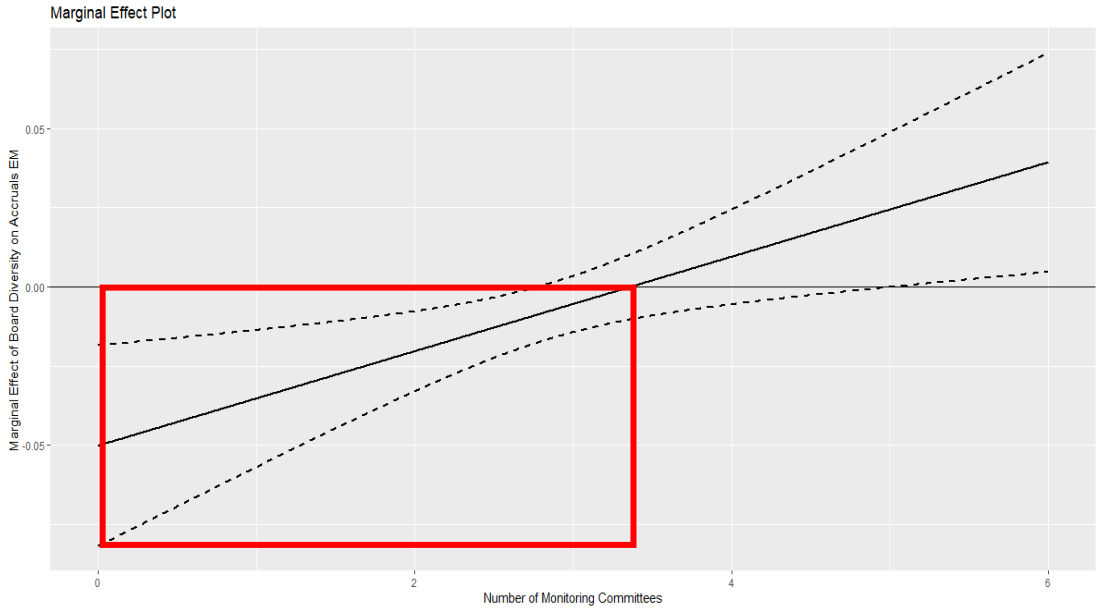
This study uses the 'ggplot2' command provided by the RStudio on Windows version 2023 (RStudio Team, 2023) to generate the marginal effects of the independent variable on the dependent variable $(\beta_1 + \beta_3(\text{MONIC}))$ for each given value of the moderator. These marginal effects are depicted in Figure 5.6. Consistent with past studies, the Board's monitoring role is chosen from a range of values from low (-1SD) to high (+1SD) (Brambor et al., 2006; Hayes, 2018; Preacher et al., 2006). The significance of the moderating effect is determined by the range of the confidence interval (95%).

As depicted in Figure 5.6[30], the interaction term between Board diversity and Board monitoring role is significant since the confidence intervals are either entirely above or below zero (Berry et al., 2012; Brambor et al., 2006; Hayes, 2018). Although Board diversity has the expected negative effect when the Board's monitoring function is small, it has a strong positive effect when the Board's monitoring role is high. This study provides evidence that when the Board's monitoring function is strong, increases in Board diversity result in a substantial increase in AEM, as opposed to the decreases that were expected. Put another way, when there are fewer than three monitoring committees, the effect of Board diversity on earnings management is statistically significant and negative. In contrast, the relationship between Board diversity and earnings management will be positive when Board's monitoring is performed by more than four committees.

[30] This graph was created using AEM1, which gave outcomes similar to those of AEM2 and AEM3.

Figure 5. 6 The Marginal Effect of Board Diversity on Accruals Earnings Management as a Function of Board Monitoring Role

This figure plots the marginal effects of Board diversity on accruals earnings management through full control variables across different levels of Board monitoring role with 95% confidence intervals. The plots are based on Table 5.13. All variables are defined in Appendix A.



In this regard, Figure 5.6 shows that the moderating effect seems to appear at a particular value of the Board's monitoring role. This is a constructed characteristic when the interaction variable comprises two continuous variables (Golder, 2006). According to this logic, Board diversity is only likely to be a constraint on AEM in situations when the Board's monitoring roles are minimal. In this instance, the monitoring roles of the Board and the diversity of the Board serve as ***substitute*** influences on AEM. Under AEM, the results may show that Board diversity changes their structures by serving as an inspector to management.

Another possible explanation for this is that such a Board diversity system may no longer be necessary in circumstances where the firm's monitoring system is in place to limit the potential for AEM. Put simply, managerial discretion over accounting policies is likely to be limited to situations where Board monitoring systems over management are well-defined and implemented. This also accords with other studies, which showed that the Board's monitoring functions — in terms of the Board monitoring committee — play an important and effective role in reducing agency costs, according to agency theory. As a result, it is less likely that a company will

manipulate its earnings (Azmi et al., 2021; Banbhan et al., 2018; Cohen et al., 2014; Faleye et al., 2011; Kapoor & Goel, 2017; Marra et al., 2011; Osma & Noguer, 2007; Srinidhi et al., 2011; Tee, 2019; Triki Damak, 2018; Upadhyay et al., 2014; Waweru & Prot, 2018).

5.7.1.2 The Moderating Effect of Board Advisory Role

Panel B of Table 5.13 reveals that Board diversity plays an important role in reducing AEM, even when the interaction term, Board advisory role, is considered. As shown in Table 5.13, the coefficients of Board diversity at the aggregate and surface levels (β_1 = -0.010 and -0.014, respectively) remain statistically significant and negative. In addition, this study discovers that the Board's advisory function has a negative relationship with AEM, although the connection is not statistically significant.

In contrast to the moderating effect of the Board's monitoring role, Panel B of Table 5.13 demonstrates no evidence of a moderating effect of the Board's advisory role on the link between Board diversity and AEM. To clarify, the estimated interaction coefficient between Board diversity at the aggregate level and Board advisory function is positive and insignificant. However, the interaction coefficient (0.013) between the deep-level Board diversity and the Board advisory function is positive and significant. With regard to the aggregate level of Board diversity, Hypothesis 5a1 (i.e. a larger Board advisory committee strengthens the relationship between Board diversity and AEM) is not supported.

As stated in the estimated coefficients, the Board advisory role has no moderating effect on the relationship between Board diversity and AEM. However, visualisation can be a valuable interpretive tool for comprehending the interaction effect. In this regard, the marginal effects of Board diversity on the AEM for each given value of the moderator are presented in Figure 5.7.

Figure 5. 7 The Marginal Effect of Board Diversity on Accruals Earnings Management as a Function of Board Advisory Role

This figure plots the marginal effects of Board diversity on accruals earnings management through a full control variables across different levels of Board advisory role with 95% confidence intervals. The plots are based on Table 5.13. All variables are defined in Appendix A.

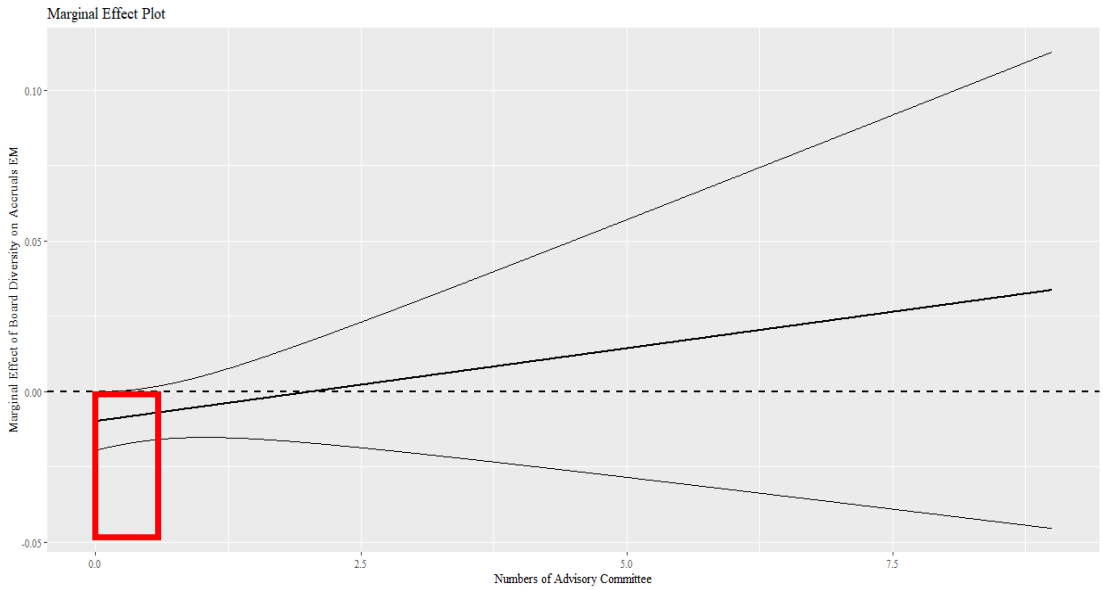


Figure 5.7[31] demonstrates that the interaction term between Board diversity and Board advisory role is not statistically significant, as the confidence bands are neither entirely above nor below zero, confirming the P-value found in Table 5.13. Regardless of statistical significance, it appears probable that Board advisory roles are consistent with Board monitoring roles. To clarify, when the Board's advisory function is greater, increases in Board diversity lead to an increase in AEM, contrary to the expected decreases.

Board diversity is unlikely to be a constraint on AEM unless the Board's advisory roles are relatively low. In this instance, the Board's advisory roles and their diversity serve as substitute influences on AEM. The results may indicate that Board diversity alters their structures by acting as an advisor to management.

Similarly to the role of the Board in monitoring management, a diverse Board may not be necessary if the company has an effective Board advisory mechanism in place. In this way, the possibility of AEM can be reduced. This argument is consistent with the findings of Hsu and Hu (2016) and Reeb and Upadhyay (2010), who discovered that

[31] This graph was created using AEM1, which gave outcomes similar to those of AEM2 and AEM3.

firms with larger advisory Boards have higher-quality earnings and a positive relationship with future firm performance. In addition, according to resource dependency theory (Pfeffer & Salancik, 1978), the advisory Board, which depends on the experience of its members to advise management on the company's strategic direction, is perceived as 'friendly' to the CEO. In this instance, the management team is willing to provide the Board with undistorted company-specific information (Adams & Ferreira, 2007).

As stated in the interaction analysis, this research finding supports the notion of establishing Board committees to enhance Board functions. Notwithstanding the fact that some scholars argue the disadvantages of Board committees. It can be costly in terms of both time and money, for instance, because directors must hold more frequent meetings and companies must pay an additional Board committee fee. Also, they may duplicate some tasks or responsibilities with other teams. Nonetheless, Board committees can also mitigate agency problems between management and shareholders (Ntim, 2013; Reeb & Upadhyay, 2010).

For instance, the audit committee thoroughly oversees the financial reporting processes, thereby reducing information asymmetry. The responsibility of the nominating committee is to find qualified directors to collaborate with other directors. In addition, the remuneration committee determines compensation that is appropriate for directors' performance and does not come at the expense of shareholders. Regarding the Board's advisory role, it can assist the management team in producing value by establishing and maintaining a competitive advantage and enhancing the earnings stream's sustainability (Hsu & Hu, 2016). Moreover, these findings have implications for the 'one size fits all' approach to appointing corporate Boards, which may not necessarily improve earnings quality. This depends on how each company balances Board diversity and Board roles over the management team.

5.7.2 The Interaction Analysis for Real Earnings Management

This section will analyse the findings pertaining to the proposed hypotheses (H4a and H5a) that investigate the potential variation in the impact of a change in Board diversity on REM, based on each of the duties of the Board. The outcomes are displayed in Table 5.14.

Table 5. 14 The Moderating Effect of the Board of Director's Roles on the Link between Board Diversity and Real Earnings Management

The table shows fixed-effects regressions of Board diversity, with real earnings management as the dependent variable and Board roles as moderators. All variables are defined in Appendix A. All explanatory variables are lagged by one year in order to avoid simultaneous problems. Standard errors are clustered at the firm level and are reported in parentheses. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

		Panel A			Panel B		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		-0.038	0.003	0.010	-0.065	-0.036	-0.019
		(0.282)	(0.266)	(0.280)	(0.257)	(0.257)	(0.258)
Independent Variables							
DIVERSITY	(-)	0.038			0.030***		
		(0.035)			(0.011)		
SURFACE	(-)		0.066			0.055***	
			(0.057)			(0.016)	
DEEP	(-)			0.025			0.014
				(0.052)			(0.016)
Moderators							
MONIC	(-)	-0.009	-0.012	-0.010			
		(0.039)	(0.024)	(0.039)			
ADVIC	(-)				-0.001	-0.005	-0.003
					(0.035)	(0.021)	(0.035)
Interactions							
*DIVERSE*MONIC*	(+ , -)	-0.003					
		(0.012)					
*SUFRACE*MONIC*	(+ , -)		-0.005				
			(0.019)				
*DEEP*MONIC*	(+ , -)			-0.004			
				(0.017)			
*DIVERSE*ADVIC*	(+ , -)				-0.001		
					(0.010)		
*SURFACE*ADVIC*	(+ , -)					-0.005	
						(0.016)	

Variables	Expected Sign	Panel A			Panel B		
		Aggregate	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
*DEEP*ADVIC*	(+ , -)						-0.002
							(0.015)
Control Variables							
SIZE		-0.028***	-0.029***	-0.028***	-0.029***	-0.029***	-0.029***
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
AGE		0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA		-0.123***	-0.123***	-0.123***	-0.123***	-0.123***	-0.123***
		(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
GROWTH		-0.006	-0.006	-0.005	-0.005	-0.006	-0.005
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
ZSCORE		-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
IFRS		-0.260***	-0.263***	-0.258***	-0.259***	-0.262***	-0.257***
		(0.061)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)
BIG4		-0.136***	-0.136***	-0.135***	-0.136***	-0.136***	-0.135***
		(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Country Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Observations		13522	13522	13522	13522	13522	13522
R-Squared		0.313	0.313	0.313	0.313	0.313	0.312
Durbin-Watson		2.162	2.163	2.161	2.162	2.162	2.161
F-Stat		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

5.7.2.1 The Moderating Effect of Board Monitoring Role

Panel A of Table 5.14 displays the interaction effect regression results using REM as the dependent variable. The independent variables are Board diversity and the interaction between Board diversity and Board roles. The coefficient of Board diversity at any level remains positive but is not statistically significant, in contrast to the main findings in Table 5.9, which appear positive and statistically significant.

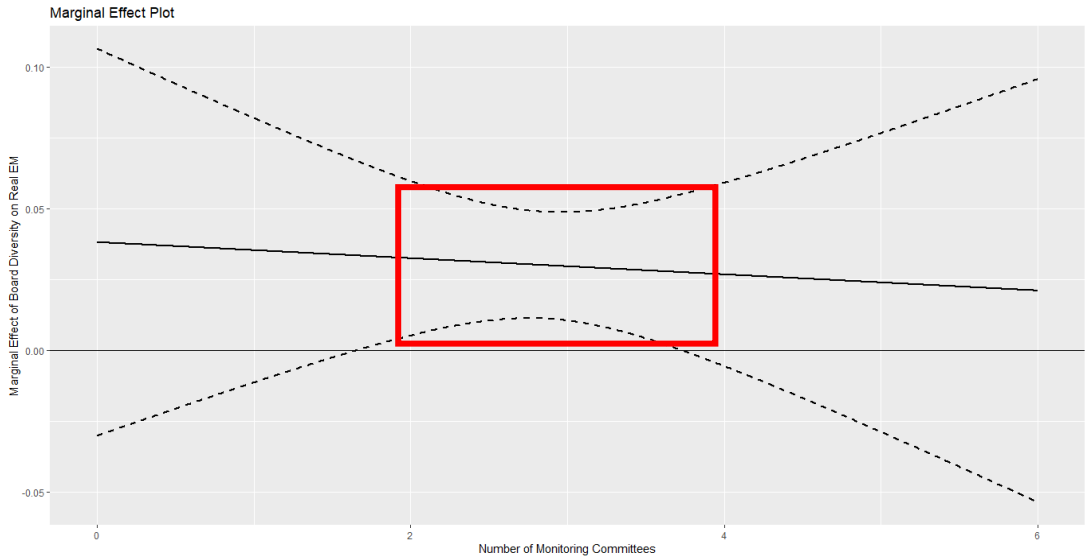
Regarding the Board's monitoring role, this study finds a negative but insignificant association with REM. While the interaction coefficient between Board diversity and the Board monitoring role is negative, it is not statistically significant. Thus, this current study cannot confirm Hypothesis 4a2 (i.e. the relationship between Board diversity and REM is strengthened by larger Board monitoring functions).

Although there is no evidence of the Board's monitoring role as a moderator in the relationship between Board diversity and REM, the coefficients found in this model are worth visualising to comprehend better. This is consistent with Brambor et al. (2006) and Hayes (2018)'s suggestion that the coefficients of the interaction term are conditional effects that may require additional information for analysis.

As highlighted in the red box in Figure 5.8, we can see that when company has between two and four monitoring committees, the effect of Board diversity on REM is negative. Accordingly, this study provides evidence that when the Board's monitoring function is strong, an increase in Board diversity leads to a slight decrease in REM, as predicted.

Figure 5. 8 The Marginal Effect of Board Diversity on Real Earnings Management as a Function of Board Monitoring Role

This figure plots the marginal effects of Board diversity on real earnings management through full control variables across different levels of Board monitoring role with 95% confidence intervals. The plots are based on Table 5.14. All variables are defined in Appendix A.



One possible explanation is that the Board's oversight role, in conjunction with the Board's diversity structure, serves to reduce the likelihood of manipulating reported earnings. Simply stated, the likelihood of manipulating real earnings is reduced in settings with well-defined and implemented Board monitoring systems over management together with Board diversity. This study's finding is comparable with that of Kouaib and Almulhim (2019), who discovered that effective monitoring function moderates the influence of Board member characteristics on earnings management. Similarly, Abbas (2020) discovered that Board gender diversity had a strong moderating effect on the impact of Board monitoring committees on earnings management. In the same vein, Dakhlallh et al. (2021) discovered that Board monitoring committees, particularly audit committees, have had a moderate impact on the connection between Board structure and REM. This is also consistent with other research indicating that the presence of the Board monitoring committee can mitigate the chances of REM (Al-Absy et al., 2019; Ghaleb, Al-Duai, et al., 2020; Hassan & Ibrahim, 2014; Masmoudi Mardessi & Makni Fourati, 2020).

5.7.2.2 The Moderating Effect of Board Advisory Role

Panel B of Table 5.14 indicates that a diverse Boardroom inevitably leads to a rise in real earnings manipulation, similarly to the results presented in the primary analysis of Table 5.9. Based on the findings shown in Table 5.14, the Board diversity coefficients at the aggregate and surface levels (β_1 = 0.030 and 0.055, respectively) remain statistically significant and positive. Nevertheless, there is a lack of empirical evidence supporting the notion that the Board's advisory role has any significant influence on the manipulation of real earnings. Panel B also reveals, similarly to the moderating effect of the Board's monitoring role, that there is no evidence of a moderating effect of the Board's advisory role on the relationship between Board diversity and REM. In particular, the estimated interaction coefficient between Board diversity and the Board advisory function is negative but insignificant. Thus, hypothesis 5a2 (i.e. a larger Board advisory committee increases the association between Board diversity and REM) is not supported.

However, based on the coefficient presented in Table 5.14, it seems that firms with intensive Board advisory committees and a more diverse Boardroom are less likely to have REM. To prove this logic, this study displays a marginal effect graph, as shown in Figure 5.9.

Figure 5. 9 The Marginal Effect of Board Diversity on Real Earnings Management as a Function of Board Advisory Role

This figure plots the marginal effects of Board diversity on real earnings management through a full control variables across different levels of Board advisory role with 95% confidence intervals. The plots are based on Table 5.14. All variables are defined in Appendix A.

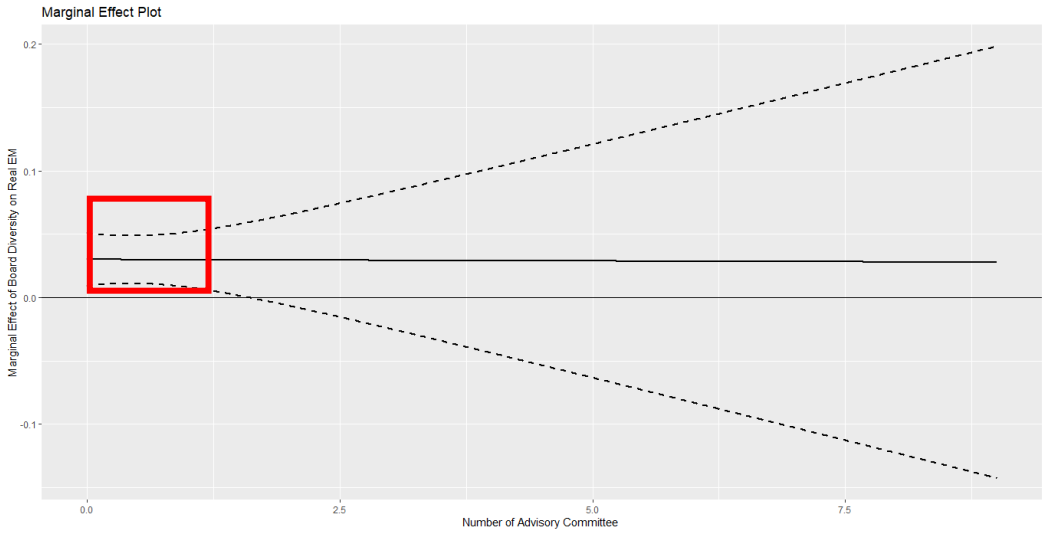


Figure 5.9[32] shows that when there are fewer than approximately two advisory committees, the interaction term between Board diversity and Board advisory role is significant, as the confidence bands are entirely above zero, with the relevant standard errors reported in Appendix F. Hence, regardless of statistical significance, when the Board's advisory function is higher, increases in Board diversity result in a slight decline in REM, as predicted.

One possible explanation is that the Board's advisory role, in combination with the Board's diverse structure, may help to limit the possibility of manipulating real earnings. Put simply, situations where a Board has well-defined and established advising functions to the management team, and when the Board itself is diverse, minimise the possibility of REM. The finding here is consistent with other studies (Abubakar et al., 2022; Elhaj et al., 2022; Sani et al., 2018) that the Board advisory committee, specifically the risk management committee, reduces management's desire to manipulate reported earnings. It has been implied that Board advisory functions can assist organisations in mitigating the impact of entrenched management and thereby improve the quality of financial reporting (Aldhamari et al., 2020).

Moreover, the present study aligns with the findings of a study conducted by Faleye et al. (2013), which showed the positive link between the presence of advisory directors and significant increase in firm performance. Additionally, the author highlighted that specialised strategic guidance provided by directors enhances a firm's ability to generate sustainable value over the long term. The implication of this study is that the effect on firm value results from the expertise and experience of individual advisory directors. This supports the conclusion that the combination of Board diversity with their advisory functions can improve firm value creation.

In conclusion, it is seen that the interaction effect between Board diversity and Board roles on REM is in the opposite direction to that of AEM. As previously discussed, REM generated by a more diverse Board is mitigated by the greater monitoring and advisory functions of the Board. The positive link between Board diversity and REM becomes less pronounced as the Board's roles increase. Consequently, Board monitoring and advisory roles serve as a ***complement*** to a diverse Board in decreasing

[32] This graph was created using REM3, which gave outcomes similar to those of REM1 and REM2.

REM by managers. This finding is consistent with that of García-Sánchez et al. (2017), who suggest the complementary role of the institutional factors and the role of the Board in positively influencing earnings quality.

Moreover, based on the findings presented in Tables 5.13 (AEM model) and 5.14 (REM model), it can be observed that the impact of Board monitoring roles on earnings management is greater than that of Board advisory roles on earnings management. To provide further clarification, Table 5.13 at the aggregate level of the Board displays the coefficient of MONIC (0.055) as being greater than the coefficient of ADVIC (0.013). It is evident that the magnitude and significance of the Board monitoring responsibility surpasses that of the Board advisory role. In a similar vein, Table 5.14 illustrates a comparatively greater coefficient for the Board monitoring role (0.009) in contrast to the coefficient for the Board advisory function (0.001). Furthermore, Tables 5.13 and 5.14 reveal that the coefficient of the interaction term DIVERSE*MONIC is comparatively higher than that of DIVERSE*ADVIC.

This research conclusion provides evidence that the active involvement of boards in monitoring activities is seen as a significant CG tool for mitigating the practice of earnings management. The primary responsibility of the Board is to exercise oversight over management activities in order to mitigate potential problems. Monitoring directors are also widely recognised as valuable individuals who play a crucial role in overseeing corporate activities. It is often suggested that increasing their level of involvement in Board supervision can enhance managerial accountability and protect the interests of shareholders. Regulatory bodies worldwide, such as the Sarbanes-Oxley Act of 2002 (SOX) in the United States, ASX CG Principle in Australia, and the UK CG Code, strongly advocate for the establishment of Board monitoring responsibilities within companies. This is commonly achieved through the delegation of such responsibilities to committees, with the primary ones being the audit, compensation, and nominating committees.

Considering the turning point at around three monitoring committees as shown in Figures 5.6 and 5.8 (highlighted in red box), there is evidence from the marginal effect analysis that the effect of Board diversity on earnings management is beneficial for the company when there are up to three monitoring committees. This can be seen by the

confidence intervals that are entirely below zero. Further evidence for the existence of three monitoring committees is provided by the mean values of monitoring committees presented in Table 5.3, with the mode value also being three. This finding corroborates the idea that listed companies are required to have three monitoring subcommittees inside their Board structure, namely the audit, remuneration, and nominating committees.

In addition, Figures 5.7 and 5.8 demonstrate that the turning point of Board advisory committees (around one committee) is less than that of Board monitoring committees. This suggests that Board diversity will only positively affect the quality of company earnings when only one Board advisory committee is established. The mean values of advisory committees reported in Table 5.3 provide additional evidence supporting the existence of a single advisory committee. The mode value (the most common number) also confirms the presence of only one committee. It might be the drawbacks of having an excessive number of Board committees because of lying in the potential costs, both in terms of time and money. This is due to the increased frequency of meetings that directors must attend, as well as the additional fees that companies must pay for each committee. In addition, they may replicate some tasks or responsibilities that overlap with other teams.

5.8 Robustness Tests for The Interaction Analysis

In this part, additional tests are carried out to check the robustness of the findings provided in the main analysis regarding the moderating effect of Board diversity on earnings management. First, alternative measures of the dependent variable are implemented. Second, alternative Proxies for moderators (Board roles), are tested.

5.8.1 Robustness Tests for The Interaction Analysis in Accruals Earnings Management

This section examines AEM2 and AEM3 as alternate proxies of AEM, similar to the primary test. Furthermore, this study investigates an additional aspect of Board functions that is contingent on the Board's directorship.

5.8.1.1 Results Based on Alternatives Accruals Earnings Management Proxy

As with the primary test, this study implements a fixed-effects regression with two alternative proxies of accruals earnings management, AEM2 and AEM3. By

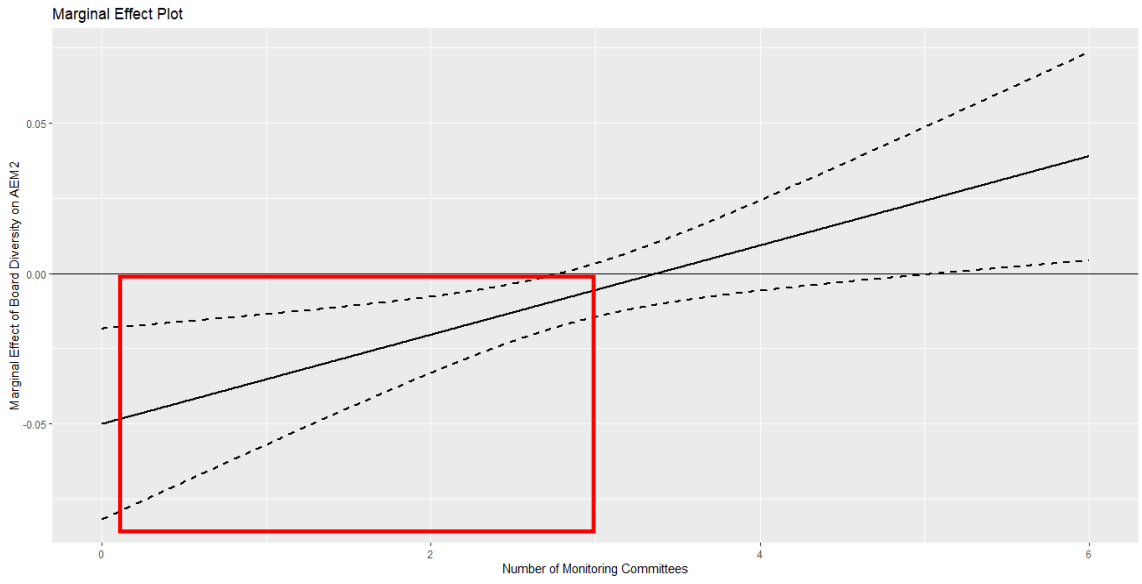
substituting other AEM measures in the model, this study determines whether the primary interaction analysis is sensitive to these measures.

The robust results of the monitoring effect in Table G1 (see appendix) are comparable to the main findings in Table 5.13, which provides support for Hypothesis 4a1. Specifically, Board diversity at all levels continues to have a negative and significant relationship with AEM, as measured by AEM2. Regarding coefficient values and the significance of the Board's role in monitoring, the AEM2 model remains unchanged. Thus, it can be said that the amount of earnings management may be decreased as a result of the Board's monitoring responsibilities. Notably, the Board advisory role appears to have statistically negative significance with AEM, as measured by AEM3. Thus, a Board advisory function may also result in less AEM.

Concerning the interaction effect of the Board's monitoring function, Model AEM2 displays the same coefficients and significance levels; and Model AEM3 reveals the interaction effect between Board's advisory role and Board diversity to be statistically significant. Figures 5.10 and 5.11 show that the negative link between Board diversity and AEM is less pronounced when the Board's dual roles are stronger.

Figure 5. 10 The Marginal Effect of Board Diversity on Alternative AEM Proxy as a Function of Board Monitoring Role

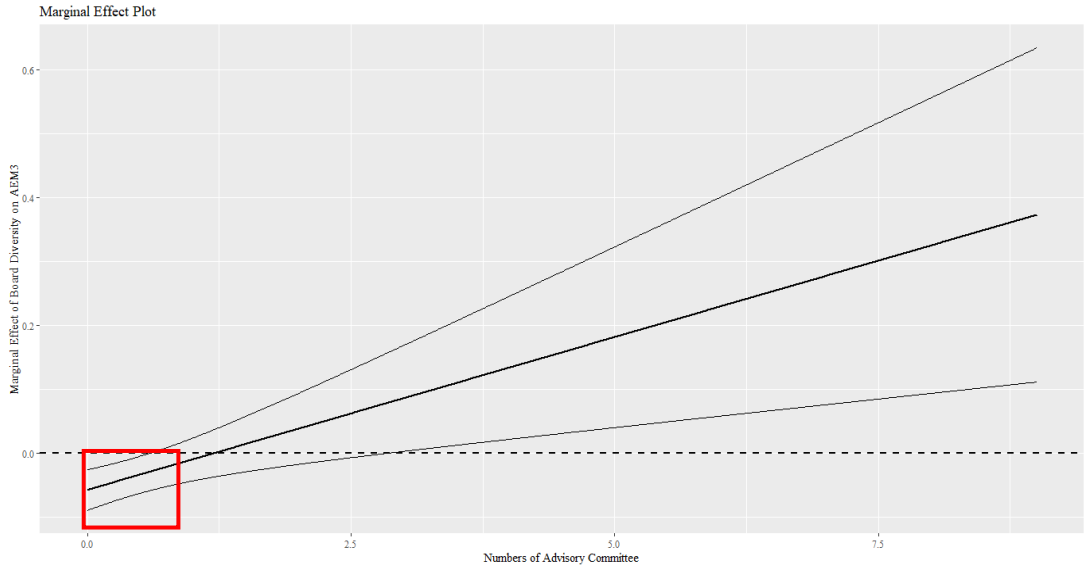
This figure plots the marginal effects of Board diversity on alternative accruals earnings management through full control variables across different levels of Board monitoring role with 95% confidence intervals. The plots are based on Table G1 (Appendix G). All variables are defined in Appendix A.



According to Figures 5.10 and 5.11, the interaction terms between Board diversity and Board roles are significant since the confidence intervals are entirely above or below zero. This study's finding provides some support for the conceptual premise that two alternative Board characteristics — Board diversity or Board roles — can be applied to reduce earnings manipulation. This reasoning suggests that AEM will only be limited by a diverse Board if the dual Board's roles are low. In essence, the Board's appointed functions — monitoring and advisory task — and the Board's compositional diversity here act as substitute factors impacting AEM. Overall, it is possible to conclude that the moderating effect of Board roles is significantly comparable to the primary outcomes and robust under the alternative proxy of AEM.

Figure 5. 11 The Marginal Effect of Board Diversity on Alternative AEM Proxy as a Function of Board Advisory Role

This figure plots the marginal effects of Board diversity on alternative accruals earnings management through full control variables across different levels of Board advisory role with 95% confidence intervals. The plots are based on Table G1 (Appendix G). All variables are defined in Appendix A.



5.8.1.2 Results Based on Alternatives Moderator Proxy

The Board's directorship is an additional aspect of the Board's roles, which in this study serves as moderator, and is utilised in this robustness test. As was discussed in Chapter 4, the Board's monitoring function is measured by its directorship, as a monitoring director, while the Board's advisory role is measured by its directorship in an advisory capacity. The aforementioned measure distinguishes itself from the primary analysis in that it involves appointing Board committees with the task of

assessing Board Roles. This comprehensive robustness test examines the individual roles of each director on the Board in an in-depth manner.

The robustness test for alternatives proxy of Board roles is presented in Table G2 (see Appendix). The moderating influence of the director's participation in monitoring remained consistent with the findings of the primary test. In particular, monitoring directors are significantly negatively associated with AEM at the aggregate level of Board diversity (coefficient at -0.021). This means that monitoring directors can reduce the level of discretionary accruals. Note that, while the coefficients pertaining to deep-level diversity do not exhibit statistical significance, the influence of monitoring directors on surface-level diversity is more prominent. This is evident from the statistically significant coefficients observed at a confidence level of 99%.

The moderating effect of advisory directors is also illustrated in Table G2. Similar to the primary test, the sign and magnitude of the coefficient in the robustness test are comparable. In addition, there is evidence that advisory directors can reduce AEM, particularly in the deep-level diversity model (Coefficient -0.011, at 95% confidence level). The coefficient of DIVERSE*ADVID in Table G2 indicates that the link between Board diversity and AEM is modified by the number of advisory directors (Coefficient 0.003 and p-value < 0.10). This finding (as for the advisory director) is more notable than the result reported in the main analysis (as for the advisory committee) for the product term DIVERSE*ADVIC. Thus, it can be asserted that the robustness test results are qualitatively similar to those reported in the main analysis. The alternative proxies used in this section may be perfect-alternative proxies, which are constructed using equivalent methodologies and created from parallel perspectives.

5.8.2 Robustness Tests for The Interaction Analysis in Real Earnings Management

This section examines REM1 and REM2 as alternative proxies for REM. In addition, another aspect of Board roles based on the Board's directorship will be investigated.

5.8.2.1 Results Based on Alternatives Real Earnings Management Proxy

Following the primary test, a fixed-effects regression with two alternative proxies of real earnings management, REM1 and REM2, will be used. Table H1 (see Appendix) depicts the Board's monitoring function as a moderator, which is comparable to the

main findings in Table 5.14. The coefficient of Board diversity at any level remains positive but is not statistically significant in models REM1 and REM2. In addition, neither the moderator coefficient nor the interaction term demonstrates a significant association with REM. Consequently, this research cannot support Hypothesis 4a2, as stated in the main analysis. Regarding the Board's advisory function, Table H1 confirms the similar findings of the primary analysis (Table 5.14). Regarding this, there is no any evidence of the Board's advisory moderator on the link between Board diversity and real earnings manipulation.

However, this study constructs visualisations to increase comprehension of the interaction term coefficients and to provide additional data for analysis. According to the marginal effect graph depicted in Figure 5.12, the effect of Board diversity on REM becomes negative when there are between two and four monitoring committees. As a result, this study provides supporting evidence that when the Board's monitoring function is powerful, an increase in Board diversity leads to a marginal decrease in REM, as found in the primary analysis.

Figure 5. 12 The Marginal Effect of Board Diversity on Alternative REM Proxy as a Function of Board Monitoring Role

This figure plots the marginal effects of Board diversity on alternative real earnings management through full control variables across different levels of Board monitoring role with 95% confidence intervals. The plots are based on Table H1 (Appendix H). All variables are defined in Appendix A.

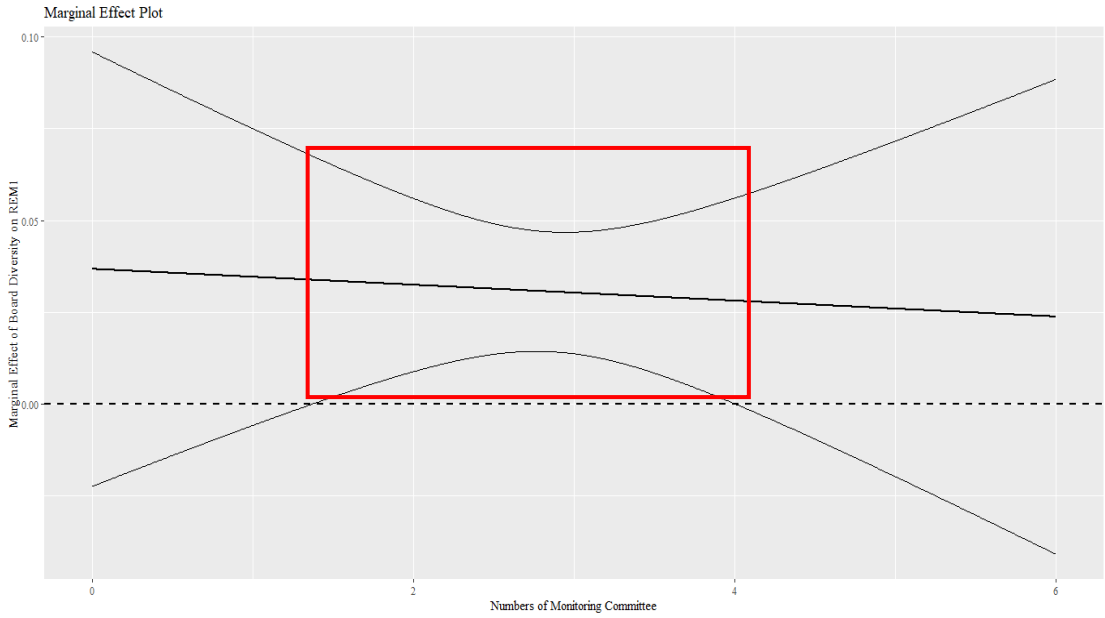
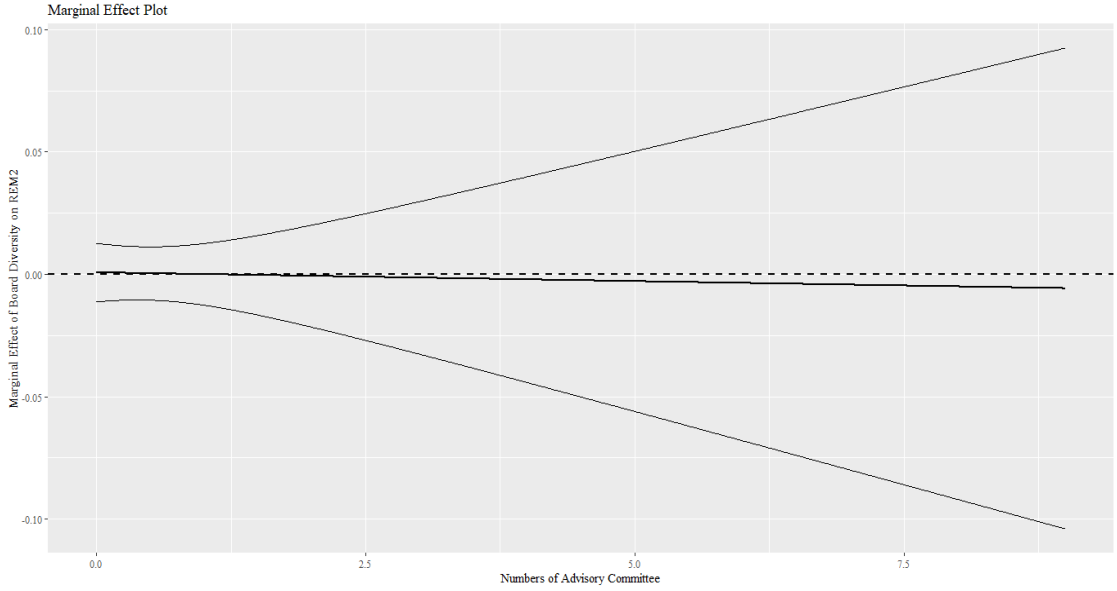


Figure 5.13 also demonstrates that when the Board's advisory function is greater, an increase in Board diversity leads to a slight decline in REM, as indicated by the graph's slight downward slope. Nevertheless, due to the fact that the confidence intervals do not totally exceed or fall below zero, it is not possible to reach a definitive conclusion and so, the primary analysis lacks support.

Figure 5. 13 The Marginal Effect of Board Diversity on Alternative REM Proxy as a Function of Board Advisory Role

This figure plots the marginal effects of Board diversity on alternative real earnings management through full control variables across different levels of Board advisory role with 95% confidence intervals. The plots are based on Table H1 (Appendix H). All variables are defined in Appendix A.



5.8.2.2 Results Based on Alternatives Moderator Proxy

In the same way as an alternative proxy moderator was tested in AEM, this study uses the Board's directorship as a moderating effect on the relationship between Board diversity and REM.

Table H2 (see Appendix) shows the moderating effect of monitoring directors. Surprisingly, Board diversity at the aggregate and surface level becomes positive and significant with REM, similar to the primary analysis presented in Table 5.9. Besides that, the surface-level diversity model with a coefficient of -0.020 and a p-value less than 0.10 indicates that monitoring directors can reduce REM. However, the coefficients of the moderating effect are not statistically significant at any conventional level, similar to the main interaction analysis in Table 5.14.

Table H2 also depicts the moderating effect of advisory directors, which is similar to the primary interaction analysis. There is a lack of significant connection observed between the moderator, interaction effect, and REM, with the exception of the coefficients pertaining to Board diversity, which exhibit a positive association with REM. In conclusion, according to the robust interaction analysis test, no statistical difference was found by applying for Board's directorship as moderators. All the interactions of moderating variables (Monitoring and advisory directors) with independent variables (Board diversity) showed insignificant (P-value > 0.10), indicating that there is no statistically significant difference in the REM when Board's directorships are functioning. This research, however, highlights the marginal effect graphs, which help understand the interaction assumptions, as evidence of the existence of an interaction effect in the REM model.

In conclusion, regarding the interaction analysis, this current study finds that the Board's monitoring function has a negative impact on both AEM and REM. In addition, AEM and REM are negatively affected by the Board's advisory function. Considering the interaction effect, the results demonstrate that AEM is positively associated with the interaction effects between Board diversity and two Board functions. With a more diverse Board and larger Board functions, there are greater opportunities for managing accruals earnings. This may be explained by ***substituting*** Board roles for Board diversity. Despite the fact that Board diversity itself might enhance the level of REM, when the complementary function of Board roles in these effects is considered, they have a greater impact on decreasing REM. This can be explained by the fact that Board functions and Board diversity play ***complementary*** roles.

5.9 Conclusion

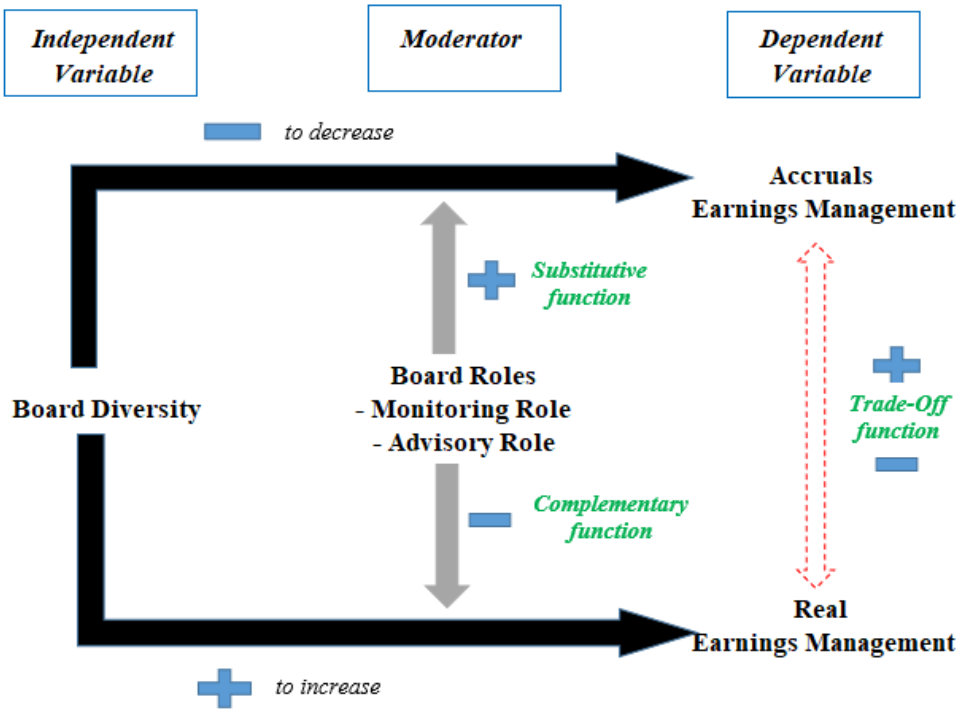
This chapter aims to explore the influence of Board diversity on earnings management in two aspects: accruals earnings management and real earnings management. This study also examines the Board's roles – monitoring and advisory functions – as a moderator on the link between Board diversity and earnings management. As shown in Figure 5.14, the findings indicate that Board diversity has a negative relationship with AEM, but a positive relationship with REM. There is evidence that sample

companies may switch between earnings management strategies, shifting from AEM to REM as a ***trade-off***.

Additionally, this research confirms that Board monitoring and advisory roles can reduce earnings management: in both AEM and REM. However, the negative link between Board diversity and AEM is less pronounced when dual Board roles, viz. monitoring and advisory functions, are stronger. The findings imply that 'the ***substitutive*** role', which balances Board diversity and Board roles in these effects, has more influence on AEM. In contrast, dual Board roles modify the link between Board diversity and REM. The results suggest that Board roles and Board diversity play ***complementary*** roles in enhancing earnings quality as measured by REM. The impact of Board diversity and Board roles on earnings management can be explained by the multi-theoretical perspectives discussed in this chapter — human capital, agency, and resource dependence theories.

Figure 5. 14 Summary Results of Chapter Analysis

This figure illustrates a summary of the findings regarding the relationship between Board diversity (independent variables) and earnings management (dependent variables), with Board roles serving as moderators.



CHAPTER 6 Empirical Results and Analysis of the Impact of Board Diversity on Accounting Conservatism

6.1 Introduction

As previously stated in Chapter 3, a consensus regarding the definition and measures of earnings quality does not exist. Using only one of the earnings quality measures may result in biased regression model estimations. Therefore, the focus of this chapter will be on an additional dimension of earnings quality known as accounting conservatism. Furthermore, Chapter 3 emphasises the significance of Board characteristics in determining the quality of earnings. Nevertheless, the comprehensive impact of Board characteristics on earnings quality remains largely unexplored, as the majority of prior research has focused its investigation to specific measurements of earnings quality. This chapter investigates a broader and more comprehensive perspective on earnings quality in order to come up at a more profound conclusion.

According to this thesis, the effects of Board diversity and Board role on both types of earnings equality — earnings management in Chapter 5 and conservatism in this Chapter — are comparable. While conservatism and earnings management may be regarded as different perspectives on earnings quality attributes, it is possible to affirm that Board diversity exerts an equivalent influence on any aspect of earnings quality. Board diversity has the potential to decrease earnings management, thereby enhancing the quality of earnings, while it can also promote accounting conservatism, which further contributes to improved earnings quality. Earnings management is classified as accounting-based because its assessment primarily depends on accounting information contained in financial reports. On the other hand, accounting conservatism is considered market-oriented due to its utilisation of market news, with a particular emphasis on stock-related news, in its measurement. As a result, Chapters 5 and 6 differ with regard to the earnings quality dimension. In addition, Chapter 6 examines the robustness test of the influence of Board characteristics on the quality of aggregate earnings; the same results are obtained as with the individual earnings quality attribute.

This chapter contains ten sections. Following this section, section 6.2 illustrates descriptive statistics from the dataset of this study. In Section 6.3, descriptive statistics are supplemented by a univariate analysis known as the t-test. In addition, Section 6.4 presents the correlation matrix as a preliminary test for the regression analyses in Sections 6.5 through 6.8, which present and discuss the empirical findings. Section 6.9 illustrates the combined effect of earnings quality used in this thesis, which is calculated using earnings management in Chapter 5 and accounting conservatism in this Chapter. Finally, Section 6.10 provides the chapter's conclusion.

6.2 Descriptive Statistics

Table 6. 1 Descriptive Statistics of Accounting Conservatism

This table presents the descriptive statistics of accounting conservatism, the dependent variable, classified by country. In panel A, the mean and standard deviation of conditional conservatism are presented, whereas in panel B, they pertain to unconditional conservatism. The outliers in the distribution were subjected to winsorisation, at the 1st and 99th percentiles.

			Panel A: Conditional Conservatism					
			CON1		*CON2*		*CON3*	
Country	N	Firms	Mean	SD	Mean	SD	Mean	SD
AU	303	115	0.64	7.94	-3.45	30.00	0.14	0.21
CA	931	301	0.44	9.38	-3.33	29.47	0.12	0.19
HK	1155	355	0.47	8.20	-2.87	27.15	0.12	0.19
SN	519	165	0.63	6.30	-2.58	24.20	0.15	0.18
UK	1360	447	0.58	9.05	-1.30	23.79	0.13	0.20
US	9254	2697	0.15	9.00	-1.70	21.52	0.10	0.21
Pooled Sample	13522	4080	0.27	8.86	-1.94	23.22	0.11	0.20

			Panel B: Unconditional Conservatism			
			UNCON1		*UNCON2*	
Country	N	Firms	Mean	SD	Mean	SD
AU	303	115	0.292	0.723	0.070	0.375
CA	931	301	0.304	0.758	0.058	0.346
HK	1155	355	0.574	0.876	-0.008	0.186
SN	519	165	0.587	0.734	0.026	0.271
UK	1360	447	0.125	0.660	0.059	0.321
US	9254	2697	-0.024	0.473	0.108	0.461
Pooled Sample	13522	4080	0.095	0.614	0.086	0.418

6.2.1 Conditional Conservatism

Accounting conservatism measures for the sample firms are shown in Panel A of Table 6.1, with their mean, and standard deviation. The primary test will use CON1, while the other two will be used as alternative proxies for robustness validation. Based on the data presented in Panel A, namely CON1, it can be observed that the average

sensitivity of earnings to negative news relative to sensitivity to positive news is 0.27. This means that the earnings shock in the current period is about 27% of the total economic shock to current and future cash flows. In essence, for a given negative shock, the greater the conservatism ratio, the more conservative the company, as a greater proportion of the total negative shock to current and future cash flows is recognised in the current financial statements. It is encouraging to compare this figure to other research [e.g. Callen et al. (2009), Khalifa and Trabelsi (2022), Saeed and Saeed (2018) and Sami et al. (2014)].

Table 6. 2 Descriptive statistics of Components of Conditional Conservatism

This table presents the descriptive statistics of components of conditional conservatism (CON), classified by country. In panel A, the mean and standard deviation of CON1 components are presented, whereas in panel B, they pertain to CON2 components. The outliers in the distribution were subjected to winsorisation, at the 1st and 99th percentiles.

			Panel A: CON1 Components					
			EPS/Price		*Return*		*Dummy Return (1= Negative return)*	
Country	N	Firms	Mean	SD	Mean	SD	Mean	SD
AU	303	115	-0.141	0.460	0.081	0.692	0.360	0.481
CA	931	301	-0.132	0.437	0.020	0.749	0.424	0.494
HK	1155	355	-0.009	0.345	-0.051	0.512	0.513	0.500
SN	519	165	-0.025	0.339	0.006	0.445	0.474	0.500
UK	1360	447	-0.144	0.519	0.022	0.587	0.411	0.492
US	9254	2697	-0.163	0.470	0.033	0.697	0.412	0.492
Pooled Sample	13522	4080	-0.140	0.461	0.024	0.669	0.423	0.494

			Panel B: CON2 Components					
			Change NI this year		*Change NI last year*		*Dummy Change-NI (1= negative change)*	
Country	N	Firms	Mean	SD	Mean	SD	Mean	SD
AU	303	115	-0.003	0.305	0.044	0.349	0.409	0.493
CA	931	301	0.003	0.303	0.006	0.322	0.478	0.500
HK	1155	355	0.006	0.157	0.002	0.176	0.436	0.496
SN	519	165	0.004	0.133	0.004	0.163	0.511	0.500
UK	1360	447	0.011	0.243	-0.001	0.231	0.463	0.499
US	9254	2697	-0.003	0.287	-0.013	0.292	0.495	0.500
Pooled Sample	13522	4080	-0.001	0.271	-0.007	0.278	0.484	0.500

This study provides descriptive statistics of components of conditional conservatism (CON1) in order to improve data comprehension and the relevance of subsequent analyses. Panel A of Table 6.2 shows that the average value of earnings is -0.140. It was discovered that, on average, sample companies in every country have negative earnings. The average stock return is 0.024, with almost every country sample

exhibiting a positive stock return. The mean value of the dummy variable regarding negative returns is 0.42, indicating that roughly half of the sample companies reported bad news during the study period, consistent with the findings of Boussaid et al. (2015), Khan and Watts (2009), LaFond and Watts (2008) and Pope and Walker (1999).

As an alternative proxy for accounting conservatism, CON2 is computed by auto-regressing earnings changes in the current period on earnings changes in the previous period, to differ for positive and negative values. As shown in Panel A of Table 6.1, the mean value of CON2 for the aggregated sample is -1.94, and the mean value of CON2 for each country sample is negative. This implies that, on average, the sample firms have conservative accounting, as this model is measured by the fact that timely loss recognition generates larger negative than positive transitory items, so the ratio[33] is expected to be more negative for firms that practise timely loss recognition (García-Sánchez et al., 2017).

Assessing the components of CON2, Panel B of Table 6.2 reveals that the average change in net income is -0.1% of total assets, while the average change in earnings during the prior period was -0.7% of total assets. As indicated by the average value of the dummy variable, 48.4% of the sample companies report a decline in earnings. The descriptive statistics of CON2 found in this study concur with those of García-Sánchez et al. (2017) and Kanagaretnam et al. (2014). In examining the presence of dummy variables in Table 6.2, it is evident that the findings yield comparable outcomes, with around 50% of the firms reporting negative news.

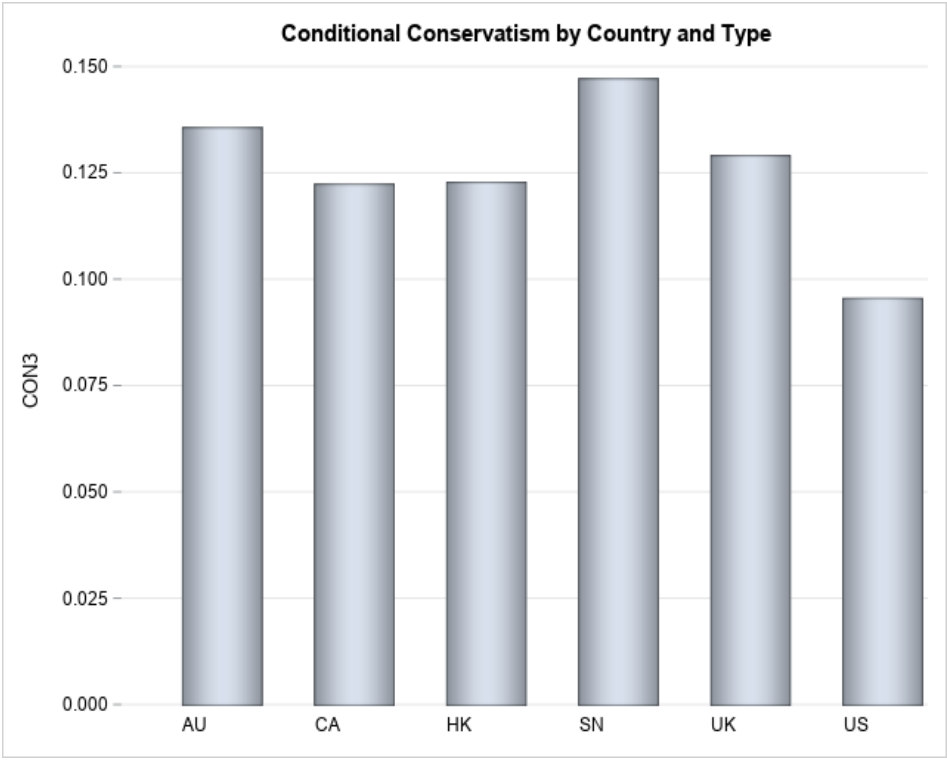
Another proxy of CON in this study is C-Score (CON3). Panel A of Table 6.1 shows that the mean value of CON3 for the pooled sample is 0.11. As shown in Figure 6.1, Singaporean companies have, on average, the highest level of conditional

[33] Basu 1997 defines conditional conservatism as the tendency of accountants to require a higher level of verification for recognising good news in earnings than for recognising bad news. Economic gains must satisfy a higher verification threshold in order to be accounted for as earnings, so earnings increases are likely to be less timely and more persistent, implying that the coefficient of the change in net income in the current year should be positive. In addition, the parameter of interaction term quantifies the extent to which declines in earnings are less persistent than earnings increases. Consequently, the coefficient of the interaction term is predicted to be more negative for businesses that practise quicker loss recognition.

conservatism according to C-Score, while the US companies have the lowest level of C-Score. These results are in line with those of previous studies [e.g. Khalifa and Trabelsi (2022) in the US at 0.198, Almutairi and Quttainah (2019) from across different countries at 0.090, Chi et al. (2009) in Taiwan stock market at 0.190, Shimamoto and Takeda (2020) in Japan at 0.082, and Isaboke and Chen (2019) in China at 0.114]].

Figure 6. 1 The Levels of C-Score Conditional Conservatism by Country

This figure shows the average value of c-score (conditional conservatism), categorised according to the following six nations: Australia, Canada, Hong Kong, Singapore, the United Kingdom, and the United States.

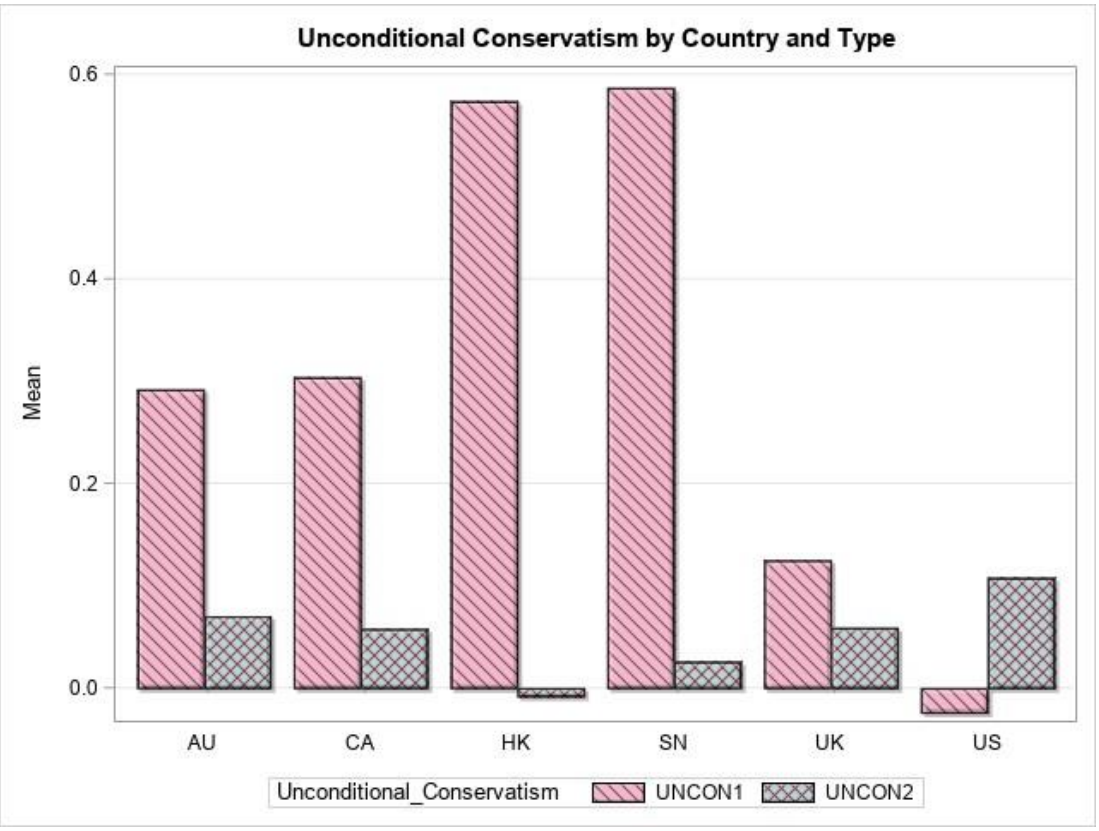


6.2.2 Unconditional Conservatism

The two types of unconditional conservatism, UNCON1 and UNCON2, are displayed in Panel B of Table 6.1. The mean value of UNCON1 of the pooled sample is 0.095, indicating that the sample companies employ conservative accounting practices. These findings are consistent with those of previous research [e.g. Beaver and Ryan (2000) at 0.75, Qiang (2007) at 0.34, and Ahmed and Henry (2012) at 0.63). In addition, as indicated by the cross bar in Figure 6.2, the Asian stock markets, which include Hong Kong and Singaporean firms, have the highest mean values of unconditional conservatism as measured by BTM.

Figure 6. 2 The Levels of Unconditional Conservatism by Country

This figure shows the average value of two types of unconditional conservatism, categorised according to the following six nations: Australia, Canada, Hong Kong, Singapore, the United Kingdom, and the United States.



Based on the data given in Panel B of Table 6.1, it can be observed that the average value of UNCON2, which is a measure of conservatism based on accruals, for the entire sample is 0.086. This finding is consistent with previous studies [e.g. Ahmed and Duellman (2007) at 0.010, and Ahmed and Henry (2012) at 0.059[34]]. In addition, as shown by the hatch bar in Figure 6.2, the Asian stock markets, which include Hong Kong and Singapore companies, have the lowest mean value of accounting-based unconditional conservatism. In contrast, US firms have the highest average level of unconditional conservatism, as measured by accruals-based conservatism, at 0.11.

The analysis of Panel B of Table 6.1 reveals that news-independent conservatism, known as unconditional conservatism, exhibits distinct characteristics in the US and Asian stock markets. Under UNCON1, Asian listed firms exhibit a greater degree of

[34] Ahmed and Henry (2012) found that the mean value of the accounting-based conservatism measure was -0.059, so this study multiplied it by -1 for a comparable reason.

unconditional conservatism compared to US firms. This observation aligns with the previously mentioned findings on conditional conservatism. This also implies that the Asian stock market exhibits a higher degree of responsiveness to news events compared to US corporations. On the contrary, when evaluating unconditional conservatism from an accounting standpoint, it is observed that firms in the United States exhibit the highest level of conservatism. This may suggest that US GAAPs are stricter regarding the recording of accruals transactions. This might be because GAAP is a framework based on legal authority, whereas IFRS is based on a principles-based approach. IFRS is more general and flexible than GAAP, which is more detailed and prescriptive. GAAP places greater emphasis on the historical cost, including accruals basis, whereas IFRS allows for greater valuation flexibility.

6.2.3 Earnings Quality

Table 6. 3 Descriptive Statistics of Earnings Quality

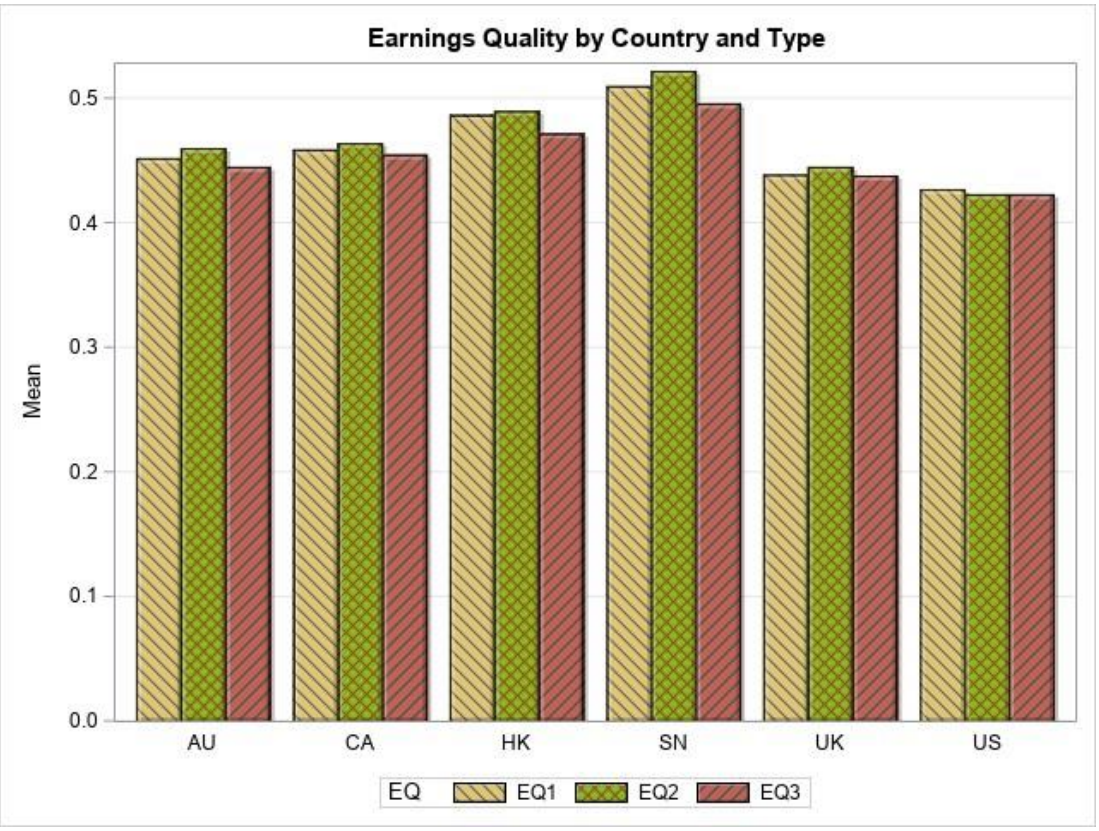
This table presents the descriptive statistics of earnings quality (EQ), classified by country. The outliers in the distribution were subjected to winsorisation, at the 1st and 99th percentiles.

			EQ1		*EQ2*		*EQ3*	
Country	N	Firms	Mean	SD	Mean	SD	Mean	SD
AU	303	115	0.452	0.133	0.460	0.137	0.445	0.141
CA	931	301	0.459	0.131	0.464	0.140	0.455	0.131
HK	1155	355	0.487	0.133	0.490	0.144	0.472	0.137
SN	519	165	0.510	0.121	0.522	0.128	0.496	0.120
UK	1360	447	0.439	0.126	0.445	0.143	0.438	0.136
US	9254	2697	0.427	0.127	0.423	0.140	0.423	0.128
Pooled Sample	13522	4080	0.439	0.130	0.439	0.143	0.434	0.131

As the primary testing, EQ1, which is comprised of AEM1, REM3, CON1, and UNCON1, will be utilised; all four individual earnings quality attributes are derived from the baseline variable. EQ2 and EQ3 will also be employed as alternative analyses. Table 6.3 provides the sample mean value for all three Eqs, which is 0.44. The earnings quality score falls within the range of 0 to 1. A higher EQ corresponds to a greater quality of earnings. Figure 6.3 reveals that Hong Kong and Singaporean companies on the Asian stock markets have the highest average earnings quality score. While U.S. and U.K. businesses have the lowest average earnings quality score.

Figure 6. 3 The Levels of Earnings Quality by Country

This figure shows the average value of three types of earnings quality, categorised according to the following six nations: Australia, Canada, Hong Kong, Singapore, the United Kingdom, and the United States.



Briefly, the average value of the earnings quality score varies between countries. However, these descriptive statistics can initially reflect a preference for aggregate earnings quality approaches among the nations in this sample. Furthermore, the descriptive statistics of Board diversity, Board roles, and control variables were reported in the previous chapter (see Sections 5.2.3 through 5.2.5 of Chapter 5).

6.3 Univariate Analysis of Accounting Conservatism and Earnings Quality

In order to complement the comprehension of the descriptive statistics presented in Tables 6.1 to 6.3, the univariate analysis, namely the t-test, is conducted on the pooled sample by dividing it into two groups. First, a comparison is performed between U.S. and non-U.S. firms. This can provide confirmation of the previously mentioned findings regarding potential variations in accounting conservatism and earnings quality among firms in the United States and other nations.

Table 6. 4 Univariate comparison in Means of Conservatism and Earnings Quality

This table reports the univariate comparison of firms. Tests of difference in means are computed using a two-tailed t-test. All variables are defined in Appendix A.

Variables	Mean	Mean	Diff	t-value	p-value
Panel A: Difference in Means of Earnings Management between US and Non-US firms					
	US	***Non-US***			
CON1	0.528	0.153	0.376	2.340	0.019
UNCON1	0.353	-0.024	-0.378	-29.160	<.0001
EQ1	0.466	0.427	0.039	15.990	<.0001
Panel B: Difference in Means of Earnings Management between Firms with High and Low Board Diversity					
	High Diversity	***Low Diversity***			
CON1	0.431	0.097	0.333	2.220	0.026
UNCON1	0.135	0.058	0.077	7.260	<.0001
EQ1	0.444	0.435	0.009	4.110	<.0001
Panel C: Difference in Means of Earnings Management between Firms with High and Low Board Monitoring Role					
	High Monitoring	***Low Monitoring***			
CON1	0.522	0.210	0.312	1.760	0.079
UNCON1	0.203	0.069	0.134	9.460	<.0001
EQ1	0.452	0.436	0.015	5.410	<.0001
Panel D: Difference in Means of Earnings Management between Firms with High and Low Board Advisory Role					
	High Advisory	***Low advisory***			
CON1	0.335	0.231	0.105	0.640	0.522
UNCON1	0.100	0.092	0.009	0.800	0.421
EQ1	0.448	0.434	0.015	6.400	<.0001

Panel A of Table 6.4 depicts the mean value of CON1 in non-US companies was statistically different from the average value of CON1 in US companies at the 5% significance level. Similarly, there is a statistically significant difference at the 1% level between non-US companies and US companies in terms of unconditional conservatism. Regarding the overview of earnings quality, Table 6.4 indicates that, at a significance level of 1%, the mean of earnings quality (EQ1) for non-US firms is greater than the mean for US firms. It may suggest that the quality of earnings differs between the two country categories.

As shown in Panel B of Table 6.4, the pooled sample is clustered with regard to the diversity of the Board. There are two pairs of firms: those with a high and a low level of Board diversity. The pooled sample means[35] of Board diversity are used as a threshold. In this regard, at a significance level of 5%, the mean value of conditional conservatism is greater for firms with a high level of Board diversity than for firms with a low level of Board diversity. Similarly, at a significance level of 1%, the mean value of unconditional conservatism is greater for firms with a diverse Board than for firms with a less diverse Board. In an overview of earnings quality, firms with a high level of Board diversity have a higher earnings quality mean value than firms with a low level of Board diversity.

The aggregated sample is clustered once more based on the role of the Board in monitoring, as shown in Panel C of Table 6.4. There are statistically significant differences in the mean value of earnings quality attributes between companies with a high Board monitoring role and companies with a low Board monitoring role. The final classification of the pooled sample is determined by the advisory function of the Board, as shown in Panel D of Table 6.4. In contrast to the prior cluster's t-test results, the mean values of conditional and unconditional conservatism do not differ significantly between firms with high and low levels of Board advisory role. However, this thesis discovers a difference, at the 1% significance level, in the mean value of earnings quality between companies with a high and low level of Board advisory role.

Overall, the univariate analysis reveals that the difference in accounting conservatism and earnings quality characteristics may vary based on Board diversity and Board roles. It provides initial support for the proposed hypothesis that Board diversity and Board roles may influence the variation in conservatism and earnings quality.

6.4 Correlation Analysis

To evaluate multicollinearity between variables, please refer to Section 5.4 of Chapter 5. In earnings management models, the correlation values of independent and control variables are similar to those in this section.

[35] Using the medians of the sample instead of the means has same effects on the conclusions.

Table 6. 5 Correlations: Diversity, Conservatism, and Earnings Quality

The table presents the correlation matrix of variables used in this study. All variables are defined in Appendix A. **Bold text** in the table indicates significance at the 10% level or higher.

	DIVERSITY	*SURFACE*	*DEEP*	*GEN*	*AGE*	*EDU*	*TEN*	*EXP*
CON1	**0.025**	**0.031**	0.009	**0.024**	**0.023**	-0.002	0.012	0.003
CON2	0.011	**0.015**	0.003	**0.019**	-0.004	-0.002	-0.001	**0.023**
CON3	**-0.231**	**-0.206**	**-0.158**	**-0.220**	**-0.029**	**-0.086**	**-0.122**	**-0.111**
UNCON1	**0.081**	**0.125**	0.008	**0.133**	**0.020**	**0.061**	**-0.049**	**0.127**
UNCON2	**0.124**	**0.102**	**0.093**	**0.100**	**0.033**	**0.050**	**0.073**	**0.059**
EQ1	**0.035**	-0.003	**0.055**	-0.005	0.004	**-0.016**	**0.081**	**-0.031**
EQ2	**-0.074**	**-0.102**	**-0.019**	**-0.108**	**-0.015**	**-0.055**	**0.023**	**-0.078**
EQ3	**-0.052**	**-0.082**	-0.004	**-0.089**	-0.010	**-0.025**	**0.016**	**-0.034**

Table 6. 5 (Continued) Correlations: Diversity, Conservatism, and Earnings Quality

	MONIC	*ADVIC*	*SIZE*	*FIRMAGE*	*ROA*	*GROWTH*	*ZSCORE*	*IFRS*	*BIG4*
CON1	-0.012	0.008	-0.001	0.005	-0.003	-0.001	-0.005	**0.024**	**0.015**
CON2	**0.025**	**0.017**	0.002	0.014	-0.006	-0.003	**-0.017**	**-0.015**	0.007
CON3	**-0.078**	**-0.143**	**-0.520**	**-0.104**	**-0.161**	**0.024**	**-0.160**	**0.080**	**-0.285**
UNCON1	**0.071**	0.011	**0.289**	**0.061**	**-0.035**	**0.051**	**0.142**	**-0.289**	**0.110**
UNCON2	**0.059**	**0.076**	**0.242**	**0.060**	**0.487**	**0.022**	**0.234**	**0.074**	**0.186**
EQ1	**-0.024**	**0.059**	**-0.015**	**0.015**	**0.169**	**-0.047**	**-0.033**	**0.137**	**0.064**
EQ2	**-0.055**	-0.013	**-0.263**	**-0.032**	**0.070**	**-0.028**	**-0.116**	**0.162**	**-0.092**
EQ3	**-0.027**	**0.023**	**-0.151**	**-0.015**	**0.119**	**-0.019**	**-0.070**	**0.127**	**-0.031**

Table 6.5 displays the correlation coefficients between accounting conservatism, earnings quality, and variables of interest. There appears to be a significant positive correlation between accounting conservatism (CON1 and CON2) and Board diversity. However, there is a significant and negative correlation between Board diversity and C-Score (CON3). Table 6.5 also finds a positive correlation between Board diversity and unconditional conservatism. Additionally, there is a strong correlation between Board monitoring and advisory roles and unconditional conservatism. Regarding the correlation between Board diversity and earnings quality, mixed evidence was discovered, indicating a positive and negative correlation. Importantly, Table 6.5 demonstrates that multicollinearity between the variables is not a significant issue in the models, as none of the coefficients exceeds 0.70 (Gujarati, 2009).

In addition, the Variance Inflation Factor (VIF) and Tolerance Statistics (TOL) tests are calculated in order to test for multicollinearity, as shown in Table 5.7 of Chapter 5. It was found that this current study has no multicollinearity issues. Table 6.5 shows that the majority of correlation coefficients are statistically significant. However, an empirical inference regarding the relationship between dependent and independent variables may not be completely drawn from the bivariate analysis, namely correlation. This is due to the fact that correlation does not imply causality (John, 1995), which refers to the inability to validly infer a cause-and-effect relationship between two events or variables based solely on an observed association or correlation between them. In relation to this matter, it is important to consider other factors such as the influence of firms, industries, or countries on the dependent variable. These aspects should be controlled for in this study. Numerous regression analysis will be conducted in the sections that follow.

6.5 Regression Results

This section discusses the empirical analysis and findings of accounting conservatism, one of the proxies for earnings quality used in this study. In the literature, there is an ongoing debate regarding whether Board diversity can improve conservative accounting. Such a debate necessitates clarification in this section. The Hausman test determines which of the fixed-effects and random-effects models best explains the study's findings.

Table 6. 6 Multiple Regression Analysis for Conditional Conservatism

The table presents fixed-effects regressions of Board diversity where the dependent variable is conditional conservatism (CON). All variables are defined in Appendix A. All explanatory variables are lagged by one year in order to avoid simultaneous problems. Standard errors are also clustered at the firm level and are reported in parentheses. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		-1.469**	-0.988	-0.667	-0.408	-1.077	-0.221	-0.357	-0.838
		(0.692)	(0.609)	(0.680)	(0.579)	(0.663)	(0.633)	(0.583)	(1.132)
Independent *Variables*									
DIVERSITY	(+)	0.451***	0.847***	0.230	0.780***	1.249**	-0.037	0.319	0.682
		(0.141)	(0.225)	(0.196)	(0.261)	(0.490)	(0.429)	(0.237)	(1.117)
Control Variables									
SIZE		-0.060*	-0.056*	-0.035*	-0.057*	-0.029*	-0.025*	-0.034*	-0.028*
		(0.041)	(0.041)	(0.041)	(0.041)	(0.040)	(0.040)	(0.041)	(0.041)
AGE		0.001	0.001	0.002	0.001	0.002	0.002	0.002	0.002
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
ROA		-0.443	-0.387	-0.384	-0.387	-0.341	-0.346	-0.397	-0.349
		(0.388)	(0.388)	(0.388)	(0.387)	(0.386)	(0.387)	(0.388)	(0.388)
GROWTH		0.072	0.025	0.015	0.015	0.018	0.002	0.008	0.017
		(0.100)	(0.100)	(0.100)	(0.100)	(0.100)	(0.100)	(0.100)	(0.100)
ZSCORE		-0.006	-0.003	-0.005	-0.004	-0.005	-0.005	-0.005	-0.004
		(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
IFRS		0.838*	0.862*	0.846*	0.882*	0.825*	0.857*	0.850*	0.836*
		(0.504)	(0.504)	(0.504)	(0.504)	(0.504)	(0.504)	(0.504)	(0.504)
BIG4		0.347*	0.303	0.404**	0.323	0.387*	0.407**	0.413**	0.398**
		(0.203)	(0.203)	(0.203)	(0.204)	(0.203)	(0.203)	(0.203)	(0.203)
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		13522	13522	13522	13522	13522	13522	13522	13522
R-Squared		0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372
Durbin-Watson		2.244	2.244	2.244	2.244	2.244	2.244	2.244	2.243
F-Stat		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

Following the application of the Hausman test, it was determined that all models in this study employ fixed-effects regression. In addition, this study employs an OLS regression with robust heteroskedasticity standard errors (White, 1980) to evaluate the effect of Board diversity on conservatism. This section will divide the regression results into two categories: conditional conservatism (CON) and unconditional conservatism (UNCON).

6.5.1 Multiple Regression Analysis for Conditional Conservatism

The results of testing Hypotheses 1b1, 2b1 and 3b1 using CON1 as the dependent variable and Board diversity as the independent variables are presented in Table 6.6.

6.5.1.1 The Effect of Board's Aggregate-level Diversity

Table 6.6's first column displays the results of a multivariate regression examination of Board diversity using industry, nation, and year as fixed factors. The adjusted r-squared for the aggregate level is 0.37, and it is connected to hypothesis 1b1. Accordingly, the Board diversity and control variables explain 37% of the conditional conservatism of the sample's listed companies. The remaining 63% can be accounted for by exogenous factors. In addition, the F-test result below 0.01 indicates the statistical significance of the observed relationship. Based on the findings presented in Table 6.6, the coefficient of DIVERSITY is positive (0.451); and this is statistically significant at 1% levels. Consequently, hypothesis 1b1 is accepted.

The findings are contrast with those of Schopohl et al. (2021), García Lara et al. (2009), and Leventis et al. (2013) who found that a higher CG mechanism is associated with greater accounting conservatism, but the coefficient is not statistically significant. However, they suggested that well-governed companies engage in substantially more conditional conservatism in their financial reporting practices. They also discovered that firms with effective governance structures, especially effective Board and Board monitoring structures, are more conservative. In support, Hasan and Islam (2022) found a positive link between the combined Board diversity index and corporate performance. As highlighted in Chapter 3, much previous research has primarily focused on certain characteristics of Board diversity. In turn, aggregate-level research on Board diversity is limited. This current study thus investigates the individual effect of Board diversity on conservatism, which will be discussed in the subsequent sections.

6.5.1.2 The Effect of Board's Surface-level Diversity

The coefficient of SURFACE in column 2 of Table 6.6 is positive (0.847), and statistically significant at 1% level of confidence. Therefore, hypothesis 2b1 can be accepted. This finding is contrary to other studies that have found no association between Board's surface-level diversity and firm dynamics [e.g. Chapple and Humphrey (2013), Rose et al. (2013), and Hammadi and Jassim (2022)]. This research supports that of Kagzi and Guha (2018b), who found a positive linear relationship between the aggregate Board demographic diversity index and firm performance. However, when examining the effects of individual Board diversity variables, they have discovered mixed evidence; that is, Board age diversity positively influences firm performance, whereas gender diversity has no significant impact on the firm performance. Similarly, Budiyati and Wijaya (2023) discovered that Board age has a negative impact on earnings quality, whereas gender-diverse boards do not influence earnings quality. Thus, in addition to analysing the aggregate level of Board diversity, this study investigates the specific attributes of Board diversity and whether the aggregate and individual effects of Board diversity have the same effects on the earnings quality of firms, as discussed in the subsequent sections.

6.5.1.3 The Effect of Board's Deep-level Diversity

The DEEP coefficient in column 3 of Table 6.6 is positive (0.230), but it is not statistically significant at any conventional level. Thus, hypothesis 2b1 cannot be accepted. As stated in Chapter 3, there exists a dearth of research pertaining to the comprehensive examination of the aggregate deep-level diversity of directors and its impact on earnings quality. Despite the fact that the baseline model in this section did not discover evidence for the link, the robustness test and the individual effects of Board diversity, which will be discussed in the following sections, reveals a significant positive relationship between CON and DEEP.

Board's Gender Diversity

The analysis conducted in Table 6.6, specifically in column 4, reveals a significant positive relationship between Board gender diversity (GEN) and CON. GEN has a positive coefficient (0.780), and it is statistically significant at 1% confidence level. This aspect of the Board's individual diversity complements the previous section's

discussion of the Board's overall diversity. There exists an argument suggesting that the presence of female directors on corporate boards has the potential to enhance Board governance, hence leading to an improvement in the quality of earnings. In support to earlier findings, previous research [e.g. Al-Shaer and Harakeh (2020), Boussaid et al. (2015), Francis et al. (2015) and García-Sánchez et al. (2017)] has suggested that having women on the Board would improve Board monitoring and provides distinct perspectives, skills, and values, which would then require a higher level of verification for recognising good news than bad news in financial statements (Khatib et al., 2020; Rose, 2007).

Board's Age Diversity

The result for Board age diversity (AGE) in column five of Table 6.6 supports Board's surface-level diversity in the previous section. In line with expectations, the AGE coefficient of 1.249 is statistically significant at 5% confidence level. This finding supports the resource dependence theory discussed in Chapter 3; a broader diversity in the Board director age can bring various life insights and perspectives, which encourages a culture of discussion and debate, and improves boardrooms' problem-solving capacity (Anderson et al., 2011). In addition, agency theory suggests that age diversity on the Board can improve directors' monitoring skills to prevent fraudulent management activity, and act as a check against attempts by management to pursue earnings opportunistically without regard for ethical considerations (Rose, 2005).

Board's Education Diversity

According to the findings shown in Table 6.6, specifically in column 6, it can be observed that there is no statistically significant relationship between Board educational diversity and conservatism. A possible explanation for this could be that boardrooms require directors to have a higher level of education but may not require a wide range of educational levels. This supports the view of Westphal and Milton (2000), who posited that directors with a higher level of education possess greater intellectual capacity, a wealth of ideas, and unique perspectives, which enables them to effectively address a variety of issues.

Board's Tenure Diversity

According to the results of the regression analysis shown in column 7 of Table 6.6, the tenure diversity of director members has a positive association with conditional conservatism, but the link is not statistically significant. It is possible that longer-tenured directors are more effective at monitoring and advising management than their younger counterparts (Mark, 1996). Thus, there is no longer a need for organisational tenure diversity. Prior research [e.g. Almutairi and Quttainah (2019), Ferrari et al. (2015), Rutherford and Buchholtz (2007) and Schnake Mel et al. (2005)) discovered that the longer a director's tenure, the higher the quality of financial reporting and the lower the level of information asymmetry.

While the present study lacks empirical evidence to substantiate the influence educational diversity within the Board on conservatism, it does provide support for the notion that variety in Board tenure can enhance the quality of earnings. Since having only longer tenures can be detrimental to an organization's performance. The increased familiarity between directors and management, for instance, may undermine the independence and decrease monitoring (Fracassi & Tate, 2012). In addition, older directors become less careful as they approach retirement. In contrast, junior directors may make better decisions which lead to higher firm value (Huang & Hilary, 2018). Therefore, the combination of longer- and shorter-tenure directors may be a viable solution. The effect of Board tenure diversity and conservatism will be more significant in the sections on unconditional conservatism, which will be discussed in the subsequent sections.

Board's Experience/Expertise Diversity

The result for Board experience and expertise diversity (EXP) presented in the final column of Table 6.6 does not support the proposed hypothesis. The coefficient of EXP is 0.682 and statistically insignificant at all levels of significance. This finding contradicts prior evidence (García-Sánchez et al., 2017; Mohammed et al., 2019; Sultana, 2015), whose conclusion supports the active monitoring roles that emerged from the diversity of expertise on corporate boards. This thesis, however, confirms the findings of Chi et al. (2009), who found no correlation between Board expertise and accounting conservatism. While the initial analysis of the baseline model does not

provide any evidence of diversity in Board experience and expertise on CON, the present study posits, based on a review of relevant literature, that a diverse range of experience and competence among director members can positively impact earnings quality. This assertion will be further examined in the next part of this study.

6.5.1.9 The Findings of Control Variables

The results of the OLS estimation shown in Table 6.6 indicate the relationship between control variables and conditional conservatism. At the 1% significance level, firm size (SIZE) has a negative relationship with CON. Specifically, this finding indicates that larger businesses are less likely to employ conservative accounting. The negative relationship between SIZE and CON has also been documented in prior research [e.g. (Boussaid et al., 2015; Mohammed et al., 2019; Saeed & Saeed, 2018)]. This contradicts the political cost hypothesis in positive accounting theory, which predicts that large companies will be more susceptible to political costs (Affianti & Supriyati, 2017; Nur & Fachrurrozie, 2020; Soliman, 2019; Watts & Zimmerman, 1986). Therefore, large corporations are more likely to disclose their financial information conservatively in order to minimise potential political costs.

Nonetheless, this finding is consistent with the notion that larger firms are more likely to be more mature and to have richer information environments (such as higher analyst following), thereby reducing overall uncertainty and information asymmetries regarding the realisability of projected gains (Khan & Watts, 2009). Empirical data in the literature [e.g., Easley et al. (2002)) suggests that large organisations have lower information asymmetry than small firms on average, despite larger firms having more complicated operations and more segments, which may enhance information asymmetry. This suggests a lower demand for conservatism in contracting from larger firms. Moreover, the data presented in table 6.6 provides evidence that the application of accounting and auditing standards has the potential to improve the quality of corporate earnings, as discussed in detail in Chapter 2, section 2.3.

6.5.2 Multiple Regression Analysis for Unconditional Conservatism

The results of testing Hypotheses 1b2, 2b2, and 3b2 with UNCON1 as the dependent variable and Board diversity as the independent variables are shown in Table 6.7.

Table 6. 7 Multiple Regression Analysis for Unconditional Conservatism

The table presents fixed-effects regressions of Board diversity where the dependent variable is unconditional conservatism (UNCON). All variables are defined in Appendix A. All explanatory variables are lagged by one year in order to avoid simultaneous problems. Standard errors are also clustered at the firm level and are reported in parentheses. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.637***	0.754***	0.560***	0.733***	0.715***	0.725***	0.679***	0.531***
		(0.039)	(0.034)	(0.038)	(0.032)	(0.037)	(0.036)	(0.033)	(0.064)
Independent Variables									
DIVERSITY	(+)	0.031***	-0.036***	0.088***	-0.051***	0.010	-0.005	0.121***	0.218***
		(0.008)	(0.013)	(0.011)	(0.015)	(0.028)	(0.024)	(0.014)	(0.063)
Control Variables									
SIZE		-0.088***	-0.084***	-0.089***	-0.084***	-0.086***	-0.086***	-0.089***	-0.087***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
AGE		0.001	0.001**	0.001	0.001**	0.001*	0.001*	0.001	0.001*
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
ROA		0.267***	0.275***	0.259***	0.276***	0.274***	0.273***	0.254***	0.272***
		(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
GROWTH		-0.008***	-0.029***	-0.029***	-0.027***	-0.030***	-0.030***	-0.030***	-0.026***
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
ZSCORE		-0.001	-0.005***	-0.005***	-0.005***	-0.005***	-0.005***	-0.005***	-0.005***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
IFRS		0.174***	0.175***	0.171***	0.174***	0.175***	0.175***	0.172***	0.168***
		(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
BIG4		0.016	0.025**	0.020*	0.026**	0.020*	0.021*	0.023**	0.018
		(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		13522	13522	13522	13522	13522	13522	13522	13522
R-Squared		0.338	0.337	0.340	0.338	0.337	0.337	0.341	0.338
Durbin-Watson		1.692	1.692	1.692	1.692	1.692	1.691	1.691	1.692
F-Stat		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

6.5.2.1 The Effect of Board's Aggregate-level Diversity

The aggregate diversity of the Board is expected to be positively associated with UNCON, according to Hypothesis 1b2. The coefficient of DIVERSITY shown in Table 6.7 is positive (0.031) and statistically significant at 1% conventional levels. Based on resource dependence theory (Ben-Amar et al., 2013; Pfeffer & Salancik, 1978), differences between directors within a Board (such as gender, age, education, and nationality) are viewed as an important resource that influences Board task performance. This current study is in line with Erhardt et al. (2003), who found that combined aspects of Board diversity were positively associated with corporate performance. Based on the idea of agency theory, the structural characteristics of the Board are designed to limit agency conflict by requiring more conservatism (Hoang et al., 2017). However, many studies have focused on specific attributes of the Board in relation to earnings quality. Thus, few studies have examined the impact of the combined attributes.

6.5.2.2 The Effect of Board's Surface-level Diversity

According to Hypothesis 2b2, a higher surface level of Board diversity (SURFACE) should increase UNCON. However, the coefficient of SURFACE in Table 6.7, column 2, is negative (0.036) and statistically significant at 1% confidence level. While this study therefore provides significant evidence of a negative relationship, it does lend credence to the idea that the presence of diverse boards (considered a component of effective governance) leads to enhanced management oversight and, consequently, more conservative accounting. This is consistent with other researchers (Ahmed & Duellman, 2007; García Lara et al., 2009; Leventis et al., 2013), who employ a composite governance index and demonstrate that firms with strong governance have more conservative accounting practices. Therefore, individual aspects of Board diversity (e.g. gender and age diversity) and some robustness tests need to be examined in the following sections.

6.5.2.3 The Effect of Board's Deep-level Diversity

The findings from Table 6.7, specifically column 3, provide support for Hypothesis 3b2, which suggests that the deep-level diversity of directors (DEEP) influences UNCON. At the 1% significance level, the coefficient of DEEP is positive (0.088)

and statistically significant. This result is consistent with prior research (Enache & García-Meca, 2018; Krishnan & Visvanathan, 2008; Kroll et al., 2008; Yunos et al., 2014). It is anticipated that directors with a variety of cognitive abilities, including educational background, professional experience, and length of service, contribute valuable knowledge and skills to organisations. This diversified expertise enables them to effectively assess various legal considerations and enhance the overall quality of information available to the Board. Moreover, the inclusion of diverse cognitive perspectives within the Board has the potential to enhance the Board's vigilance in overseeing the management team, thereby leading to improvements in the firm's earnings quality.

In the following sections, this study will investigate additional robustness tests relating to specific characteristics of cognitive level diversity in the boardroom.

Board's Gender Diversity

The finding in Table 6.7, column 4, contradicts the prediction. The coefficient of GENDER is negative (0.051) and significant at 1% conventional level. This thesis contends that increasing gender diversity in the boardroom does not always result in prudence in financial reporting practices. This finding is consistent with those of Sultana and Van der Zahn (2015) and Wang (2014), who found no substantial influence of Board gender diversity on accounting conservatism. The mixed evidence can be explained by different samples taken at different times and in different countries. Another possible explanation for why more gender-diverse boards may have a negative impact on a company's performance is that more diverse opinions and conflicts are stimulated by gender diversity. Homogeneous groups are more likely to communicate frequently because they are more likely to share the same opinions, and they are also more cooperative and have fewer emotional conflicts (Campbell & Mínguez-Vera, 2007).

Board's Age Diversity

In Table 6.7, column 5, the coefficient of AGE is positive (0.010) but statistically insignificant at any levels. However, this thesis supports the evidence introduced by Janahi et al. (2022), whose evidence indicates that a more age-diverse in Board

increases higher-quality reporting. As described in Chapter 3, age diversity between older and younger directors is viewed as an asset for the Board and a result of human capital because age reflects experience and risk-taking (Darmadi, 2011). Older directors are more conservative, whereas younger directors appear to be less conservative but more motivated to process new ideas; this makes for a good combination of diversity in the boardroom, resulting in a greater monitoring function towards the quality of financial information.

Board's Education Diversity

The result for Board educational diversity (EDU) depicted in Table 6.7, column 6, does not meet the anticipated expectation. The coefficient of EDU is negative (0.005) but statistically insignificant. A possible explanation is that previous research has examined the educational level of directors, such as bachelor's, master's, and doctoral's degrees. In contrast to this thesis, educational diversity variables were used as a proxy. It is evident the boardroom does not require a more diverse educational level of directors, as it does not enhance accounting conservatism; rather, a higher level of education might be more prominent. This is consistent with the resource dependence theory (Makhlouf et al., 2018; Westphal & Milton, 2000), and agency theory (Hsueh-En, 2010), which were described in Chapter 3. In addition, the findings of EDU in this section support the findings of EDU in accruals earnings management, described in Chapter 5. These findings suggest that listed companies may prefer a more homogeneous Board if director members have advanced degrees as opposed to a diverse group of individuals with varying levels of education.

Board's Tenure Diversity

Based on the findings presented in Table 6.7, specifically in column 7, there exists a significant association between UNCON and Board tenure diversity (TEN). This is evident from the coefficient of TEN, which is shown as 0.121 with a statistically significant p-value of less than 0.01. In essence, when a Board with diverse tenure lengths effectively monitors and advises management teams, they are more likely to have high Board performance, which enhances earnings quality. This study's finding also supports the group performance and resource dependence views. First, diversity in the Board's working experience can lead to more productive discussions and

deliberations (Jehn et al., 1999) and foster a culture of communication and inquiry (Van Knippenberg et al., 2004). Second, from a resource-dependent perspective, diverse in Board tenure can assist organisation in accessing to more information (Li & Wahid, 2018; Pfeffer, 1973; Pfeffer & Salancik, 1978).

Board's Experience/Expertise Diversity

In the final column of Table 6.7, the result for the diversity of experience and expertise on the corporate Board (EXP) supports the proposed hypothesis 3b2. The coefficient of EXP is positive at 0.218, and it is statistically significant at 1% conventional level. This result is in line with previous research (Chi et al., 2009; Krishnan & Visvanathan, 2008; Yunos et al., 2014).

6.5.2.9 The Findings of Control Variables

The results of the OLS estimation presented in Table 6.7 indicate that many control variables are related to UNCON. First, firm size (SIZE) has a negative relationship with UNCON at the 1% significance level. This resembles the regression results of the CON model presented in earlier sections. In essence, a larger organisation decreased the demand for conservatism. This result is consistent with previous research (Adyunita et al., 2021; Ahmed & Duellman, 2007; Enache & García-Meca, 2018). Second, firm age (AGE) positively related with UNCON. Accounting practices become increasingly conservative as a business grows. This finding was also reported by Mohammed et al. (2019). This is to say, as a company ages, it acquires more experience, which reduces cost and improves earnings quality. As a result, they indulge in less behaviour that negatively impacts earnings quality and, by extension, their market reputation (Salah, 2018).

Third, the firm's profitability, as measured by returns on assets, has a positive relationship with UNCON at the 1% significance level, which is consistent with other researchers (Ahmed & Duellman, 2007; Teymouri & Sadeghi, 2020). This means that the management of firms with high profitability will choose a conservative accounting method. A possible explanation for managers choosing conservative accounting is

ensuring earnings are not excessively high. The political cost hypothesis[36] (Watts & Zimmerman, 1978, p. 115) also predicts that companies with high earnings will incur higher political costs. This will encourage companies with high profitability to adopt conservative accounting practices. Fourth, it was found that the company's growth (GROWTH) was negatively related with UNCON. This indicates that increased sales growth is likely to result in an increase in current accruals (such as accounts receivable and inventory), thereby reducing accounting conservatism. This finding is in line with those of Ahmed et al. (2002), Ahmed and Duellman (2007) and Penman and Zhang (2002). Furthermore, Table 6.7 reveals that distressed companies have less conservative accounting practices. Accordingly, there is evidence that the adoption of effective accounting and auditing practices can improve the quality of earnings, as demonstrated by the positive coefficients of IFRS and Big4 in Table 6.7.

6.6 Robustness Tests: The Effect of Board Diversity on Accounting Conservatism

This section examines the robustness of the primary findings against alternative accounting conservatism measures and the sensitivity of the OLS's main results to fixed or random effects.

6.6.1 Robustness Tests on Conditional Conservatism Model

The main findings, which were previously presented in Table 6.6, and the robustness results, which will be reported in Appendix I, can be used to facilitate comparisons between the primary and robust findings. As evidenced by the magnitude of the coefficient and the level of significance, these analyses demonstrate the reliability of the main findings. Specifically, Board diversity can generally strengthen conditional conservatism. This section offers a comprehensive analysis of the findings.

6.6.1.1 Results Based on Alternatives Conditional Conservatism Proxy

The fundamental model of Basu (1997) establishes a relationship between stock price movements and earnings during periods of negative news. Despite the pervasive use

[36] As Watts and Zimmerman (1978, p. 115) state: '… corporations employ a number of devices, such as social responsibility campaigns in the media, government lobbying and selection of accounting procedures to minimize reported earnings. By avoiding the attention that "high" profits draw because of the public's association of high reported profits and monopoly rents, management can reduce the likelihood of adverse political actions and, thereby, reduce its expected costs...'.

of the Basu model, its differential timeliness coefficient's validity has been questioned[37] (see, for instance, Givoly and Hayn (2000)). Consequently, this thesis employs two alternative proxies for conditional conservatism. First, the conditional conservatism based on the earnings change measure devised by Basu (1997), Ball and Shivakumar (2005) and Kanagaretnam et al. (2014) is denoted by the abbreviation: CON2. Second, the C-score measure of accounting conservatism that measures asymmetric timeliness, devised by Khan and Watts (2009) based on Basu (1997)'s model, is referred to as CON3.

The results of alternative conditional conservatism measures are shown in Table I1 (see Appendix I). The adjusted r-squares of the alternative models — CON2 and CON3 — are 43% and 42% greater than the adjusted r-squares of the primary finding (CON1), which is 37%. In addition, the results indicate that using various conditional conservatism proxies does not alter the primary findings. To clarify, the CON2 and CON3 models continue to yield comparable results to CON1, as positive associations between Board diversity and conditional conservatism have been identified.

In addition, as shown in Table I1's Panel control variables, the findings of CON2 and CON3 remain largely unchanged when CON1 is examined. In essence, the relationship between firm size (SIZE) and CON remains negative. Model CON3 also identifies a relationship with other control variables that is more substantial. For instance, firm age (AGE) was found to be positively associated with CON3. This result accords with the UNCON analysis described in the preceding section.

The alternative CON3 proxy model also discovered a positive relationship between firm growth (GROWH) and CON. This contradicts the negative relationship that was discovered by UNCON. This is because the negative link found in the UNCON model is a consequence of accruals accounting practices that impact conservatism, whereas

[37] For instance, one of the limitations of the Basu model is that it relies on stock price movements to distinguish between positive and negative news. If conservatism results in an immediate and complete recognition of negative events and a delayed and gradual recognition of positive events, the earnings distribution is likely to be negatively skewed. And, if increased conservatism takes the form of either a more immediate (rather than gradual) recognition of negative news or a greater propensity to account for anticipated future costs or losses, such an increase will be accompanied by an increase in the earnings series' variability.

the CON model relies on timely loss recognition based on negative events. Thus, the CON and UNCON measures of conservatism are based on different aspects.

Unexpectedly, the Big Four auditing firms substantially negatively affect CON3, as measured by C-Score. This result is consistent with the findings of Jarva et al. (2022), who discovered that conditional conservatism remains strong under the IFRS reporting framework, but there are indicators of the demise of the Big Four effect. The possibility exists that the quality of financial reporting is distinct from economic efficiency because it does not address optimality. Ball and Shivakumar (2005) note that a lower quality of earnings does not always indicate suboptimality because it can result from a lower demand for or a higher cost of offering quality. Consequently, the average earnings quality of Big 4 and non-Big Four clients can be interpreted as a result of market equilibrium for corporate financial reporting. Additionally, according to Ball (2006), the most costly aspect of effective reporting systems is enforcement, not adoption of standards. Jarva et al. (2022) suggested that differences in earnings properties, such as conditional conservatism, between Big 4 and non-Big Four audit firms may be attributable to client-specific factors.

6.6.1.2 Results Based on Random Effects Model

The robust regression results of conditional conservatism on Board diversity and control variables are shown in Table I2 (see Appendix I). The Hausman test is depicted in Table 6.8, and the result favours fixed-effects estimation (Prob>chi2 = 0.001). This section, however, presents the results of random effects and the pooled OLS estimations to determine whether the main results are comparable to robustness tests.

Table 6. 8 Hausman Test: Conditional Conservatism

This table shows the Hausman Test to determine which of the fixed-effects and random-effects most adequately explains the study results.

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	29.732	9.000	0.001

Table I2 demonstrates that the results of the primary and robust analyses are consistent with one another because the sign and magnitude of the coefficients are comparable. To clarify, the robust findings show a significant and positive relationship between the aggregate level of Board diversity and conditional conservatism. Furthermore, the results of the robustness test provide evidence that there is a strong positive

relationship between the gender and age diversity of the Board and conditional conservatism (CON). This finding supports the notion that there is a positive link between the surface-level diversity of the Board and CON.

6.6.1.3 Results Based on Alternatives Conditional Conservatism Measure

This thesis measures conditional conservatism using the Basu (1997) model as was described in Equation 11 in Chapter 4. However, there is no generally accepted measure of conservatism, and it is challenging to assess its degree by a single measure (Givoly & Hayn, 2000). Consequently, this section examines accounting conservatism in a distinct method while still utilizing the Basu (1997) model.

In this regard, equation 6.1 below includes variables for governance and firm characteristics (i.e. firm size, firm age, profitability, firm growth, Z-score, IFRS, and Big4 auditing firms) as proxies for the demand for conservatism. In accordance with previous research (Beekes et al., 2004; Boussaid et al., 2015; Gassen et al., 2006; Khan & Watts, 2009; Leventis et al., 2013; Sultana, 2015), Equation 6.1 is modified to determine the relationship between Board diversity components and the timeliness of earnings in capturing bad news.

Equation 6.1: Modified conditional conservatism based on Basu's model

$$
\begin{aligned}
Y_{i,j,t} = {} & \alpha_0 + \alpha_1 D_{i,j,t} + \beta_0 R_{i,j,t} + \beta_1 R_{i,j,t} * D_{i,j,t} + \gamma_1 DIVERSITY_{i,j,t} + \gamma_2 D_{i,j,t} * DIVERSITY_{i,j,t} \\
& + \gamma_3 R_{i,j,t} * DIVERSITY_{i,j,t} + \gamma_4 R_{i,j,t} * D_{i,j,t} * DIVERSITY_{i,j,t} + \delta_1 SIZE_{i,j,t} \\
& + \delta_2 D_{i,j,t} * SIZE_{i,j,t} + \delta_3 R_{i,j,t} * SIZE_{i,j,t} + \delta_4 R_{i,j,t} * D_{i,j,t} * SIZE_{i,j,t} + \delta_5 AGE_{i,j,t} \\
& + \delta_6 D_{i,j,t} * AGE_{i,j,t} + \delta_7 R_{i,j,t} * AGE_{i,j,t} + \delta_8 R_{i,j,t} * D_{i,j,t} * AGE_{i,j,t} + \delta_9 ROA_{i,j,t} \\
& + \delta_{10} D_{i,j,t} * ROA_{i,j,t} + \delta_{11} R_{i,j,t} * ROA_{i,j,t} + \delta_{12} R_{i,j,t} * D_{i,j,t} * ROA_{i,j,t} \\
& + \delta_{13} GROWTH_{i,j,t} + \delta_{14} D_{i,j,t} * GROWTH_{i,j,t} + \delta_{15} R_{i,j,t} * GROWTH_{i,j,t} + \delta_{16} R_{i,j,t} \\
& * D_{i,j,t} * GROWTH_{i,j,t} + \delta_{17} ZSCORE_{i,j,t} + \delta_{18} D_{i,j,t} * ZSCORE_{i,j,t} + \delta_{19} R_{i,j,t} \\
& * ZSCORE_{i,j,t} + \delta_{20} R_{i,j,t} * D_{i,j,t} * ZSCORE_{i,j,t} + \delta_{21} IFRS_{i,j,t} + \delta_{22} D_{i,j,t} * IFRS_{i,j,t} \\
& + \delta_{23} R_{i,j,t} * IFRS_{i,j,t} + \delta_{24} R_{i,j,t} * D_{i,j,t} * IFRS_{i,j,t} + \delta_{25} BIG4_{i,j,t} + \delta_{26} D_{i,j,t} \\
& * BIG4_{i,j,t} + \delta_{27} R_{i,j,t} * BIG4_{i,j,t} + \delta_{28} R_{i,j,t} * D_{i,j,t} * BIG4_{i,j,t} + \varepsilon_{i,j,t}
\end{aligned}
$$

Where $Y_{i,j,t}$ is earnings per share of firm i from a country j at time t scaled by the stock price at the beginning of fiscal year t; $R_{i,j,t}$ is the stock returns of firm i from a country j over 12 months beginning 10 months prior to fiscal year t through two months after fiscal year; $D_{i,j,t}$ is a dummy variable which is equal to 1 if $R_{i,j,t}$ is negative (bad news) and 0 if it is positive (good news); $DIVERSITY_{i,j,t}$ is Board diversity; which can be Aggregate, surface-level, deep-level, gender, age, education, tenure, expertise and experience diversity; and $\varepsilon_{i,j,t}$ is the error term.

Table I3 (see Appendix I) displays the results of Equation 6.1's regression, the modified conditional conservatism model. Under greater conservatism, earnings will be more sensitive to negative news than positive news. Consequently, β_1 is expected to be greater than zero. As demonstrated in Table I3, the coefficients of R*D are statistically significant and greater than zero, particularly for the effect of deep-level diversity, gender, education, and tenure diversity. Thus, it could indicate that the sample company employs conservative accounting practices.

Moreover, to investigate the hypothesised relationships, each characteristic of Board diversity interacted with each variable in the original Basu model, as depicted in Equation 6.1. The coefficients of the interaction term R*D with each variable represent the effect of any particular variable on asymmetries in timeliness. For example, the effect of DIVERSITY on asymmetric timeliness is observed on γ_4, which is the interaction term coefficient of R*D and Board diversity at the aggregate level (R*D*DIVERSITY). If Board diversity increases conservatism, γ_4 is anticipated to be positive. Table I3 shows that the coefficient of R*D*DIVERSITY is 0.048 and statistically significant at the 5% level. Thus, the hypothesis that a positive link exists between Board diversity and conditional accounting conservatism can be accepted. Additionally, according to Table I3's regression results, Board diversity is considerably associated with asymmetric timeliness, as indicated by the significant coefficients found in the aggregate level, surface level, gender, and age diversity. The significant positive coefficients in these instances imply that the more diverse a Board is (especially demographic diversity), the faster negative news is recognised in earnings relative to positive news. This discovery aligns with the primary conclusions drawn from the results presented in Table 6.6.

6.6.2 Robustness Tests on Unconditional Conservatism Model

To further verify the reliability of the primary analysis results, this subsection employs a different proxy of unconditional conservatism and other estimating procedures. This part provides an in-depth analysis of similar findings.

6.6.2.1 Results Based on Alternatives Unconditional Conservatism Proxy

This thesis employs an additional proxy for unconditional conservatism from Givoly and Hayn (2000). Evidence of Board diversity and UNCON2 was rarely found in the

robustness test of alternate proxy for unconditional conservatism in Table J1 (see Appendix J). In this case, such variables no longer have a statistically significant impact on UNCON2. This result is consistent with those of Adyunita et al. (2021); Pulungan and Sadat (2014), who also found no significant relationship between Board diversity and conservatism. This could be because not all directors are equally effective monitors or valuable advisors, and certain types of Board diversity can affect CG and influence accounting conservatism (Enache & García-Meca, 2018). Another explanation is that the demographic diversity of director members did not present a problem for accounting conservatism as long as they could work effectively with other members (Adyunita et al., 2021). However, it was observed that the alternative proxy, as measured by UNCON2, exhibited a positive association with the age, educational background, and expertise diversity of the Board. This implies that the cognitive attributes of directors are influential in enhancing unconditional conservatism, particularly in relation to balance-sheet-oriented perspectives.

6.6.2.2 Results Based on Random Effects Model

The result of the Hausman test depicted in Table 6.9 favours fixed-effects estimation (Prob>chi2 = 0.000). The preceding section presented fixed-effects estimation results as the main finding. However, Table J2 (see Appendix J) presents the random effects and the pooled OLS estimations results to determine whether the main findings are comparable to robustness tests.

Table 6. 9 Hausman Test: Unconditional Conservatism

This table shows the Hausman Test to determine which of the fixed-effects and random-effects most adequately explains the study results.

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	256.9102	9	0

The sign and size of the coefficients are relatively comparable between the primary and robust analyses, as shown in Table J2. To clarify, there is a significant negative association between Board gender diversity and unconditional conservatism. As a result, the surface-level diversity of directors significantly negatively affects unconditional conservatism. Moreover, the robust results also support the main finding in Table 6.7. For example, random effects and OLS estimations reveal a significant positive relationship between Board tenure and expertise diversity and

UNCON. This makes the Board's deep-level diversity appear statistically significant in both the robustness test and in the fixed-effects study. Overall, the results of the primary analysis employing fixed-effects estimation are consistent with the random-effects and the pooled OLS estimations, indicating that CG mechanisms regarding Board diversity can enhance the level of accounting conservatism.

6.7 The Interaction Analysis

In Chapter 5, the importance of the interaction effect was discussed. This section examines the interaction effect with the conditional hypothesis "Do Board monitoring and advising roles modify the link between Board diversity and conservatism?".

6.7.1 The Interaction Analysis for Conditional Conservatism

This section describes the findings in response to the proposed hypotheses (H4b1 and H5b1) that account for the moderating effect of Board directors' roles. The outcomes are displayed in Table 6.10.

Table 6. 10 The Moderating Effect of the Board of Director's Roles on the Link between Board Diversity and Conditional Conservatism

The table shows fixed-effect regressions of Board diversity, with conditional conservatism as the dependent variable and Board roles as moderators. All variables are defined in Appendix A. All explanatory variables are lagged by one year in order to avoid simultaneous problems. Standard errors are clustered at the firm level and are reported in parentheses. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

		Panel A			Panel B		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		-13.134	-4.050	-12.728	-0.239	-0.043	-0.299
		(9.242)	(8.737)	(9.200)	(8.457)	(8.430)	(8.458)
Independent Variables							
DIVERSITY	(+)	4.027***			0.086		
		(1.143)			(0.348)		
SURFACE	(+)		3.600*			0.001	
			(1.876)			(0.535)	
DEEP	(+)			5.940***			0.164
				(1.694)			(0.514)
Moderators							
MONIC	(+)	4.426***	1.329*	4.354***			
		(1.296)	(0.788)	(1.265)			
ADVIC	(+)				-0.142	-0.263	0.458
					(1.160)	(0.678)	(1.139)
Interactions							
*DIVERSE*MONIC*	(+ , -)	-1.365***					
		(0.385)					
*SUFRACE*MONIC*	(+ , -)		-1.189*				
			(0.631)				
*DEEP*MONIC*	(+ , -)			-2.054***			
				(0.574)			
*DIVERSE*ADVIC*	(+ , -)				0.087		
					(0.331)		
*SURFACE*ADVIC*	(+ , -)					0.352	
						(0.518)	

Variables	Expected Sign	Panel A			Panel B		
		Aggregate	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
*DEEP*ADVIC*	(+ , -)						-0.138
							(0.499)
Control Variables							
SIZE		-0.056**	-0.039**	-0.063**	-0.036**	-0.036**	-0.037**
		(0.147)	(0.147)	(0.147)	(0.147)	(0.147)	(0.147)
AGE		0.002	0.002	0.002	0.002	0.002	0.003
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
ROA		-0.040	-0.081	-0.021	-0.077	-0.076	-0.073
		(0.825)	(0.826)	(0.825)	(0.826)	(0.826)	(0.826)
GROWTH		0.064	0.070	0.063	0.071	0.071	0.073
		(0.120)	(0.120)	(0.120)	(0.120)	(0.120)	(0.120)
ZSCORE		-0.007	-0.005	-0.008	-0.006	-0.006	-0.006
		(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
IFRS		-0.754	-0.722	-0.776	-0.718	-0.719	-0.695
		(2.012)	(2.013)	(2.012)	(2.013)	(2.014)	(2.014)
BIG4		1.114*	1.081*	1.122*	1.059	1.057	1.067
		(0.677)	(0.677)	(0.677)	(0.678)	(0.678)	(0.678)
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Country Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Observations		13522	13522	13522	13522	13522	13522
R-Squared		0.373	0.372	0.373	0.372	0.372	0.372
Durbin-Watson		2.244	2.244	2.244	2.244	2.244	2.244
F-Stat		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

6.7.1.1 The Moderating Effect of Board Monitoring Role

As shown in Panel A of Table 6.10, the coefficients of Board diversity at the aggregate, surface, and deep levels (β_1 = 4.027, 3.600, and 5.940, respectively) are positive and significant when the moderator (Board monitoring role) is also considered. These findings support the unconditional effect model, the Baseline Model in the primary analysis (section 6.5.1), which finds positive and significant evidence. Thus, one can assert that diversity at any level of the Board plays a crucial role in improving conservatism.

In addition, Panel A of Table 6.10 demonstrates that the Board's monitoring function has a significant positive relationship with conditional conservatism, as indicated by the positive coefficients of MONIC. It is possible that accounting conservatism will increase as a consequence of the monitoring function of the Board.

Furthermore, Panel A of Table 6.10 reveals that the role of the moderator in Board monitoring shows statistical differences. Specifically, the coefficients of interaction terms (DIVERSE*MONIC) are significant, holding all other factors constant. Therefore, the effect of Board diversity on conditional conservatism depends on the Board's monitoring function. As stated previously, this thesis uncovers a positive link between Board diversity and CON, as well as a positive association between the Board monitoring role and CON. However, the interaction terms are statistically significant and negative, indicating that the interaction between high Board diversity and high Board monitoring function decreases accounting conservatism. Although this finding contradicts the thesis's expectation, it can be inferred that either the diversity of the Board or the Board's monitoring function still significantly impacts conservatism. It could be said that they serve as replacement roles, which will be discussed in greater detail below.

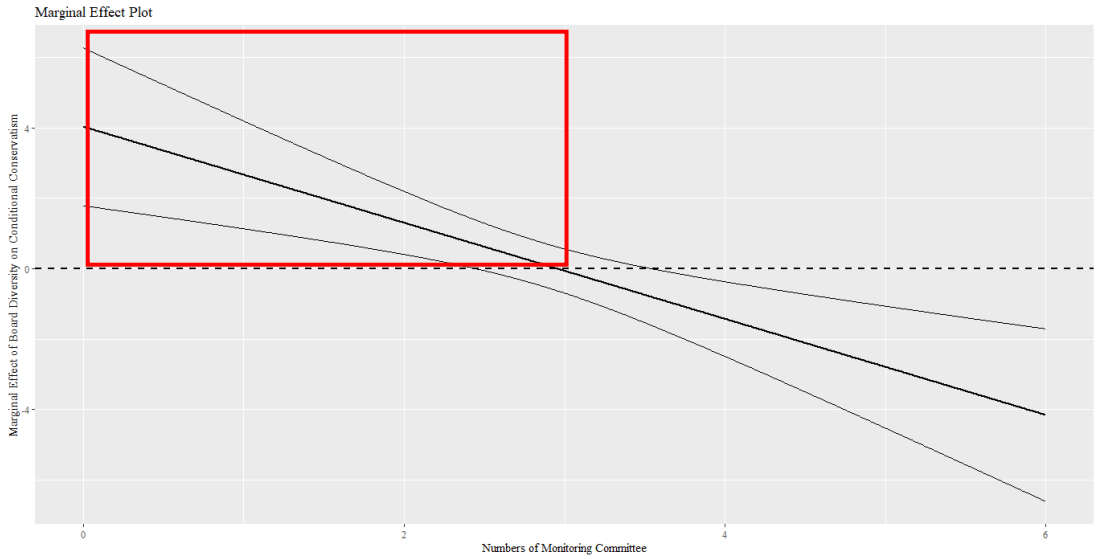
Additionally, to facilitate comprehension of the interaction effect, a marginal effects graph will be constructed to illustrate the influence of the independent variable on the dependent variable for each moderator value. Figure 6.4[38] displays the marginal effect graph. The interaction term between Board diversity and Board monitoring role is

[38] This graph was generated using CON1, which provided results comparable to CON2 and CON3.

significant because all confidence intervals are either above or below zero. Put simply, the effect of Board diversity on conservatism is statistically significant and positive when there are fewer than three monitoring committees. In contrast, the relationship between Board diversity and conservatism will be negative when the company has more than four monitoring committees. The turning point at three monitoring committees also supports evidence found in Chapter 5.

Figure 6. 4 The Marginal Effect of Board Diversity on Conditional Conservatism as a Function of Board Monitoring Role

This figure plots the marginal effects of Board diversity on conditional conservatism through full control variables across different levels of Board monitoring role with 95% confidence intervals. The plots are based on Table 6.10. All variables are defined in Appendix A.



A graph in Figure 6.4 indicates that Board diversity is only likely to increase CON when the Board's monitoring roles are small. In this case, the Board's oversight duties and its diversity function as ***substitute*** influences on CON. Considering CON, the results may indicate that Board diversity alters their structures by acting as an inspector over management. Another possible explanation is that such a Board diversity system may no longer be required in the context of a company with an effective Board monitoring system that is well-implemented and utilised to improve accounting information quality. This also supports the empirical evidence presented in section 5.7.1.1 regarding the Board's effective monitoring function in reducing agency costs following agency theory.

Moreover, Upadhyay et al. (2014) suggested that, despite the fact that larger Boards are costly to firms due to communication and coordination issues, their findings suggest that firms use monitoring committees to mitigate these costs. It can be inferred from this that a Boardroom with greater diversity may result in a decline in task performance, which can be mitigated by increasing the size of Board monitoring committees. By concentrating on committee structure, this current study demonstrates that firms balance their costly need for diverse boards by organising the boards' monitoring committees. Similarly, Faleye et al. (2011) discovered that Board monitoring quality can enhance earnings quality. However, they found that the negative advisory effects of the Board surpass the benefits of enhanced Board monitoring roles. In the following sections, the thesis will therefore examine the effect of the advisory position on the Board and determine whether this role can impact earnings quality.

6.7.1.2 The Moderating Effect of Board Advisory Role

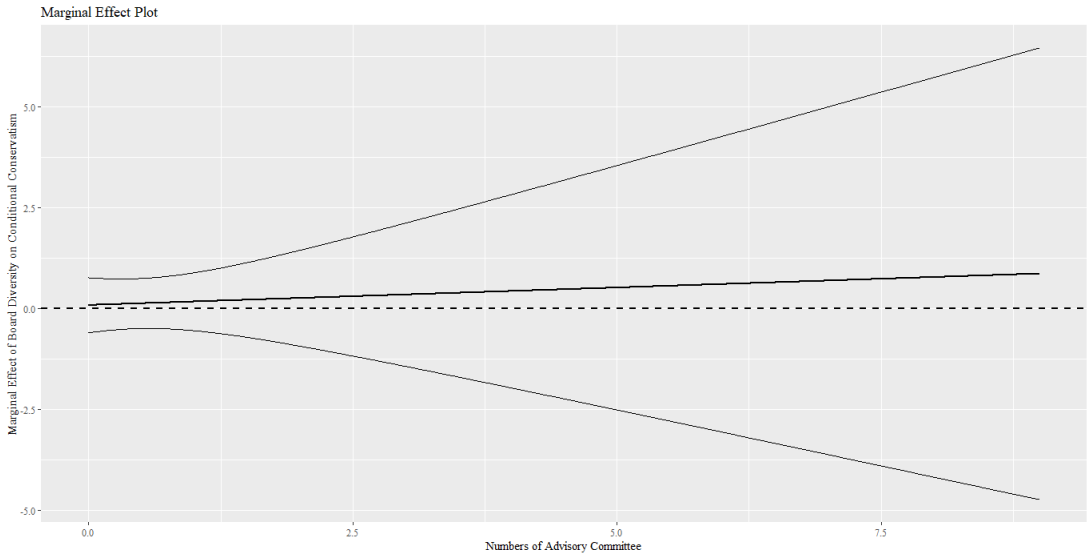
Panel B of Table 6.10 shows that the coefficients of Board diversity are all positive, indicating that it positively affects conditional conservatism. When the interaction term is taken into account, however, these links lack their statistical significance. Furthermore, the ADVIC coefficients are not statistically significant; consequently, there is no evidence that the advisory function impacts CON.

Whereas Panel A of Table 6.10 shows statistically significant evidence of a moderating effect of the Board's monitoring role on the relationship between Board diversity and CON, Panel B shows no such evidence of a moderating effect of the Board's advisory role. That is to say, the predicted interaction coefficients between Board diversity at any level and Board advisory roles are not significant. A larger Board advisory committee does not strengthen the link between Board diversity and conservative accounting practices (Hypothesis 5b1); hence the hypothesis is unproven.

The marginal effect visualisation, a useful interpretative tool for understanding the interaction effect, likewise reveals the insignificance of interaction effects of Board advisory duties. The P-value in Table 6.10 indicates that the interaction terms between Board diversity and Board advisory role are not statistically significant. Similarly, Figure 6.5 shows that the confidence intervals do not fall entirely above or below zero.

Figure 6. 5 The Marginal Effect of Board Diversity on Conditional Conservatism as a Function of Board Advisory role

This figure plots the marginal effects of Board diversity on conditional conservatism through full control variables across different levels of Board advisory role with 95% confidence intervals. The plots are based on Table 6.10. All variables are defined in Appendix A.



Despite the lack of evidence for the interaction terms between Board diversity and Board advisory roles on conditional conservatism, the interaction effect will be more pronounced in the robustness test, which will be discussed in the following section.

As previously mentioned, the marginal effect graph of Board monitoring duties (Figure 6.4) exhibits a more prominent decline compared to the marginal effect graph of Board advisory roles (Figure 6.5). As also seen by the data presented in Table 6.10, the magnitudes and statistical significance of the Board's monitoring functions are higher than those of the Board's advisory roles. Hence, one could posit that the impact of Board monitoring roles on conditional conservatism has greater significance in comparison to the impact of Board advisory activities. This implies that a more efficient Board serves as a more effective oversight of management activities, hence demanding more timely loss recognition. A possible explanation might be that the presence of a Board oversight role and the use of conservative accounting practices may serve to alleviate managers' motivations to engage in earnings manipulation.

6.7.2 The Interaction Analysis for Unconditional Conservatism

This part will explore the findings in response to the hypotheses (H4b2 and H5b2). Results are shown in Table 6.11.

Table 6. 11 The Moderating Effect of the Board of Director's Roles on the Link between Board Diversity and Unconditional Conservatism

The table shows fixed-effects regressions of Board diversity, with unconditional conservatism as the dependent variable and Board roles as moderators. All variables are defined in Appendix A. All explanatory variables are lagged by one year in order to avoid simultaneous problems. Standard errors are clustered at the firm level and are reported in parentheses. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

		Panel A			Panel B		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		0.131	0.228	0.030	0.218	0.259	0.210
		(0.242)	(0.229)	(0.241)	(0.222)	(0.221)	(0.222)
Independent Variables							
DIVERSITY	(+)	0.017			0.023**		
		(0.030)			(0.009)		
SURFACE	(+)		-0.048			0.014	
			(0.049)			(0.014)	
DEEP	(+)			0.073*			0.039***
				(0.044)			(0.013)
Moderators							
MONIC	(+)	0.038	0.013	0.070**			
		(0.034)	(0.021)	(0.033)			
ADVIC	(+)				0.092***	0.032*	0.081***
					(0.030)	(0.018)	(0.030)
Interactions							
*DIVERSE*MONIC*	(+ , -)	-0.002					
		(0.010)					
*SURFACE*MONIC*	(+ , -)		0.017				
			(0.017)				
*DEEP*MONIC*	(+ , -)			-0.018			
				(0.015)			
*DIVERSE*ADVIC*	(+ , -)				-0.027***		
					(0.009)		
*SURFACE*ADVIC*	(+ , -)					-0.026*	
						(0.014)	

Variables	Expected Sign	Panel A			Panel B		
		Aggregate	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
*DEEP*ADVIC*	(+ , -)						-0.036***
							(0.013)
Control Variables							
SIZE		-0.111***	-0.111***	-0.111***	-0.111***	-0.110***	-0.111***
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
AGE		0.001*	0.001**	0.001*	0.001*	0.001*	0.001*
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA		0.072***	0.072***	0.072***	0.072***	0.072***	0.072***
		(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
GROWTH		-0.008***	-0.008***	-0.008***	-0.008***	-0.008***	-0.008***
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
ZSCORE		-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
IFRS		-0.001	-0.001	-0.001	-0.001	-0.002	-0.002
		(0.053)	(0.053)	(0.053)	(0.053)	(0.053)	(0.053)
BIG4		-0.011	-0.011	-0.011	-0.010	-0.010	-0.011
		(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Country Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Observations		13522	13522	13522	13522	13522	13522
R-Squared		0.338	0.337	0.340	0.339	0.339	0.341
Durbin-Watson		1.692	1.693	1.693	1.692	1.692	1.693

6.7.2.1 The Moderating Effect of Board Monitoring Role

The coefficients of Board diversity at the aggregate and surface levels are not statistically significant, as shown in the first two columns of Table 6.11 (Panel A). However, there is a positive and statistically significant relationship between the Board's deep-level diversity and UNCON, which is consistent with Table 6.7's primary findings. In addition, this thesis discovers a positive link between Board monitoring roles and UNCON, particularly in the Board's deep-level diversity model. Since the interaction coefficients are not statistically significant, this thesis cannot discover any evidence for their impacts. Therefore, hypothesis 4b2 (that larger Board monitoring committees would improve the link between Board diversity and unconditional conservatism) cannot be supported. However, one can infer from Table 6.11, which highlights the Board's deep diversity, that the cognitive variety of director members significantly affects the company's conservative accounting practices.

Figure 6. 6 The Marginal Effect of the Board's Deep-level Diversity on Unconditional Conservatism as a Function of the Board Monitoring Role

This figure plots the marginal effects of Board diversity on unconditional conservatism through full control variables across different levels of Board monitoring role with 95% confidence intervals. The plots are based on Table 6.11. All variables are defined in Appendix A.

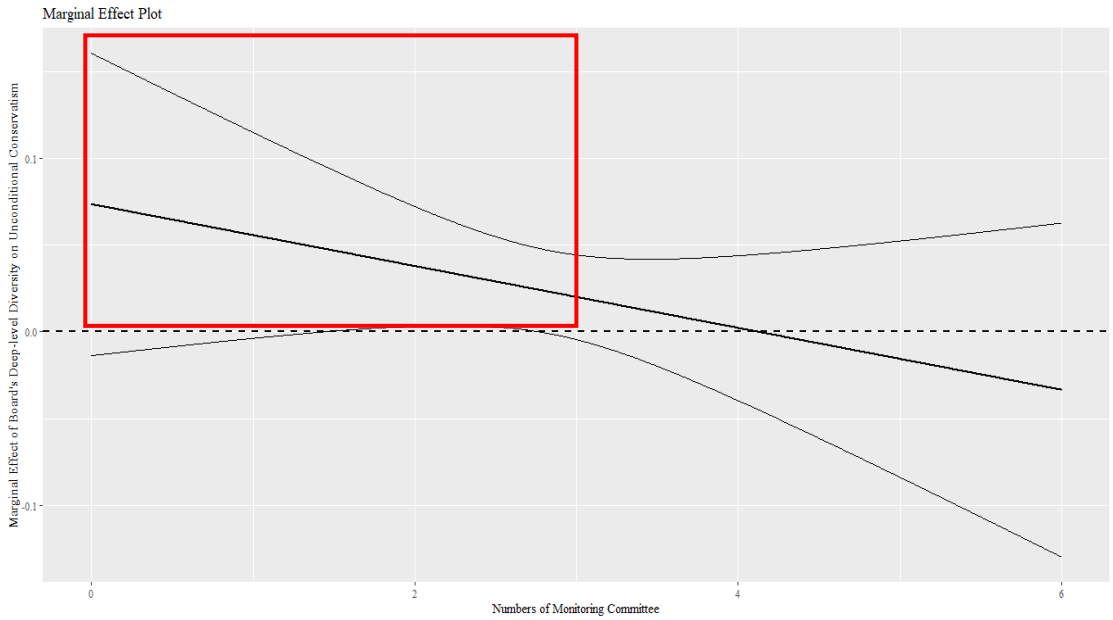


Figure 6.6 illustrates the marginal effect of the Board's deep-level diversity on UNCON for each given value of the Board's monitoring role in support of the previously mentioned statistical evidence. Figure 6.6 demonstrates that when there

are up to three monitoring committees, Board diversity has a positive influence on unconditional conservatism. After this threshold, when the company has more than three monitoring committees, an increase in Board diversity results in a decrease in UNCON. In this instance, the Board's oversight responsibilities and diversity function serve as substituting influences on accounting conservatism. This is consistent with the CON model's findings, as discussed in section 6.7.1.1.

6.7.2.2 The Moderating Effect of Board Advisory Role

As shown by the positive significant coefficients of Board diversity at the aggregate and deep levels in Columns 4 and 6 of Panel B in Table 6.11, a diverse Boardroom is associated with an increase in unconditional conservatism. Additionally, strong evidence also exists for the positive effects of the Board's advisory role on UNCON. Panel B of Table 6.11 also demonstrates that the Board's advisory role moderates the relationship between Board diversity and UNCON. However, the interaction between Board diversity and Board advisory roles has a negative effect on UNCON. Thus, hypothesis 5b2 is not supported (i.e. a larger Board advisory committee does not strengthen the relationship between Board diversity and unconditional conservatism).

According to the coefficient displayed in Table 6.11, firms with large Board advisory committees and a more diverse Boardroom appear less likely to engage in accounting conservatism. To demonstrate this logic, the conditional effect of Board diversity on unconditional conservatism as a function of Board advisory committees will be illustrated using a marginal effect graph, as depicted in Figure 6.7.

Figure 6. 7 The Marginal Effect of Board Diversity on Unconditional Conservatism as a Function of Board Advisory Role

This figure plots the marginal effects of Board diversity on unconditional conservatism through full control variables across different levels of Board advisory role with 95% confidence intervals. The plots are based on Table 6.11. All variables are defined in Appendix A.

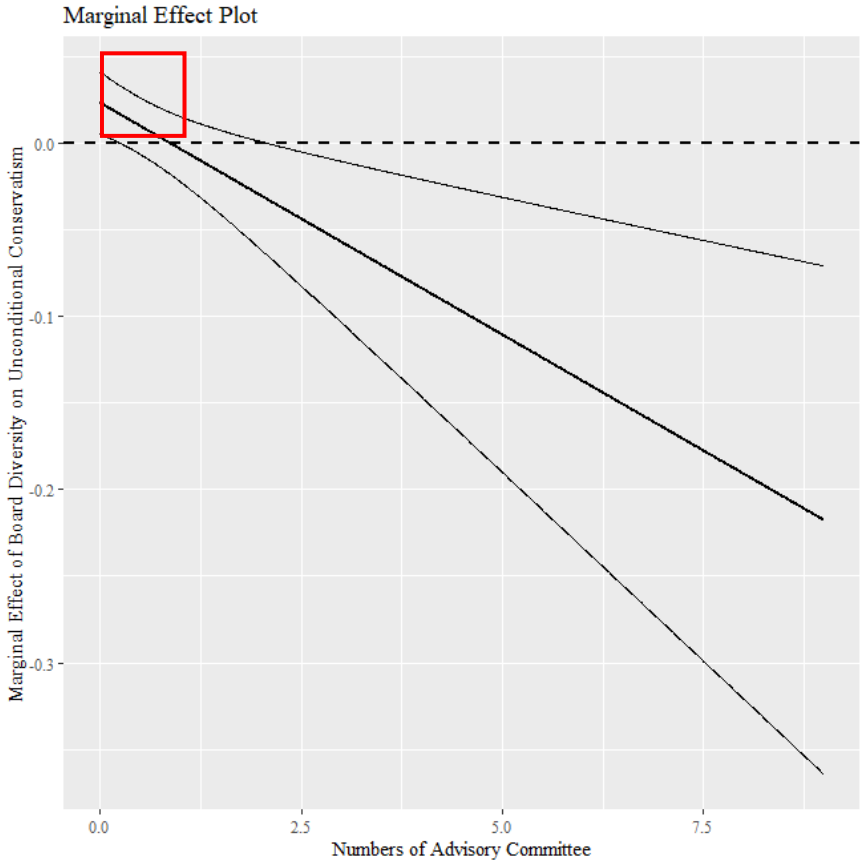


Figure 6.7 illustrates that conservative accounting is increased when there are very few advisory committees, no more than one, and a diverse Board. In contrast, when there are more than two advisory committees, firms with a more diverse Boardroom can have a significant detrimental impact on conservatism, as shown by the confidence bands that are all below zero. Therefore, when the Board's advisory function is greater, an increase in Board diversity causes accounting conservatism to decrease. The results may suggest that Board diversity modifies their structures by advising management; this can be explained by the substitutive roles between Board diversity and Board advisory roles that influence accounting conservatism.

This discovery is also consistent with the advisory functions of the Board discussed in Chapter 5. To support this finding, Hsu and Hu (2016) provide evidence highlighting the channel by which the advisory services provided by the Board increase the firm's

value by identifying and formulating a competitive strategy, thereby enhancing earnings quality. Another potential explanation is that director members depend on the management team to provide them with useful firm-specific information; the more comprehensive the information, the more information the Board receives from the management team. Importantly, the CEO and management team will not be willing to share firm-specific information with a Board that concentrates on intensive monitoring of Board diversity. As a result, the downward trend is more pronounced in the marginal effect graph of Board advisory roles (Figure 6.7) than in the marginal effect graph of Board monitoring roles (Figure 6.6). Furthermore, as seen in Table 6.11, the sizes of the Board's advisory functions exhibit greater magnitude and statistical significance compared to the Board's monitoring functions. Therefore, it may be argued that the influence of Board advisory tasks on unconditional conservatism is more significant compared to the influence of Board monitoring functions.

The data presented in Table 6.6 illustrates the direct relationship between Board diversity and conditional conservatism. The coefficients for SURFACE diversity (0.847) and DEEP diversity (0.230) indicate that SURFACE diversity has a greater effect on conditional conservatism compared to DEEP diversity. In contrast, Table 6.7 demonstrates that unconditional conservatism is significantly more impacted by DEEP diversity than SURFACE, with the former having a coefficient of 0.088 and the latter having a coefficient of 0.036. Furthermore, the interaction effect outcomes presented in Tables 6.10 and 6.11 suggest that accounting conservatism is more significantly influenced by DEEP diversity in comparison to SURFACE when Board diversity functions as an integrated governance mechanism with Board roles. For example, Table 6.10 shows that the significance level for the coefficient of DEEP is 99% with a value of 5.940, whereas the significance level for the coefficient of SURFACE is 90% with a value of 3.600. A similar observation is made regarding the coefficients; Table 6.11 reveals that DEEP has a significant coefficient of 0.073 and SURFACE has an insignificant coefficient of 0.048. In light of these results, it can be concluded that DEEP diversity influences accounting conservatism more significantly than SURFACE.

In addition, this suggests that the cognitive diversity of directors (Board's deep level diversity) is necessary for the monitoring and advisory roles of the Board to function as interdependent units that support and supplement one another. In order to improve the total quality of company earnings, SURFACE diversity alone may not be sufficient; therefore, the company must also consider DEEP diversity in the boardroom and in the composition of its Board committees.

6.8 Robustness Tests for The Interaction Analysis

In this section, additional tests are conducted to determine the reliability of the findings presented in the primary analysis regarding the moderating effect of the Board role on the relationship between Board diversity and accounting conservatism. Initially, alternate measures of the dependent variable, conservatism, are implemented. Second, alternate Proxies for moderators, namely Board's roles, are examined.

6.8.1 Robustness Tests for The Interaction Analysis in Conditional Conservatism

According to the robustness tests presented in this section, the findings are essentially comparable to those of the primary test.

6.8.1.1 Results Based on Alternatives Conditional Conservatism Proxy

This thesis uses fixed-effects regression with two alternative conditional conservatism proxies, CON2 and CON3. Hypotheses 4b1 and 5b1 are supported by the comparability of the robust results of the moderating effect in Table M1 (see Appendix M) to the main findings in Table 6.10. In particular, Board diversity at all levels continues to have a significant and positive relationship with CON, as measured by CON2 and CON3. Additionally, no changes have been made to the alternative models with respect to the coefficient directions or the significance of the Board's role in monitoring. Remarkably, the robustness tests reveal that the Board advisory role becomes statistically positive and significant with CON, as indicated by the positive coefficients of ADVIC in Table M1.

Concerning the moderating effect of the Board's monitoring function, robust models exhibit coefficients and levels of significance comparable to the main findings. To clarify, the interaction coefficients continue to be significant and negative. Interestingly, Model CON3 reveals that the interaction effect between Board advisory

role and Board diversity becomes statistically significant and negative, whereas there is no evidence of significance in the main findings. As shown in Figures 6.8 and 6.9, the positive association between Board diversity and CON decreases when the dual functions of the Board are more prominent.

Figure 6. 8 The Marginal Effect of Board Diversity on Alternative CON Proxy as a Function of Board Monitoring Role

This figure plots the marginal effects of Board diversity on alternative conditional conservatism through full control variables across different levels of Board monitoring role with 95% confidence intervals. The plots are based on Table M1 (Appendix M). All variables are defined in Appendix A.

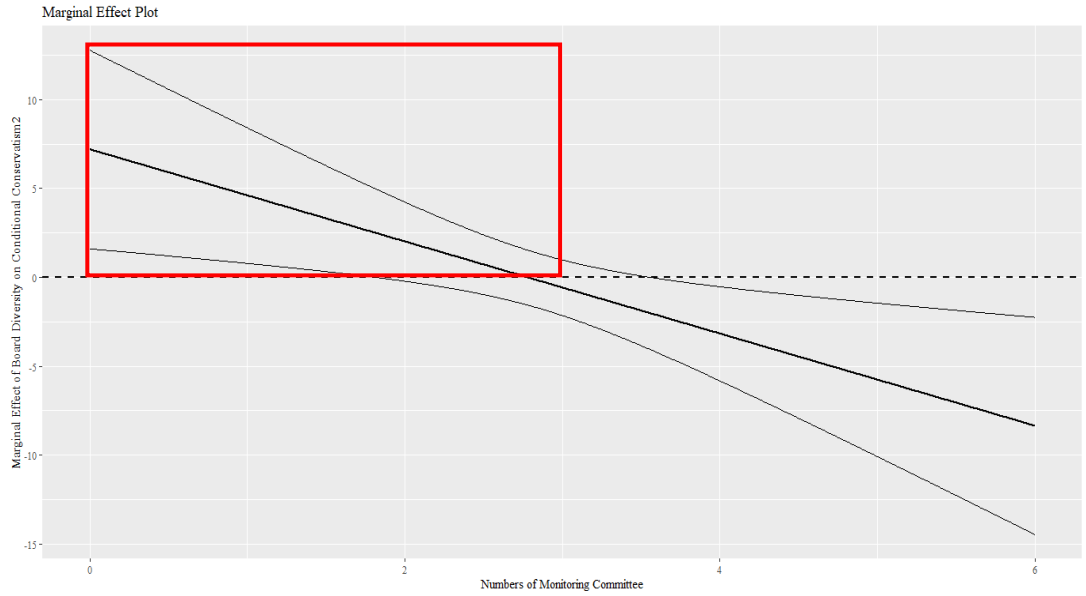
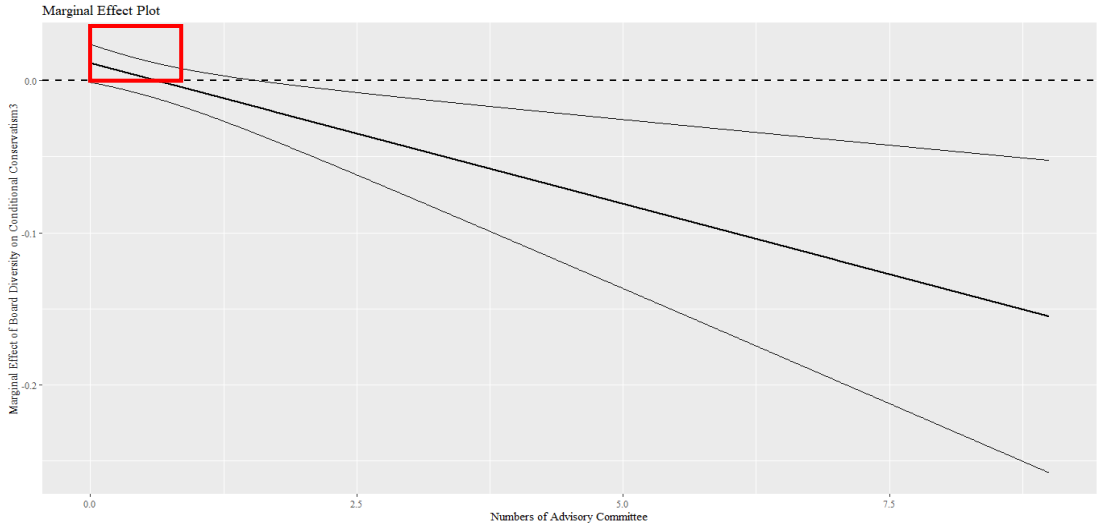


Figure 6. 9 The Marginal Effect of Board Diversity on Alternative CON Proxy as a Function of Board Advisory Role

This figure plots the marginal effects of Board diversity on alternative conditional conservatism through full control variables across different levels of Board advisory role with 95% confidence intervals. The plots are based on Table M1 (Appendix M). All variables are defined in Appendix A.



These results support the idea that more conservative accounting can be achieved by applying one of two distinct Board characteristics: Board diversity or Board functions. The company can only emphasise one characteristic at a time, as focusing on both may reduce the quality of the accounting information. This logic suggests that a diverse Board will only increase CON if the dual Board roles are minimal. To clarify, the Board's duties — monitoring and advisory functions — and its compositional diversity serve as ***substitute*** factors influencing CON. Overall, it is possible to conclude that the interaction effect is comparable to the primary outcomes and robust with respect to the alternative proxy of conditional conservatism.

6.8.1.2 Results Based on Alternatives Moderator Proxy

The alternative moderator proxy utilised in this section is similar to the one applied in earnings management analysis, as described in Chapter 5. In this case, the Board's directorship is another aspect of its responsibilities. Specifically, this robustness test examines the monitoring and advisory functions of each director on the Board.

Table M2 (see Appendix M) presents the robustness test for alternative Board proxy roles. Although the magnitude and significance level of the moderators in the robustness test are smaller than those in the primary test, the moderating effect of the robustness test can be comparable to that of the primary test. Specifically, monitoring directors continue to be substantially positively associated with CON in the model of the aggregate and deep level of Board diversity (coefficients of 1.379 and 1.055, respectively). Therefore, monitoring directors can also increase the level of conservative accounting. Also, the interaction effects between Board diversity and monitoring directors continue to have a substantial relationship with CON.

Concerning the moderating effect of the Board's advisory duties, there is still no evidence of advisory directors on the relationship between Board diversity and CON; this is comparable to the advisory committees found in the primary test. Consequently, advisory directors may not affect conservatism. In conclusion, the robustness test results are qualitatively comparable to those reported in the main analysis. Diverse boards lead to more conservative accounting practices. Furthermore, the more monitoring directors a company has, its accounting practices

will be more conservative. However, the company can only emphasise one Board characteristic at a time, as emphasising both may reduce accounting conservatism.

6.8.2 Robustness Tests for The Interaction Analysis in Unconditional Conservatism

This section will investigate UNCON2 as a substitute proxy for unconditional conservatism. An additional aspect of Board responsibilities based on its directorship will also be examined.

6.8.2.1 Results Based on Alternatives Unconditional Conservatism Proxy

In the same vein as the main study, the fixed-effects regression with an alternate proxy for unconditional conservatism, UNCON2, will be investigated. Table N1 (see Appendix N) displays the outcomes of the robustness test, which corroborate the findings from the primary interaction analysis.

Table N1 demonstrates that the alternative proxy for unconditional conservatism is more significant than the primary findings in Table 6.11. In particular, the coefficient of Board diversity at the aggregate level appears positive and statistically significant for the accruals-based measure of unconditional conservatism. Additionally, the moderator coefficient (Board monitoring's role) and interaction term show a significant relationship with UNCON2. Under UNCON2, therefore, the monitoring responsibilities of the Board provide stronger evidence. In contrast, the interaction effect between Board diversity and Board advisory roles is less pronounced in the UNCON2 model. Regarding this, there is no evidence of the Board's advisory moderator on the link between Board diversity and the accruals-based measure of UNCON, whereas there was evidence of this in the primary test.

According to the unconditional conservatism model, the level of diversity at the Board's deep levels may be more influential on unconditional conservatism than diversity at the Board's surface levels. These are evident from deep-level coefficients being greater in magnitude and statistically significant than their surface-level counterparts. Both primary and robustness tests provide this proof. One possible reason for this is ex-ante conservatism, which refers to conservative accounting decisions made before the occurrence of economic conditions, as described in Chapter 2. Accordingly, unconditional conservatism is associated with managerial discretion.

That is the reason why unconditional conservatism may stem from the Board's diverse set of cognitive directors rather than its demographic background.

Figure 6. 10 The Marginal Effect of Board Diversity on Alternative UNCON Proxy as a Function of Board Monitoring Role

This figure plots the marginal effects of Board diversity on alternative unconditional conservatism through full control variables across different levels of Board monitoring role with 95% confidence intervals. The plots are based on Table N1 (Appendix N). All variables are defined in Appendix A.

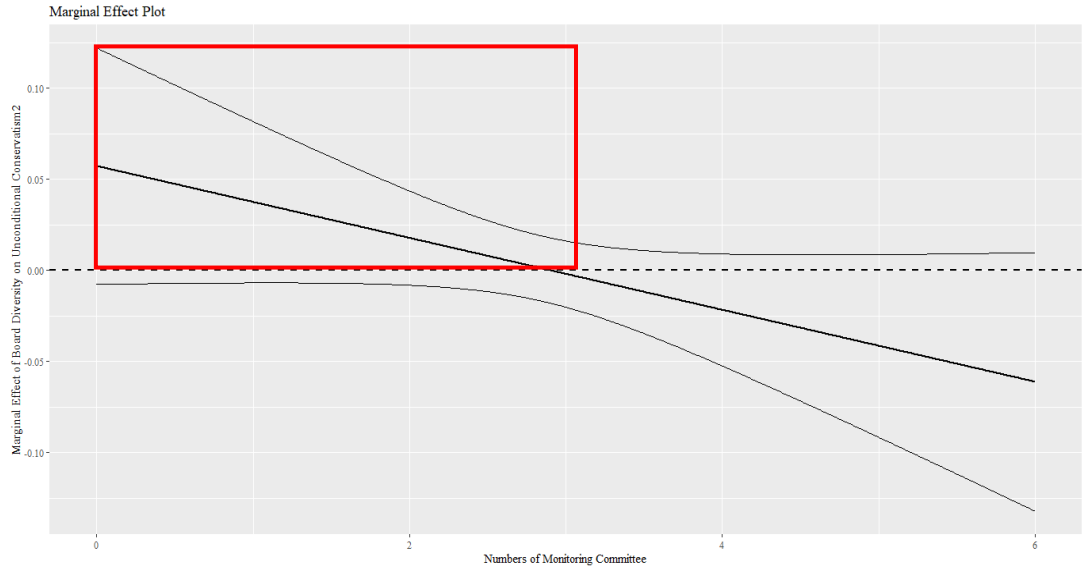
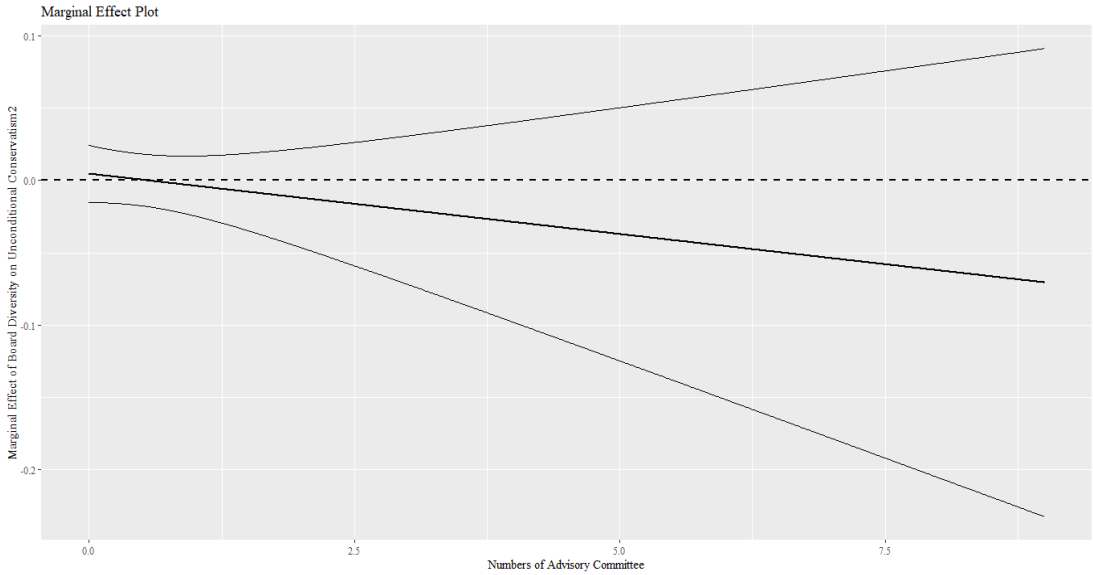


Figure 6. 11 The Marginal Effect of Board Diversity on Alternative UNCON Proxy as a Function of Board Advisory Role

This figure plots the marginal effects of Board diversity on alternative unconditional conservatism through full control variables across different levels of Board advisory role with 95% confidence intervals. The plots are based on Table N1 (Appendix N). All variables are defined in Appendix A.



Figures 6.10 and 6.11 display a downward trend in marginal effect graphs showing that as Board monitoring and advisory committee sizes increase, the positive impact of diversity on UNCON2 becomes less prominent. Therefore, this finding presents corroborating evidence for the fundamental finding that a more diverse Board leads to a slight reduction in conservative accounting when the Board's dual function is extensive.

6.8.2.2 Results Based on Alternatives Moderator Proxy

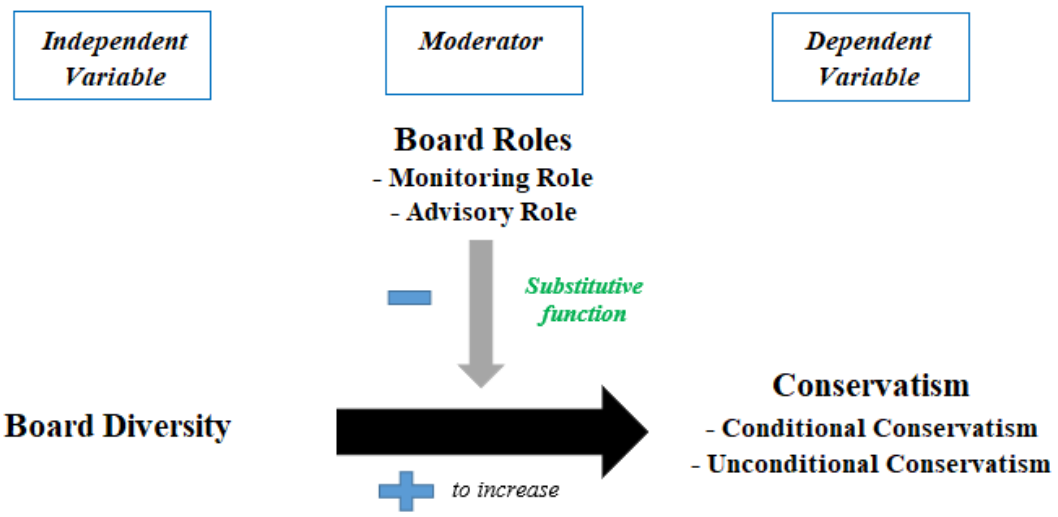
This section investigates the Board's directorship as a moderating effect, similar to an alternative proxy moderator tested in conditional conservatism.

Table N2 (see Appendix N) provides robust evidence that monitoring directors and advisory directors can serve as effective alternatives to proxies as moderators. The results of the robust tests are comparable to those of the primary tests. To clarify, Board monitoring roles, which in this robust test consist of monitoring directors, found no conclusive evidence on the relationship between Board diversity and accounting conservatism. This is consistent with the primary finding that there was no evidence of significant interaction terms between DIVERSE*MONIC. In contrast, the significant coefficients of DIVERSE*ADVID indicate that the interaction between Board diversity and advising duties considerably impacts unconditional conservatism, even when the robust test is applied to advisory directors.

In conclusion, this robustness test supports the primary finding regarding the Board's advisory role. The more diverse the Board, the more conservative the organisation's accounting policies are. In essence, the higher the quality of accounting information, the more advice the Board provides to the management team. Until the company reaches a specific threshold of Board advisory roles, it must choose only one Board characteristic at a time, either a diverse Board or larger Board roles, as a combination of both might decrease accounting conservatism. A possible explanation for this might be that the Boards' functions and Board diversity play substitutive roles. This also supports the finding of the interaction analysis discussed in Chapter 5.

Figure 6. 12 Summary Results of Conservatism Analysis

This figure illustrates a summary of the findings regarding the relationship between Board diversity (independent variables) and accounting conservatism (dependent variables), with Board roles serving as moderators.



To conclude this section, substantial evidence supports the claim that Board diversity significantly influences conditional and unconditional accounting conservatism. The results also confirm that Board monitoring and advisory roles can improve accounting conservatism. However, Figure 6.12 shows that the positive link between Board diversity and conservatism weakens when Board roles are stronger. The findings imply that *'**the substitutive role**'*, which balances Board diversity and Board functions in these effects, has more influence on conservative financial reporting.

The research findings presented in Chapters 5 and 6 suggest that Board diversity and Board roles substantially affect the quality of accounting information. However, the results only concentrated on particular aspects of earnings quality, called isolated dimensions of earnings quality attributes. To clarify, Chapter 5 emphasised only earnings management, whereas Chapter 6 highlighted only accounting conservatism. In light of this, the subsequent sections will investigate the combined aspect of earnings quality to determine whether Board diversity and Board roles encourage or discourage the aggregate level of earnings quality.

6.9 Univariate Analysis of Earnings Quality

This thesis develops an aggregate measure of earnings quality (as described in Chapter 4) to mitigate the effects of potential measurement errors in the individual accounting

measures of earnings attributes. This section provides an overview of regression and interaction analysis pertaining to the impact of Board diversity on earnings quality.

6.9.1 Multiple Regression Analysis for Earnings Quality

The outcomes of the regression analysis using aggregate earnings quality as the dependent variable are shown in Table 6.12. The calculation of aggregate earnings quality (EQ1) will use the summation of four individual baseline components, namely AEM1, REM3, CON1, and UNCON1, which were examined in Chapters 5 and 6.

Table 6.12 displays the results of the fixed effects robust model, which accounts for certain assumption violations using clustered standard error. There exists evidence supporting the notion that a diverse composition of the Board has a positive effect on the quality of earnings. To provide more clarification, the statistical significance of the coefficients pertaining to Board diversity at any levels is found to be significant. The observed phenomenon can potentially be explained by the statistical significance discovered in the diversity of tenure among the Board members, as indicated in Column 7 of Table 6.12. This implies that the greater the tenure diversity of the Board, the higher the quality of the company's earnings.

Table 6. 12 Multiple Regression Analysis for Earnings Quality

The table shows fixed-effects regressions of Board diversity, with earnings quality as the dependent variable. All variables are defined in Appendix A. All explanatory variables are lagged by one year in order to avoid simultaneous problems. Standard errors are clustered at the firm level and are reported in parentheses. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.443***	0.460***	0.444***	0.464***	0.459***	0.467***	0.459***	0.442***
		(0.010)	(0.008)	(0.009)	(0.008)	(0.009)	(0.009)	(0.008)	(0.016)
Independent Variables									
DIVERSITY	(+)	0.008***	0.005*	0.011***	0.005	0.007	-0.004	0.017***	0.025*
		(0.002)	(0.003)	(0.003)	(0.007)	(0.007)	(0.006)	(0.003)	(0.016)
Control Variables									
SIZE		-0.007***	-0.007***	-0.007***	-0.007***	-0.007***	-0.006***	-0.007***	-0.007***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
AGE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
ROA		0.080***	0.082***	0.080***	0.082***	0.082***	0.082***	0.080***	0.082***
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
GROWTH		-0.004***	-0.005***	-0.004***	-0.005***	-0.005***	-0.005***	-0.004***	-0.005***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
ZSCORE		-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
IFRS		0.003	0.004	0.003	0.004	0.004	0.004	0.003	0.003
		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
BIG4		0.017***	0.017***	0.017***	0.017***	0.017***	0.018***	0.018***	0.018***
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		13522	13522	13522	13522	13522	13522	13522	13522
R-Squared		0.111	0.110	0.111	0.110	0.110	0.110	0.111	0.110
Durbin-Watson		2.201	2.201	2.201	2.201	2.201	2.201	2.201	2.201
F-Stat		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Overall, the findings of this study, specifically on the diversity at the aggregate level of the Board, provide support for the main conclusions of the earnings management and conservatism models that were examined in Chapters 5 and 6.

Moreover, Table 6.12 provides further evidence for the impact of some control variables on earnings quality, which can be compared to the baseline results. In other terms, the relationship between firm size and earnings quality is negative. Specifically, this finding indicates that larger firms may not disclose a higher quality of earnings. This negative relationship is consistent with the idea that larger firms are more likely to be more mature and to have more effective information environments, thus reducing information asymmetries between principals and agents. As a consequence of the reduced information asymmetries in larger firms, there is less demand for the earnings quality of larger firms.

In addition, as shown in Table 6.12, a considerable positive connection exists between a company's return on assets and the quality of its earnings. This indicates that the management of highly profitable businesses will improve the quality of earnings. One possible explanation is that the company wants to report its earnings properly without being overstated or understated. In addition, according to the political cost hypothesis, companies with high-profit margins incur greater political costs. This will prompt profitable companies to implement the qualified earnings attributes to avoid public attention. However, it was discovered that earnings quality was negatively correlated with the company's growth. This might be because increased sales growth is likely to lead to a rise in earnings manipulations, thus decreasing accounting quality. In addition, Table 6.12 demonstrates that distressed firms have lower earnings quality. As demonstrated by the positive coefficients of IFRS and Big4, there is evidence that the adoption of effective accounting and auditing practices can improve the quality of earnings.

6.9.2 Robustness Tests: The Effect of Board Diversity on Earnings Quality

Similar to the baseline analysis, the primary objective of this section is to assess the sensitivity or robustness of the initial regression analysis findings (EQ1) to alternative estimations and models.

6.9.2.1 Results Based on Alternatives Earnings Quality Proxy

This section proposes different measures of earnings quality based on the earnings management and conservatism discussed in Chapters 5 and 6. This section will employ EQ2 and EQ3 as alternative indicators for assessing earnings quality, as defined in Chapter 4. Table O1 (see Appendix O) indicate that the use of alternative earnings quality proxies does not significantly alter the primary findings. EQ2 and EQ3 yield comparable results to EQ1 in terms of the magnitude and level of significance of the coefficients. Specially, the relationships between alternative EQs and Board diversity, at the aggregate and deep levels, are pronounced, as indicated by the coefficients with statistical significance.

Thus, based on the robust results, it is possible to conclude that Board diversity can improve the earnings quality of companies. This can be explained by the multi-theoretical perspectives developed in Chapter 3. To clarify, according to human capital theory, the heterogeneity among directors resulting from each director's diverse and unique human capital enhances creative and cognitive abilities, resulting in benefits for the group and organisation. According to resource dependence theory, the diverse human capital of directors is considered an essential firm resource because it can link the company and valuable external resources such as information, knowledge, channels, and legitimacy. Agency theory posits that Board diversity can increase the Board's ability to monitor management's activities, particularly the financial reporting process. Once companies have a well-structured Board and an effective accounting system, they will be able to reduce information asymmetry between principals and agents.

6.9.2.2 Results Based on Random Effects Model

Table O2 (see Appendix O) presents the outcomes of Ordinary Least Squares (OLS) and random effects regression models, which were employed to examine the relationship between earnings quality (EQ1) and variables such as Board diversity and control variables. It is crucial to compare the results of random effects and the pooled OLS estimations to ensure the validity of the findings reported in the main study, even though the Hausman test shown in Table 6.13 favours fixed-effects estimation (Prob>chi2 = 0.0000).

Table 6. 13 Hausman Test: Earnings Quality

This table shows the Hausman Test to determine which of the fixed-effects and random-effects most adequately explains the study results.

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	85.51611	9	0

As seen in Table O2 of the Appendix, the results of the primary and robust analyses are generally consistent with one another, both in terms of the size of the coefficient and the degree of significance. More specifically, the findings of random-effects and the pooled OLS regression support the positive effect of Board diversity at the aggregate and deep levels on earnings quality found in the previous section.

6.9.3 The Interaction Analysis

This section examines the conditional hypothesis, "Do Board monitoring and advising functions modify the link between Board diversity and earnings quality?".

6.9.3.1 The Moderating Effect of Board Monitoring Role

This section discusses the results presented in Table 6.14 in response to the proposed hypotheses (H4) regarding the moderating effect of Board monitoring functions. As indicated in Panel A of Table 6.14, the findings suggest that Board diversity influences improving the quality of company earnings. The coefficients of DIVERSE and DEEP (β_1 = 0.015 and 0.028, respectively) become positive and statistically significant when considering the interaction term, Board monitoring roles. In addition, as shown in Panel A of Table 6.14, the Board's monitoring function has a positive and statistically significant relationship with earnings quality, as indicated by the positive coefficients of MONIC.

Table 6. 14 The Moderating Effect of the Board of Director's Roles on the Link between Board Diversity and Earnings Quality

The table shows fixed-effects regressions of Board diversity, with earnings quality as the dependent variable and Board roles as moderators. All variables are defined in Appendix A. All explanatory variables are lagged by one year in order to avoid simultaneous problems. Standard errors are clustered at the firm level and are reported in parentheses. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

		Panel A			Panel B		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		0.416***	0.451***	0.408***	0.442***	0.459***	0.444***
		(0.024)	(0.016)	(0.024)	(0.010)	(0.009)	(0.010)
Independent Variables							
DIVERSITY	(+)	0.015**			0.008***		
		(0.007)			(0.002)		
SURFACE	(+)		0.010			0.006*	
			(0.013)			(0.004)	
DEEP	(+)			0.028***			0.011***
				(0.011)			(0.003)
Moderators							
MONIC	(+)	0.010	0.003	0.013*			
		(0.008)	(0.005)	(0.008)			
ADVIC	(+)				0.014**	0.010**	0.013*
					(0.007)	(0.004)	(0.007)
Interactions							
*DIVERSE*MONIC*	(+ , -)	-0.003					
		(0.003)					
*SURFACE*MONIC*	(+ , -)		-0.002				
			(0.004)				
*DEEP*MONIC*	(+ , -)			-0.006*			
				(0.004)			
*DIVERSE*ADVIC*	(+ , -)				-0.002		
					(0.002)		
*SURFACE * ADVIC*	(+ , -)					-0.003	
						(0.003)	
DEEP ADVIC*	(+ , -)						-0.003
							(0.003)

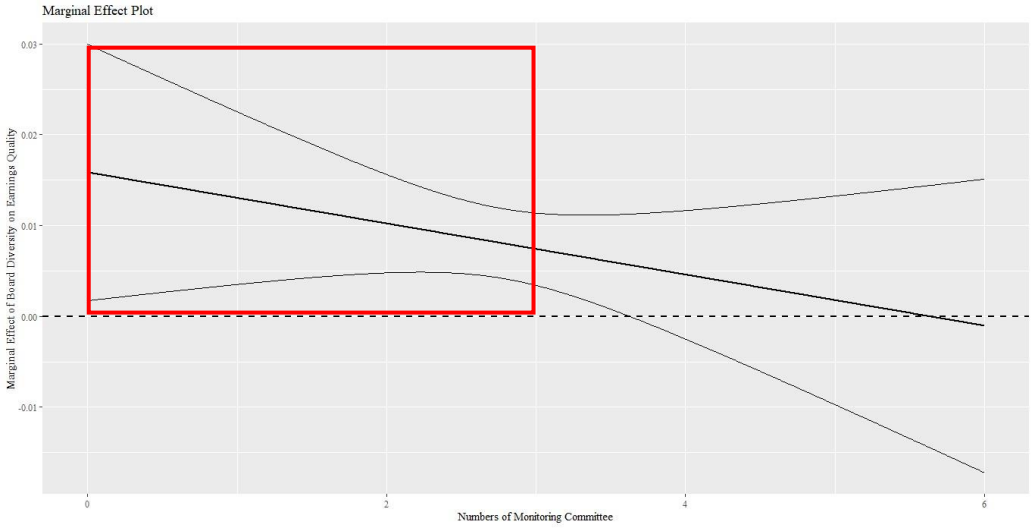
Variables	Expected Sign	Panel A			Panel B		
		Aggregate	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Control Variables							
SIZE		-0.007***	-0.007***	-0.007***	-0.007***	-0.007***	-0.007***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
AGE		0.001	0.001	0.001	0.001	0.001	0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
ROA		0.081***	0.082***	0.080***	0.080***	0.081***	0.080***
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
GROWTH		-0.004***	-0.005***	-0.004***	-0.004***	-0.004***	-0.004***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
ZSCORE		-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
IFRS		0.004	0.004	0.004	0.004	0.004	0.004
		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
BIG4		0.017***	0.017***	0.017***	0.017***	0.017***	0.017***
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Country Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Observations		13522	13522	13522	13522	13522	13522
R-Squared		0.111	0.110	0.111	0.112	0.111	0.112
Durbin-Watson		2.200	2.201	2.201	2.201	2.201	2.201
F-Stat		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

As shown by the magnitudes of coefficients and significance levels in Table 6.14, it appears that the Board's diversity at a deep level has a greater impact on earnings quality than its diversity at a surface level. Consequently, this thesis finds significant evidence of the Board's monitoring function only in the relationship between the Board's deep-level diversity and earnings quality. The negative coefficient of the interaction term DEEP*MONIC indicates that the interaction between high Board diversity and high Board monitoring function decreases the firm's propensity to engage in earnings quality. These outcomes suggest that either Board diversity or Board monitoring functions significantly impact earnings quality. One could say that Board diversity and its monitoring roles serve as substitute roles, supporting the previous sections' findings regarding earnings management and conservatism.

Figure 6.13 provides evidence that when Board's monitoring committees are larger, increases in Board diversity result in a significant decline in earnings quality. As shown in Figure 6.13, the effect of Board diversity on earnings quality is positive when there are fewer than three monitoring committees, which is beneficial for the company. In contrast, when monitoring is performed by more than three monitoring committees, the relationship between Board diversity and earnings quality will be weakened.

Figure 6. 13 The Marginal Effect of Board Diversity on Earnings Quality as a Function of Board Monitoring Role

This figure plots the marginal effects of Board diversity on earnings quality through full control variables across different levels of Board monitoring role with 95% confidence intervals. The plots are based on Table 6.14. All variables are defined in Appendix A.



Considering the turning point at three monitoring committees, there is evidence from the marginal effect analysis that the effect of Board diversity on accounting measures of earnings attributes will decrease when the company has more than three monitoring committees. The marginal effect graphs of Board diversity on each earnings quality attribute — accruals earnings management, real earnings management, conditional conservatism, unconditional conservatism, and aggregate earnings quality — indicate that an increase in the number of Board monitoring committees beyond three leads to a decline in earnings quality.

Overall, the results support the idea that Board diversity and monitoring functions are substitutive in determining the quality of company earnings. The evidence is also essential for companies that attempt to reduce information asymmetry among investors and other stakeholders by strategising towards high-quality financial reporting, particularly in a balanced Board structure. In this regard, there is a rationale for strengthening corporate boards, such as by establishing a well-diverse Board and an effectively-monitoring Board that can better comprehend the accounting information quality of companies.

6.9.3.2 The Moderating Effect of Board Advisory Role

Table 6.14, panel B, demonstrates the positive impact that a diverse Board has on improving earnings quality. There is evidence of a link between Board diversity and earnings quality in Table 6.12 (unconditional effect model), and a positive relationship also appears to exist when the advising role of the Board is taken into account. The coefficients of DIVERSE, SURFACE and DEEP (β_1 = 0.008, 0.006, and 0.011, respectively) turn out statistically significant and positive, as shown in Table 6.14. In addition, as predicted by this thesis, there is evidence that the Board's advisory role improves earnings quality.

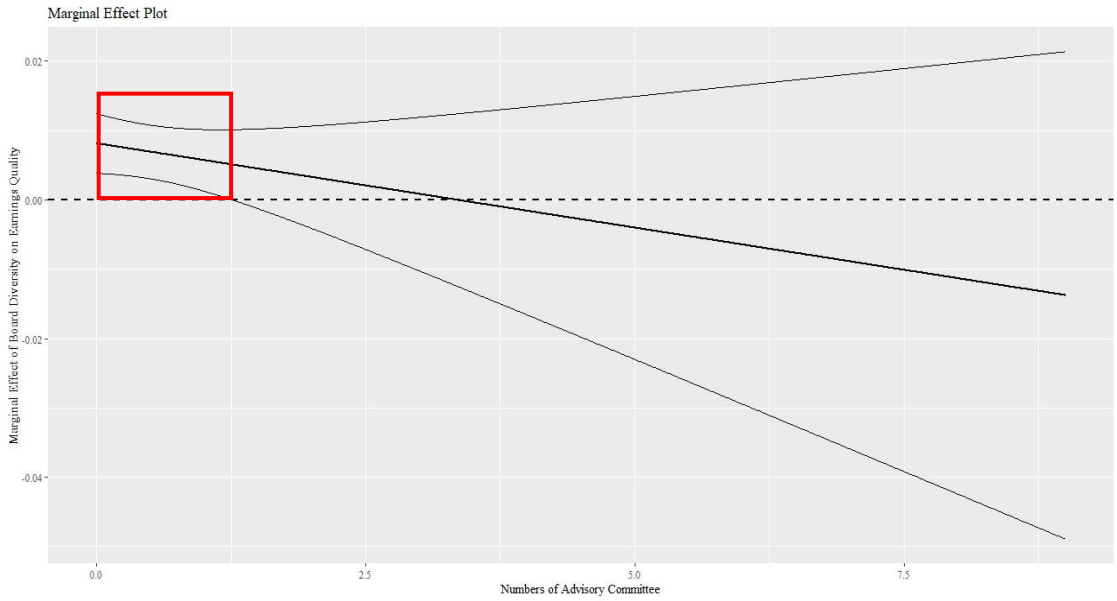
Table 6.14's interaction terms support the findings of interaction analysis in the earnings management and conservatism models, indicating that increased Board diversity coupled with increased Board advisory roles reduces the quality of a company's earnings. Put another way, the quality of earnings can only be improved by one of the characteristics of the Board at any given time: either Board diversity or

Board advising role. The quality of financial reporting may suffer if the organisation uses two of these Board features simultaneously.

In support of the statistical evidence found in Table 6.14, the downward trend of the marginal effect graph in Figure 6.14 demonstrates that when the Board's advisory function is larger, an increase in Board diversity leads to a decline in earnings quality. In addition, Figure 6.14 demonstrates that the turning point of Board advisory committees (only one[39] committee) is less than that of Board monitoring committees (at three committees), as depicted in Figure 6.13. This suggests that Board diversity will only positively affect earnings quality when only one Board advisory committee is established. It might be that the company used as a sample in this thesis may have an effective Board advisory mechanism in place. Consequently, the Board diversity system may no longer be required in this context.

Figure 6. 14 The Marginal Effect of Board Diversity on Earnings Quality as a Function of Board Advisory Role

This figure plots the marginal effects of Board diversity on earnings quality through full control variables across different levels of Board advisory role with 95% confidence intervals. The plots are based on Table 6.14. All variables are defined in Appendix A.



In general, Table 6.14's interaction analysis demonstrates that the dual Board functions of monitoring and advisory, as well as their diversity, exert supplementary influences on earnings quality. The results of this study corroborate those of Uyar et al. (2022),

[39] The corresponding standard errors of such marginal effects are reported in Appendix P.

who discovered that a substitution role exists between Board diversity (as reflected in Board expertise and independence) and Board roles (as represented in Board monitoring and advisory committees). Thus, one CG mechanism has a substitutive relationship with other governance mechanisms, in terms of its effect on the transparency and accountability practices of a company.

In addition, Board diversity at a deeper level has a more significant impact on company earnings quality than Board diversity at a superficial level, as evidenced by the magnitude of coefficients and significance level. This result is consistent with the findings of Harrison et al. (1998), who discovered that deep-level diversities are more important than surface-level variables in determining group social integration. Also, Harrison et al. (2002) suggested that the longer a team works together, the less impact surface-level diversity has on team outcomes, whereas deep-level diversity has an added benefit, which in turn affects task performance. A possible explanation is that the knowledge and decisions of directors are influenced by their professional experiences and skills, thereby enhancing the Board's cognitive contributions and the financial reporting process (Ranasinghe et al., 2015). Consequently, this thesis suggests that directors' cognitive abilities are more important than their demographic characteristics when considering these effects on earnings quality.

The interaction analysis results presented in this thesis indicate that companies with a diverse board of directors and up to three monitoring committees — specifically, the audit, remuneration, and nominating committees — can improve the quality of the company earnings. Furthermore, a company with a single advisory committee and a diverse Board can also enhance the quality of earnings. These results are consistent with the concept of a busyness of director. An increasing body of research provides support for the claim that directors who hold multiple Board memberships gain reputational benefits, experience, and knowledge (Brown & Maloney, 1999; Fama & Jensen, 1983; Gul & Leung, 2004). Nevertheless, directors who hold multiple Board seats might be overburdened and unable to effectively carry out their monitoring roles due to time constraints and a hectic schedule (Fich & Shivdasani, 2006). This is consistent with the findings of Fich and Shivdasani (2006), who found that busy directors have a negative correlation with firm performance. In the same way, Ferris et al. (2003) contend that holding multiple directorships can threaten firm value and

increase agency costs. Therefore, this thesis proposes that the organisation establish an appropriate number of Board committees (approximately three monitoring committees and one advisory committee) in addition to ensuring diversity in the Boardroom. This would enable these mechanisms to function in combination and enhance the overall performance of the firm.

6.9.4 Robustness Tests for The Interaction Analysis

The findings reported in the primary analysis addressing the moderating influence of Board diversity and Board roles on earnings quality are investigated further in this section to ensure their robustness.

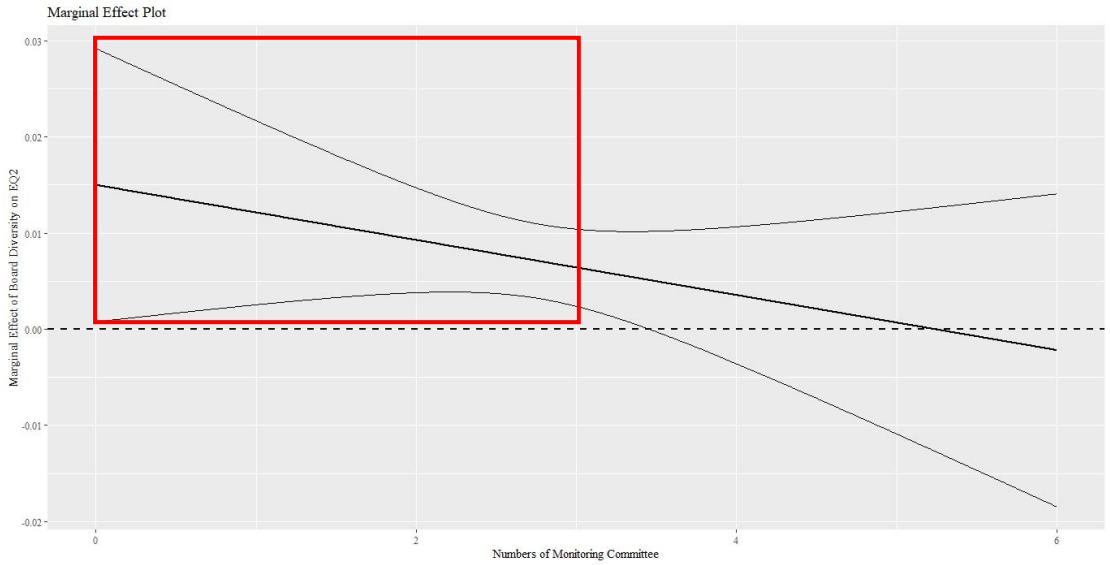
6.9.4.1 Results Based on Alternatives Earnings Quality Proxy

The alternative proxies for earnings quality in this thesis are EQ2 and EQ3. The robust results of the moderating effect in Table Q1 (see Appendix Q) are comparable to the primary results in Table 6.14. To clarify, there appears to be a positive and significant relationship between Board diversity and earnings quality, as measured by EQ2 and EQ3. Specifically, EQ3-measured earnings quality was found to have a positive association with Board diversity at all levels. In terms of coefficient values and the significance of the Board's function in monitoring, EQ2 and EQ3 are more robust by this factor than EQ1. Table Q1 demonstrates that EQ3 was discovered to have a positive relationship with the Board's monitoring role across all diversity dimensions. Significantly, the Board advisory role appears to have a positive statistical relationship with earnings quality, as measured by two alternative proxies.

Furthermore, there is strong evidence to support the interaction effect between Board diversity and Board monitoring roles on earnings quality as found in the EQ3 model. The coefficients of DIVERSITY*MONIC become statistically significant. As also depicted in Figure 6.15, the positive relationship between Board diversity and earnings quality is weakened when the Board's monitoring duties become more powerful; this is consistent with the baseline-EQ1 model.

Figure 6. 15 The Marginal Effect of Board Diversity on Alternative EQ Proxy as a Function of Board Monitoring Role

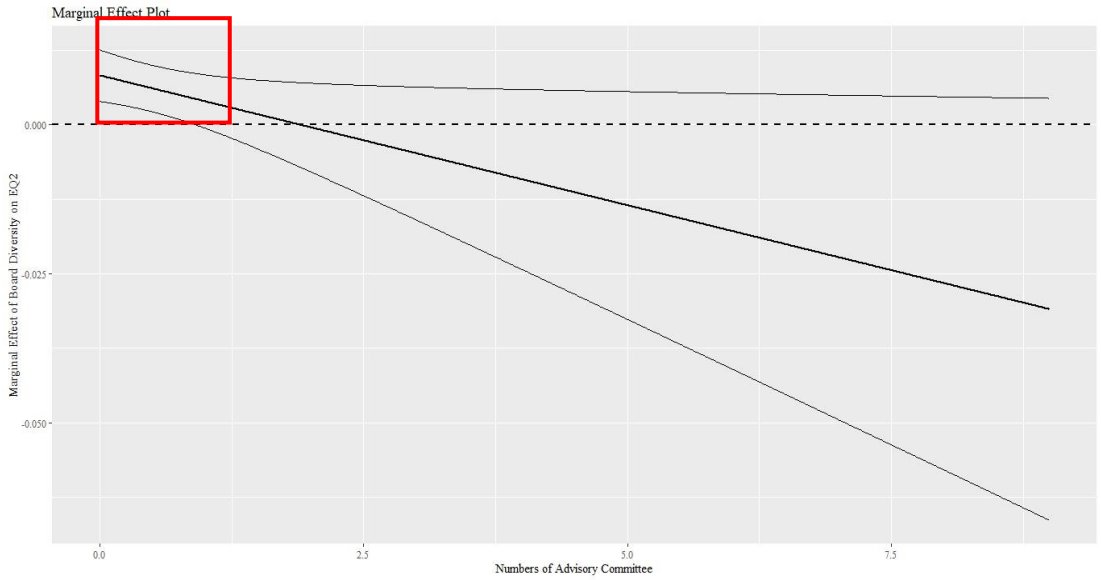
This figure plots the marginal effects of Board diversity on alternative earnings quality through full control variables across different levels of Board monitoring role with 95% confidence intervals. The plots are based on Table Q1 (Appendix Q). All variables are defined in Appendix A.



Moreover, there is substantial evidence to support the interaction between Board diversity and Board advisory roles on earnings quality. Specifically, for the EQ2 and EQ3 models, the coefficients; magnitude and significance level are substantially higher than the baseline models. This proves that Board diversity and advisory functions are complementary in enhancing the quality of company earnings. As shown in Figure 6.16, the positive link between Board diversity and earnings quality decreases when the Board's advisory roles are higher.

Figure 6. 16 The Marginal Effect of Board Diversity on Alternative EQ Proxy as a Function of Board Advisory Role

This figure plots the marginal effects of Board diversity on alternative earnings quality through full control variables across different levels of Board advisory role with 95% confidence intervals. The plots are based on Table Q1 (Appendix Q). All variables are defined in Appendix A.



As evidenced in this section, it is possible to conclude that the moderating effect of Board roles - monitoring and advisory - is comparable to the primary outcomes and robust to alternative proxies of earnings quality.

6.9.4.2 Results Based on Alternatives Moderator Proxy

Similar to an alternative proxy moderator evaluated in earnings management and conservatism models, the Board's directorship will be employed as an alternative moderating effect on the link between Board diversity and earnings quality. Although Table Q2 in Appendix Q is unable to identify evidence of Board advisory functions as a moderator, there is evidence to support Board monitoring roles. In essence, monitoring directors can improve earnings quality and influence the relationship between Board diversity and earnings quality, similar to the results found in the primary findings. Therefore, the robustness test results are qualitatively comparable to those reported in the primary analysis.

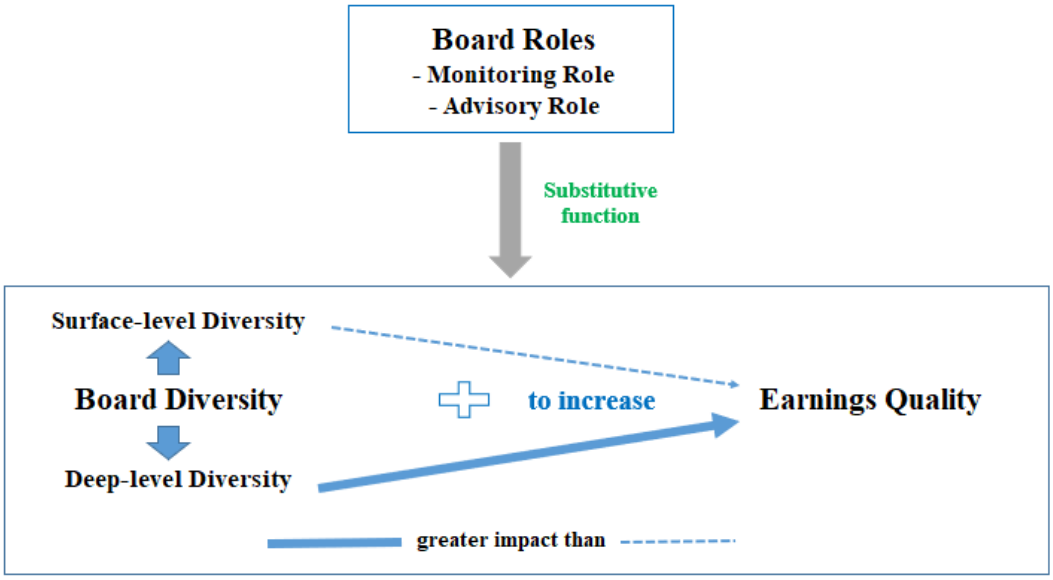
6.10. Conclusion

This chapter aims to examine how having a diverse Board can affect accounting conservatism and a company's earnings quality. This chapter also explores

the role of the Board in moderating the connection between Board diversity and earnings quality attributes. It was found that conservatism and earnings quality have similar outcomes as a result of Board characteristics measured in this research. The evidence suggests that a more diverse Board is associated with higher-quality earnings. Additionally, the study confirms that Board monitoring and advisory functions can enhance earnings quality. However, the positive relationship between Board diversity and earnings quality is less pronounced when Board roles are more effective. The results suggest that ***'the substitutive role'***, which balances Board diversity and Board roles in these effects, has a greater impact on financial reporting quality.

Figure 6. 17 Summary Results of Chapter Analysis

This figure illustrates a summary of the findings regarding the relationship between Board diversity (independent variables) and earnings quality (dependent variables), with Board roles serving as moderators.



As demonstrated in Figure 6.17, this study finds that the Board's deep-level diversity has a more significant impact on enhancing company earnings quality than the Board's surface-level diversity. In addition, existing accounting literature has focused primarily on the effect of demographic Board characteristics on financial reporting quality, ignoring their cognitive abilities. Consequently, the significant associations between the Board's deep-level diversity and the quality of financial reporting

discovered in this thesis suggest that directors' unobservable characteristics are also crucial.

As mentioned in the literature review, in the presence of complex processes and group dynamics, such as in Board decision-making, the use of demographic variables may lead to biased results (Forbes & Milliken, 1999; Zona & Zattoni, 2007). In addition, Boards with merely demographic diversity attributes may be missing out on important dimensions, as cognitive attributes are more closely connected to information processing and assimilation than demographic characteristics (S. Ali et al., 2022; Harjoto et al., 2019). Thus, this thesis contributes to the literature on Boards of directors by providing additional analysis of the relationship between the Board's deep-level diversity and accounting quality. In this regard, a variety of the directors' human capital can make the boardroom beneficial to critical discussion, group participation and interaction, and the interchange of information, thereby improving the quality of the company's financial reporting.

CHAPTER 7 Summary and Conclusion

7.1 Introduction

The board of directors is the primary agent in implementing CG mechanisms within an organisation. Scholars pay a great deal of attention to the issue of Board diversity as organisations operate in increasingly complex and cross-cultural contexts. However, there is a lack of consensus in the CG and Accounting literature concerning the impact of Board diversity on corporate outcomes. It is possible that these inconsistencies result from concentrating solely on demographic diversity as opposed to diversity at a deeper level. Another possible explanation for the inconsistency of the previous studies is that they concentrated only on agency theory. Thus, the use of agency theory, along with complementary theories, in explaining organisational phenomena, particularly in governance research (Eisenhardt, 1989), is an important motivation for this study. Furthermore, the demand for qualified financial reporting has developed due to making investment decisions, using such reports in contractual agreements, and the assessment of standard setters. This thesis constructs earnings management as a faithful financial representation and evaluates accounting conservatism using the concept of timely loss recognition, which implies value relevance.

In light of the preceding, this thesis analyses an interrelated phenomenon among listed companies in developed countries: the impact of Board diversity on earnings quality. Regarding Board diversity, this thesis not only examines individual aspects of Board diversity — gender, age, education, tenure, experience, and expertise — but also develops combined characteristics of Board diversity, referred to as the Board diversity index, in order to see the impact of the boardroom's diversity on corporate outcomes as a whole. Accordingly, the dimensions of the combined level of Board diversity are categorised into three scenarios: surface, deep, and aggregate levels.

To measure earnings quality, a multidimensional earnings quality attribute is developed to determine the quality of financial information disclosed to stakeholders. Earnings quality (EQ) is evaluated using three distinct models: earnings management (EM), accounting conservatism (CON), and an aggregate EQ measure. To clarify, this thesis categorises EM as accruals EM and real EM while classifying CON as

conditional CON and unconditional CON. In addition, the firm's standardised aggregate earnings quality score is determined by averaging its rankings for its four individual earnings quality attributes: accruals EM, real EM, conditional CON, and unconditional CON.

The effect of Board diversity on earnings quality is examined using the multi-theoretical perspective developed in Chapter 3 — human capital theory, agency theory, and resource dependence theory. In essence, the cumulative repository of director members is an essential mechanism for monitoring the management's performance, and they also play a service role in advising managers, all of which contribute to an improvement in the quality of financial reporting. This chapter provides concluding remarks on the work conducted for this thesis; the main findings are reported in Chapters 5 and 6.

The chapter is structured as follows. Section 7.2 provides an overview of the thesis. Section 7.3 provides a summary and presentation of the key findings. Section 7.4 focuses on the contributions of the thesis. Section 7.5 discusses the limitations and suggestions for future research, and section 7.6 shows the conclusion of the chapter.

7.2 Overview of Thesis

This thesis investigates the distinctive characteristics of listed companies in developed economies around the globe, particularly in terms of Board diversity and earnings quality. Despite the importance of these issues, including CG and earnings quality attributes, there is no consensus on them. As the literature review demonstrates, Board diversity is essential for monitoring and advising the management team, leading to better Board decisions. Earnings quality is also crucial to establishing stakeholders' long-term trust and confidence.

This study used large and new international sets comprised of listed firms from the US, Canada, the UK, Australia, Hong Kong, and Singapore. The firms in the sample were selected from the developed countries on each continent. Thus, the findings should considerably enhance the generalisability of previous findings from single-country studies. The characteristics of the Board, financial data, and accounting data can be collected from BoardEx (WRDS), Datastream (Refinitiv), and S&P Capital IQ.

This study uses a sample of 4080 non-financial unique companies to analyse the effect of Board diversity on earnings quality.

In this thesis, the quantitative technique, namely the moderating regression or contingency model, is used as a research instrument to empirically test the theoretical argument. The contingency model enables researchers to better comprehend complex phenomena in which the effect of variables of interest may be contingent on moderators. The contingency design also generates or clarifies a novel theoretical perspective, thereby advancing existing knowledge. Thus, this study further examines the moderating effect of Board roles on the relationship between Board diversity and earnings quality.

Previous research has indicated that the application of agency theory and resource dependence theory is particularly advantageous in examining and understanding the impact of Board diversity on the quality of earnings. This research also indicates that the human resource theory is a beneficial complement to the two aforementioned theories. Therefore, multiple theoretical perspectives become the logical options for respective analyses. The following section summarises the main findings of this thesis and discusses their theoretical, methodological, and contributions.

7.3 Summary of the Main Results

This section answers the primary research question that is, "Does Board diversity influence the quality of earnings?". This part examines the assertion in the literature as to whether differences in boardroom composition within companies are potential factors that affect the quality of company earnings. Furthermore, the question fills a research gap that has previously examined the diversity of company boards in isolation. This thesis investigates the interplaying roles of Board diversity and earnings quality in a combined manner. This question extends the understanding of how a comprehensive view of CG functions as an interconnected system.

Table 7. 1 Summary of Research Hypotheses and Research Findings

This table outlines the conclusions from the research questions posed in this thesis. Panel A displays the results of a sub-research question about Board diversity and earnings management, whereas Panel B presents the results of a sub-research question regarding Board diversity and accounting conservatism. Panels C and D provide the results of sub-research questions about the moderating effect. Panel E summarises the outcomes of the main study questions.

Panel A

Research Sub-Question: Do the earnings management strategies, AEM and REM, vary due to the effect of Board diversity?

Accruals Earnings Management (AEM)		Real Earnings Management (REM)	
Hypothesis	Finding	Hypothesis	Finding
H1a1: There is a negative relationship between aggregate-level diversity and accruals earnings management.	Accepted	H1a2: There is a negative relationship between aggregate-level diversity and real earnings management.	Rejected
H2a1: There is a negative relationship between the surface-level diversity index and accruals earnings management.	Accepted	H2a2: There is a negative relationship between the surface-level diversity index and real earnings management.	Rejected
H3a1: There is a negative relationship between the deep-level diversity index and accruals earnings management.	Accepted	H3a2: There is a negative relationship between the deep-level diversity index and real earnings management.	Rejected

Panel B

Research Sub-Question: Do the accounting conservatism choices, CON and UNCON, vary due to the effect of Board diversity?

Conditional Conservatism (CON)		Unconditional Conservatism (UNCON)	
Hypothesis	Finding	Hypothesis	Finding
H1b1: There is a positive relationship between aggregate-level diversity and conditional accounting conservatism.	Accepted	H1b2: There is a positive relationship between aggregate-level diversity and unconditional accounting conservatism.	Accepted
H2b1: There is a positive relationship between the surface-level diversity index and conditional accounting conservatism.	Accepted	H2b2: There is a positive relationship between the surface-level diversity index and unconditional accounting conservatism.	Rejected
H3b1: There is a positive relationship between the deep-level diversity index and conditional accounting conservatism.	Rejected	H3b2: There is a positive relationship between the deep-level diversity index and unconditional accounting conservatism.	Accepted

Table 7.1 (Continued) Summary of Research Hypotheses and Research Findings

Panel C

Research Sub-Question: Do Board of directors' roles modify the link between Board diversity and earnings management?

Hypothesis	Finding	Hypothesis	Finding
H4a1: Board monitoring role modifies the link between Board diversity and accruals earnings management.	Accepted	H4a2: Board monitoring role modifies the link between Board diversity and real earnings management.	Rejected
H5a1: Board advisory role modifies the link between Board diversity and accruals earnings management.	Accepted	H5a2: Board advisory role modifies the link between Board diversity and real earnings management.	Rejected

Panel D

Research Sub-Question: Do Board of directors' roles modify the link between Board diversity and accounting conservatism?

Hypothesis	Finding	Hypothesis	Finding
H4b1: Board monitoring role modifies the link between Board diversity and conditional conservatism.	Accepted	H4b2: Board monitoring role modifies the link between Board diversity and unconditional conservatism.	Accepted
H5b1: Board advisory role modifies the link between Board diversity and conditional conservatism.	Accepted	H5b2: Board advisory role modifies the link between Board diversity and unconditional conservatism.	Accepted

Panel E

Main Research Question:	Finding
1. Is earnings quality positively related to Board diversity?	Accepted
2. Does the Board monitoring role modify the link between Board diversity and earnings quality?	Accepted
3. Does the Board advisory role modify the link between Board diversity and earnings quality?	Accepted

Moreover, this section answers sub-question that aims to explore the impact of specific aspects of Board diversity on various kinds of earnings quality. The sub-question is required to support the argument for the baseline and to supplement the understanding of the primary research question. It also reveals the effect of various Board diversity dimensions on earnings quality. Particularly, a company's Board may be comprised of directors with different characteristics and functions in order to accommodate various techniques for enhancing the quality of earnings, which is regarded as CG.

7.3.1 The Impact of Board Diversity on Earnings Management

This study, as summarised in panel A of Table 7.1, finds a significant negative association between Board diversity and accruals earnings management, which is consistent with agency theory and resource dependence theory. This result suggests that Board diversity can limit discretionary accruals, improving earnings quality, thereby confirming hypotheses 1a1 to 3a1. These results are supported by an additional analysis demonstrating the robustness of the finding. This study further investigates the individual Board diversity attributes (gender, age, education, tenure, and expertise) that are used to construct the aggregate Board diversity. These also demonstrate the same connection to accruals earnings management.

This study, however, uncovers a positive association between Board diversity and real earnings management. In this case, the greater the Board's diversity, the greater the management team's involvement in real earnings management. Therefore, hypotheses 1a2 to 3a2 are rejected. Based on the results of this study, there exists a conflicting relationship between Board diversity and both accruals and real earnings management. There appears to be a significant negative relationship between Board diversity and accruals earnings management, whereas Board diversity has a significant positive effect on real earnings management. One interesting finding is that real and accruals earnings management are interchangeable. In this regard, companies may switch between earnings management strategies, shifting from accruals earnings management to real earnings management.

7.3.2 The Impact of Board Diversity on Accounting Conservatism

As discussed in agency theory and resource-dependent theory, the literature identifies Board diversity as one of the governance mechanisms for monitoring and advising management teams, resulting in a higher quality of company earnings. Panel B of Table 7.1 summarises the proposed hypotheses regarding the effect of Board diversity on conservatism. The empirical findings of the baseline and robust Models provide support for this notion. Specifically, conditional and unconditional conservatism is positively associated with the aggregate level of Board diversity. Thus, it is possible to assert that the diversity of the Board plays a crucial role in promoting accounting conservatism.

The conditional conservatism hypotheses in Panel B of Table 7.1 demonstrate that Board diversity at the surface level has a greater positive effect on conditional conservatism than Board diversity at the deep level. This implies that the asymmetrical timeliness of earnings (i.e. the timely recognition of economic losses relative to gains) is greater when the Board consists of members with diverse demographic backgrounds. In contrast, the unconditional conservatism hypotheses presented in panel B of Table 7.1 shows that the diversity at the Board's deep levels may have a greater impact on unconditional conservatism than diversity at the Board's surface levels. This might be because unconditional conservatism is more closely associated with managerial discretion than conditional conservatism, which depends on economic news. Therefore, unconditional conservatism may derive from the diversity of the Board's cognitive directors rather than its demographic composition.

7.3.3 Board Diversity, Board Roles, and Earnings Management

The results of Chapter 5 indicate that the amount of earnings management may be reduced due to the monitoring and advisory responsibilities of the Board. Thus, the duties of the Board likely impact earnings quality. The results of the moderating Models indicate that the Board's monitoring and advisory duties modify the connections between Board diversity and accruals earnings management. As shown in panel C of Table 7.1, the proposed hypotheses H4a1 and H5a1 regarding the moderating effect of Board monitoring and advisory roles on the link between Board diversity and accruals earnings management are accepted. In contexts where Board

functions are stronger, the results indicate that an increase in Board diversity leads to a considerable increase in accruals earnings management. The functions of the Board and the diversity of the Board serve as substitute influences on accruals earnings management in this instance.

Compared to accruals earnings management, the interaction effect between Board diversity and Board roles on real earnings management is in the opposite direction. The real earnings management hypotheses shown in Panel C of Table 7.1 indicate that the moderating effect of Board diversity and Board roles on real earnings management could not be captured. Therefore, the proposed hypotheses (H4a2 and H5a2) are rejected. However, the marginal effect graphs reveal an intriguing finding of this thesis. The visualisations demonstrate that when the Board's monitoring and advisory functions are strong, an increase in Board diversity results in a slight reduction in real earnings management. Thus, the Board's diverse structure, together with the Board's monitoring and advising duties, combine to complement each other and reduce the likelihood of manipulating reported earnings.

7.3.4 Board Diversity, Board Roles, and Accounting Conservatism

The empirical findings in Chapter 6 support the proposed hypotheses regarding the positive effect of Board diversity on accounting conservatism. Moreover, conditional and unconditional conservatism is positively associated with the extent of the Board's roles. The results of the moderating Models presented in Chapter 6 indicate that the effect of Board diversity on conservatism is modified by the levels of Board monitoring and advisory functions (see H4b1, H4b2, H5b1, and H5b2 in panel D of Table 7.1). Specifically, the positive effect of Board diversity on conservatism is observed in contexts where the Board's roles are minimal. However, such a significant positive effect disappears when the Board's monitoring and advisory responsibilities become more effective. In this instance, the Board's roles and diversity function serve as substitute influences on conservatism in accounting.

According to the marginal effect graphs presented in Chapter 6, the downward trend of the moderating effect of Board advisory on unconditional conservatism is more pronounced than that of the moderating effect of Board monitoring roles. This may be because Board members rely on the management team to provide them with useful

firm-specific information. However, the CEO and management team will not be willing to share company information with a Board that focuses on intensive diversity monitoring. This supports the notion that the negative effects of the Board advising role may outweigh the benefits of Board monitoring functions, thereby reducing firm performance and undermining accounting quality. Therefore, the company may assign Board of director roles that concentrate on specific tasks and balancing their performance roles.

7.3.5 Board Diversity, Board Roles, and Earnings Quality

Panel E of Table 7.1 demonstrates that a more diverse Board is associated with higher earnings quality. In addition, the study demonstrates that the Board's control and service functions can improve earnings quality. The study also reveals that the Board's responsibilities as moderators can alter the connection between Board diversity and earnings quality. However, when Board duties are more effective, the positive relationship between Board diversity and earnings quality is less obvious. The findings indicate that ***'the substitutive role',*** which balances Board diversity and Board functions in these effects, has a greater impact on financial reporting quality.

These study results confirm the theoretical perspectives. According to agency theory, Board diversity can aid in monitoring and controlling manager behaviour, ensuring an appropriate separation of ownership and authority between principals and agents. In this regard, information gaps between principals and agents can be reduced through effective CG practices, including a well-structured Board and transparent financial reporting. In addition, according to the resource dependence theory, the Board gives the company access to external environments. Consequently, Board diversity is a crucial mechanism for advising managers and delivering a more effective managerial decision-making and financial reporting process.

Overall, the research questions and objectives are answered and accomplished, as shown in Table 7.1, which summarises all hypotheses proposed and their results in response to the main and sub-research questions.

7.4 Contributions of this Thesis

The research explored in this thesis has substantial contributions for various fields of study and professional application, including theory, literature, methodology, and practice.

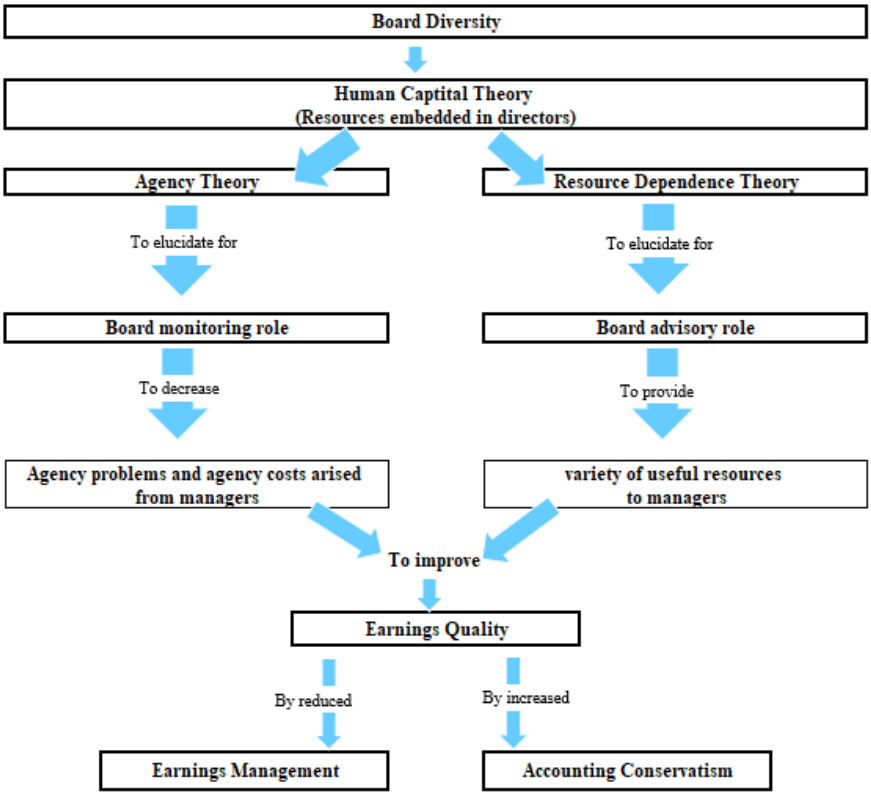
7.4.1 Theoretical Contributions

Carpenter and Feroz (1992) argue that no single theory adequately explains how CG mechanisms affect business outcomes. So far, the majority of studies have primarily focused on agency theory (Filatotchev & Boyd, 2009; Gull et al., 2018; Zona & Zattoni, 2007). However, Eisenhardt (1989) reasoned that agency theory gives a partial perspective of the world that, although valid, also ignores a considerable portion of the complexity of organisations; hence it fails to describe the holistic picture of the business case. Additional perspectives can aid in elucidating the complexity. Therefore, this thesis applies multiple theoretical perspectives, including human capital theory, agency theory, and resource dependence theory, to better interpret the roles of Board diversity on the corporate outcome.

According to the theoretical perspectives and relevant literature discussed in this thesis, it is likely that such a comprehensive view of multiple theoretical developments in this thesis can be demonstrated in Figure 7.1 below. Initially, Board diversity is explained by the human capital theory, which posits that each director possesses valuable resources that contribute to the boardroom's diversity of perspectives (Becker, 1962; Terjesen et al., 2009). As a result, the Board diversity can impact both its monitoring role (left-hand side) and advisory function (right-hand side).

Figure 7. 1 Theoretical Contributions

Theoretical contributions of this thesis are illustrated in this figure. Human capital theory, resource dependence theory, and agency theory are the three primary theories utilised.



For the monitoring function, the Board is considered an expert in monitoring shareholder interests. Following the agency theory, Board diversity can be utilised to establish more effective monitoring and control mechanisms, thereby reducing agency problems and costs (Carter et al., 2007; Reguera-Alvarado et al., 2015). Regarding its advisory function, the Board is regarded as a valuable resource for managers. Within the resource dependence theory, the differences in observable and unobservable characteristics between director members generate unique perspectives, providing managers with valuable resources and enhancing managerial decision-making (Hoang et al., 2017; Terjesen et al., 2009). Considering these three theories and research findings, Board diversity and Board roles in monitoring and advisory contribute to improving the quality of firms' earnings. In this regard, high earnings quality indicates low earnings management and a high accounting conservatism value.

The empirical findings of this research support this theoretical argument. Specifically, it reveals that the functions of Board directors influence the effects of Board diversity

on earnings quality. Board diversity and Board functions play complementary roles in enhancing earnings quality, which is influenced by the effect of the various individuals' cumulative monitoring and advisory repository. Thus, the integrated perspectives of human capital theory, agency theory, and resource dependence theory enable researchers to better comprehend the interplay mechanisms between Board characteristics, which have been relatively unexplored in the literature.

Overall, this research improves the current understanding of governance mechanisms by providing a more comprehensive conceptual framework for describing the connection between CG mechanisms and corporate outcomes.

7.4.2 Methodological Contributions

Many previous studies on Board diversity separated certain aspects of Board diversity (also known as "isolated Board diversity"). They omitted to consider the entire effects of Board diversity on specific outcomes. In addition, the factors of isolated Board structures have had different impacts on corporate outcomes. As a result, it is difficult to interpret the study's findings if each individual aspect of Board diversity — such as gender, age, education, and others — is more likely to influence different results. Therefore, this thesis employs combined Board diversity indices to examine the relationship between Board diversity and earnings quality from a holistic perspective.

Although some previous studies (Ben-Amar et al., 2013; Hafsi & Turgut, 2012; Hoang et al., 2017; Onuoha et al., 2021) examined the combined Board's characteristics, only a few aspects of the Board were considered. In addition, this thesis divides a composite of Board diversity into surface- and deep-level considerations, as suggested by Milliken and Martins (1996), to provide a greater understanding of the impact of Board diversity on the leader of organisational groups.

Furthermore, this thesis makes contributions to measures of earnings quality. Since there is no consensus on the definition and measurements of earnings quality, stakeholders must use the ones that are most appropriate for their judgments (Cano-Rodríguez & Licerán-Gutiérrez, 2019; Menicucci, 2020; Teets, 2002). Thus, adopting only one of the earnings quality criteria can result in biased regression model estimates. In order to better comprehend earnings quality, this thesis applies a variety of earnings-quality aspects: earnings management and accounting conservatism. In

this aspect, earnings management is considered an accounting-based view, whereas conservatism is considered a market-based earnings attribute (Francis et al., 2004). Additionally, according to the Conceptual Framework for Financial Reporting, which is based on the perspectives of accounting professionals, the qualitative features of meaningful financial information provide users with a sense of relevance and a faithful representation. As a result, this thesis traces these two qualities through earnings management for truthful representation and conservatism for value relevance.

In addition to the aforementioned variable measurement, this thesis develops a moderating regression analysis to investigate the conditional effect, which reflects the interaction factors of the Board characteristics. Although some studies may incorporate the moderators into their research design, it is still challenging for researchers to evaluate the interaction impact in existing research if they rely just on the statistical data generated by regression estimations. Since the coefficients of the interaction term are conditional effects, they may not have any significant meaning and are interpreted as a difference between differences, which can be difficult to determine without additional information (Brambor et al., 2006; Hayes, 2018). Thus, this thesis further interprets a regression model with a visualisation, namely the marginal effect graph, which is a significant interpretative aid.

This research also examines the direct effect of variables of interest, namely Board diversity, separately from the moderating model. This procedure is recommended from an econometric standpoint to distinguish the unconditional and conditional effects (Hayes, 2018). Since the meanings of unconditional and conditional effects in statistical analysis are substantively distinct, this practice would aid interpretation. However, prior studies may have overlooked the direct effect of the variables of interest because researchers relied solely on the moderating effect analysis. Therefore, the conclusion would be impacted by the flawed design of the empirical study. In order to address these issues, this thesis incorporates an empirical method that examines direct and indirect effects.

7.4.3 Practical Contributions

Several groups will benefit from the findings of this current study. First, corporate executives responsible for preparing financial reporting will find the results beneficial for improving how diverse and what board of director composition will be formed and disclosed in consideration of stakeholders. Second, board of director formation, particularly for Board nomination committees, can develop desirable Board attributes by considering the profiles of director candidates who complement existing Board teams. For instance, Board members may have a mixture of long-term and short-term tenures and appoint directors with different expertise and experiences.

Third, according to the dominant agency theory (e.g., Fama and Jensen (1983) and Jensen and Meckling (1976)), CG codes motivate the board of directors to control the behaviour of the management team in an active and independent manner. This also indicates that global regulators have begun to place a greater emphasis on a well-composed Board. In this regard, CG codes can be formed at three hierarchical levels: international, national, and firm-specific. For example, Organisation for Economic Co-operation and Development (OECD) and the International Corporate Governance Network (ICGN), which are regarded as international CG code level, recommend that the Board should consist of a sufficient mix of directors with relevant knowledge, competency, industry experience, and a diversity of backgrounds (International Corporate Governance Network, 2021; OECD, 2015).

CG codes from different countries, such as the UK Corporate Governance Code (2018) in the UK, Corporate Governance Principles For US Listed Companies (2017) in the US, Corporate Governance Principles and Recommendations (2019) in Australia, Code of Corporate Governance (2018) in Singapore, and Corporate Governance Code (2018) in Hong Kong, recommend that the Board should promote diversity of gender, social and ethnic backgrounds, cognitive and personal strengths. Therefore, the results of this thesis, which demonstrate the current Board diversity structure of listed firms in developed countries, will aid regulators in gaining a better comprehension of firms' Board composition in order to enhance the current guidelines for company Board appointment. In turn, these regulators are responsible for developing and imposing governance mechanisms that enhance the quality of financial reports.

In addition, the findings of this study will assist policymakers in different countries in evaluating the implications of the current CG codes regarding Board diversity in order to increase firms' reporting transparency and investors' accountability. This may help strengthen CG not only in developed capital markets but also in emerging nations.

Last but not least, from an academic perspective, Board diversity and earnings quality are still relatively under-researched, especially concerning the moderating effect of the Board's responsibilities. This thesis attempts to fill a gap in the literature by enhancing the comprehension of Board diversity, earnings quality, and the function of the Board in the context of developed countries.

7.5 Limitations and Suggestions for Future Research

Even though this thesis advances the frontiers of knowledge in several ways, it has some limitations. These limitations will be discussed in this section, but their presence does not affect the study's strengths, nor the significance of its findings. In addition, this section provides an outline for future research.

7.5.1 Philosophical Perspectives

Most prior CG research adopts positivism to examine the relationship between Board diversity and firm financial outcomes. As a result, positivists usually apply the deductive approach and use a quantitative method to make scientific assumptions, such as creating a hypothesis (Gitundu et al., 2016; Pathirage et al., 2008; Saunders, 2019). In contrast, interpretivists, who tend to use the inductive method, normally rely on smaller sample sizes through various research strategies, such as case studies, ethnographic studies, and phenomenographical studies (Burrell & Morgan, 1979; Saunders, 2019; Weber, 2004). This thesis adopts positivism into research by using existing theories — such as human capital theory, agency theory, and resource-based theory — to develop hypotheses for causal explanation and prediction.

Further research in this field would help understand the in-between extreme paradigm (positivism and interpretivism), such as the pragmatic approach. Pragmatism combines the extreme traditional philosophical dichotomy into a single research project. To clarify, abduction (to move back and forth between induction and deduction and connect them) can be applied to research projects, including research

design, data collection, data analysis, and interpretations. Pragmatic researchers can also use different methodological choices such as mixed-method, which can make the study significantly contribute to knowledge.

Moreover, further research should be carried out to develop the research topic, encompassing two or more distinct disciplines to examine CG from a more holistic view. For example, positivists who believe in a purely objective approach can draw behavioural perspectives from psychology concepts to apply and understand how Board diversity impacts organisational outcomes through its effect on Board behaviours. This may help the Positivism researchers gain an answer that is more relevant to personal cases and increase its meaning.

7.5.2 Theoretical Perspectives

Although multiple theoretical perspectives were utilised to explain the phenomenon in this study, new theoretical perspectives are emerging in this field. According to the cognitive diversity of directors, psychological and behavioural theories should be incorporated into future research. In essence, this thesis concentrates on two means — the monitoring role (agency view) and advisory role (resource view) — and may overlook other aspects of Board function, such as policy setting (Khatib et al., 2020). Therefore, additional research is required to investigate the behavioural and psychological aspects to better understand the Board structure. These theories are excluded from this thesis due to the potential difficulty of gathering data related to team- and individual-level perspectives. This is also proven by the small number of studies published.

7.5.3 Research Methodology

Most CG researchers are more likely to apply quantitative research because scholars can apply the existing theory to hypothesise in different contexts. Quantitative research can also be designed to examine the cause-effect relationship. Following the research philosophy, this study employs the deductive approach as a research methodology based on secondary data. However, new insights can be discovered through research if future researchers investigate new empirical methods, such as simulations and experiments. For instance, an experiment may involve diverse groups of Master of Business Administration students who are assigned a decision-making

task that can be evaluated objectively (Kagzi & Guha, 2018a). This will shed new light on whether diversity in corporate boardrooms encourages or restricts decision-making.

However, there are disadvantages to the quantitative method. For example, some variables, such as human emotions, cannot be measured. It is also less likely to discover a new theory and more challenging to uncover novel or surprising effects (Ahrens & Khalifa, 2013; Saunders, 2019). Additionally, if the research needs an in-depth investigation into participants, the qualitative method would be a great way to collect rich data. For example, Elms and Nicholson (2020) examine how the different directors feel different accountabilities by applying multi-qualitative methods, including semi-structured interviews and non-participant observation.

Moreover, the mixed-method approach extracts the strengths of both quantitative and qualitative approaches into the research design. Therefore, the strengths of an additional approach overcome the weaknesses of another (Saunders, 2019). For instance, words, pictures, and narrative can add meaning to numbers, whereas numbers can add precision to words, pictures, and narrative. As a result, it provides more robust results through triangulation. However, this thesis does not depend on the mixed method because it is time consuming and expensive in terms of operating expenses. Also, some researchers do not believe in this approach since some philosophical issues remain due to paradigm mixing (Creswell, 2018). Although the applied mixed method in CG research is still ambiguous, future studies can use this technique to develop a more vital understanding of research problems or questions.

7.5.4 Variable Construction

Theoretically, there are more dimensions of Board diversity than those investigated in this study. For example, diversity based on race and ethnicity is also considered surface-level diversity (Jérôme & Christine, 2019; Kang et al., 2007; Milliken & Martins, 1996). There are still restrictions on accessing this data from S&P Capital IQ, BoardEx, and Datastream (Refinitiv). Due to the incompleteness of the database, this variable has been removed from the current investigation. Future research may expand upon these points.

Another limitation in the construction of independent variables relates to deep-level diversity. According to Baker et al. (2020) and Erhardt et al. (2003), the cognitive diversity of directors, such as personalities, attitudes, opinions, and information of Board members, is an additional type of deep-level diversity that would be fascinating to investigate. This is because researchers and regulators may get useful insights from studies examining the effect of cognitive diversity on decision-making quality. Due to the time constraints of this investigation, this variable is not included. Future study is required to conduct surveys or interviews because these methods can be good tools for capturing team and individual-level observations (Baker et al., 2020; Kagzi & Guha, 2018a; Khatib et al., 2020).

7.5.5 Research Sample

In contrast to most studies in the literature, which focus on a single country, the present research is international in scope and incorporates a huge and unique dataset from six countries from 2016 to 2020. The rationale for this selection is that the sampled companies come from developed nations on each continent. In addition, each country in the sample employs one-tier Board functions, which can be comparable. Nevertheless, it might be contended that the sample employed in this study is predominantly comprised of US firms, leading to a bias in the findings. Thus, this study further investigates the impact of Board diversity on earnings quality by specifically excluding US firms. The results are shown in Appendix R. Regardless of small differences in the magnitude of the coefficients, significance level, and direction of the coefficients, the findings remain mostly the same when Non-US and US firms are tested. In general, the main findings (outlined in Chapters 5 and 6) align with the supplementary examinations that involve both the inclusion and exclusion of US companies.

Furthermore, the sample for this study was collected between the years 2016 and 2020. It could be contended that the year 2020 encompasses the initial pandemic of Covid and could perhaps influence the outcomes. For that reason, this study further examines the impact of Board diversity on earnings quality by removing the data from the year 2020. The outcomes are displayed in Appendix S. The results are mostly the

same when the year 2020 is taken out, even though there are small changes in the size of the coefficients, the level of significance, and the direction of the coefficients..

However, this study is based on that of Saunders (2019) who suggests that one of the criteria for evaluating secondary data is a comparison of the costs of acquiring them with the benefits they will bring. Researchers will need to invest both time and money in order to collect the data. The benefit of data can be measured by the extent to which it enables researchers to answer their research questions and achieve their goals. The primary objective of this study is to determine whether Board characteristics have an effect on earnings quality in developed capital markets. Consequently, the research sample should reflect the diversity of country contexts that are able to answer such a research question.

Future research can increase the sample size by including different countries, such as developing nations, and researchers can then compare the impact of Board diversity in two distinct contexts. In addition, implementing Board diversity in one industrial context may not be applicable in others and may necessitate adjustments. Thus, cross-sector comparison studies may aid in making appropriate decisions regarding such adjustments, thereby boosting diversity initiatives (Adams et al., 2015; Baker et al., 2020; Kagzi & Guha, 2018a; Khatib et al., 2020).

7.6 Conclusion

This thesis contributes to a greater comprehension of the theoretical and empirical constructs of Board diversity and earnings quality. It opens the door to a more rigorous examination of Board characteristics by introducing multi-theoretical and empirical frameworks to accounting and CG research. In addition, the empirical results provide distinctive CG mechanisms regarding the interaction roles of Board diversity and its roles, which regulators may find valuable as a guideline for developing, modifying, and implementing governance policy. This thesis also highlights a promising direction for future research to explore additional elements of CG, which this study has not yet addressed, to better understand the interplaying roles across governance mechanisms. Consequently, it would also assist in improving financial reporting quality.

References

Abbas, U. (2020). The Moderating Effect of Gender on Audit Committee Attributes and Earnings Management. *Scholedge International Journal of Business Policy & Governance ISSN 2394-3351*, *7*(3). https://doi.org/10.19085/sijbpg070302

Abdul Rahman, R., Haniffa, R., & Haneem Mohamed Ali, F. (2006). Board, audit committee, culture and earnings management: Malaysian evidence. *Managerial Auditing Journal*, *21*(7), 783-804. https://doi.org/10.1108/02686900610680549

Abdullah, S. N., & Ismail, K. N. I. K. (2016). Women directors, family ownership and earnings management in Malaysia. *Asian Review of Accounting*, *24*(4), 525-550. https://doi.org/10.1108/ara-07-2015-0067

Abubakar, A. H., Mansor, N., & Fadhil, N. F. M. (2022). Risk Management Committee, Institutional Ownership, and Real Earnings Management. *GATR Global Journal of Business Social Sciences Review*, *10*(1), 64-71. https://doi.org/10.35609/gjbssr.2022.10.1(7)

Adams, R. B., de Haan, J., Terjesen, S., & van Ees, H. (2015). Board Diversity: Moving the Field Forward. *Corporate Governance: An International Review*, *23*(2), 77-82. https://doi.org/10.1111/corg.12106

Adams, R. B., & Ferreira, D. (2007). A Theory of Friendly Boards. *The Journal of finance (New York)*, *62*(1), 217-250. https://doi.org/10.1111/j.1540-6261.2007.01206.x

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance☆. *Journal of Financial Economics*, *94*(2), 291-309. https://doi.org/10.1016/j.jfineco.2008.10.007

Adams, S. M., & Flynn, P. M. (2005). Local Knowledge Advances Women's Access to Corporate Boards. *Corporate governance : an international review*, *13*(6), 836-846. https://doi.org/10.1111/j.1467-8683.2005.00474.x

Adyunita, D., Robiani, B., & Wahyudi, T. (2021). The Influence of Board Members' Diversity Characteristics on Accounting Conservatism of Service Firms in Infrastructure, Utilities, and Transportation Sectors on the Indonesia Stock Exchange. *Journal of Business & Economic Policy*, *8*(3). https://doi.org/10.30845/jbep.v8n3p5

Affianti, D., & Supriyati. (2017). The effect of good corporate governance, firm size, leverage and profitability on accounting conservatism level in banking industry. *The Indonesian Accounting Review*, *7*(2). https://doi.org/10.14414/tiar.v7i2.947

Agnes Cheng, C. S., Hsieh, S.-J., & Yip, Y. (2007). Impact of accounting choices on firm valuation and earnings quality. *Review of accounting & finance*, *6*(4), 419-441. https://doi.org/10.1108/14757700710835078

Agrawal, A., & Knoeber, C. R. (2001). Do Some Outside Directors Play a Political Role? *The Journal of law & economics*, *44*(1), 179-198. https://doi.org/10.1086/320271

Agrawal, K., & Chatterjee, C. (2015). Earnings Management and Financial Distress: Evidence from India. *Global Business Review*, *16*(5), 140S-154S. https://doi.org/10.1177/0972150915601928

Agresti, A., & Agresti, B. F. (1978). Statistical Analysis of Qualitative Variation. *Sociological methodology*, *9*, 204-237. https://doi.org/10.2307/270810

Aguilera, R. V., Filatotchev, I., Gospel, H., & Jackson, G. (2008). An Organizational Approach to Comparative Corporate Governance: Costs, Contingencies, and Complementarities. *Organization Science*, *19*(3), 475-492. https://doi.org/10.1287/orsc.1070.0322

Aguinis, H., & Gottfredson, R. K. (2010). Best-practice recommendations for estimating interaction effects using moderated multiple regression. *Journal of Organizational Behavior*, *31*(6), 776-786. https://doi.org/10.1002/job.686

Ahmed, A. S., Billings, B. K., Morton, R. M., & Stanford-Harris, M. (2002). The Role of Accounting Conservatism in Mitigating Bondholder-Shareholder Conflicts over Dividend Policy and in Reducing Debt Costs. *The Accounting review*, *77*(4), 867-890. https://doi.org/10.2308/accr.2002.77.4.867

Ahmed, A. S., & Duellman, S. (2007). Accounting conservatism and board of director characteristics: An empirical analysis. *Journal of accounting & economics*, *43*(2), 411-437. https://doi.org/10.1016/j.jacceco.2007.01.005

Ahmed, K., & Henry, D. (2012). Accounting conservatism and voluntary corporate governance mechanisms by Australian firms: Accounting and Finance. *Accounting and finance (Parkville)*, *52*(3), 631-662. https://doi.org/10.1111/j.1467-629X.2011.00410.x

Ahrens, T., & Khalifa, R. (2013). Researching the lived experience of corporate governance. *Qualitative Research in Accounting & Management*, *10*(1), 4-30. https://doi.org/10.1108/11766091311316176

Al-Absy, M. S. M. (2022). Board Chairman Characteristics and Real Earnings Management. *Sustainability*, *14*(22). https://doi.org/10.3390/su142215025

Al-Absy, M. S. M., Ku Ismail, K. N. I., & Chandren, S. (2019). Corporate Governance Mechanisms, Whistle-Blowing Policy and Real Earnings Management. *International Journal of Financial Research*, *10*(6). https://doi.org/10.5430/ijfr.v10n6p265

Al-Shaer, H., & Harakeh, M. (2020). Gender Differences in Executive Compensation on British Corporate Boards: the Role of Conditional Conservatism. *The International Journal of Accounting*, *55*(01). https://doi.org/10.1142/s109440602050002x

Alabede, J. O. (2016). Effect of Board Diversity on Corporate Governance Structure and Operating Performance: Evidence from the UK Listed Firms. *Asian Journal of Accounting and Governance*, *7*, 67-80. https://doi.org/10.17576/ajag-2016-07-06

Aldhamari, R., Mohamad Nor, M. N., Boudiab, M., & Mas'ud, A. (2020). The impact of political connection and risk committee on corporate financial performance: evidence from financial firms in Malaysia. *Corporate Governance: The International Journal of Business in Society*, *20*(7), 1281-1305. https://doi.org/10.1108/cg-04-2020-0122

Alhebri, A. A., Al-Duais, S. D., Almasawa, A. M., & McMillan, D. (2021). The influence of independence and compensation of the directors on family firms and real earnings management. *Cogent Economics & Finance*, *9*(1). https://doi.org/10.1080/23322039.2021.1934977

Alhossini, M. A., Ntim, C. G., & Zalata, A. (2020). Corporate Board Committees and Corporate Outcomes: An International Systematic Literature Review and Agenda for Future Research. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3614878

Ali, B., & Kamardin, H. (2018). Real Earnings Management: A Review of Literature and Future Research. *Asian Journal of Finance & Accounting*, *10*(1). https://doi.org/10.5296/ajfa.v10i1.13282

Ali, F., Ullah, M., Ali, S. T., Yang, Z., & Ali, I. (2022). Board Diversity and Corporate Investment Decisions: Evidence from China. *SAGE Open*, *12*(2). https://doi.org/10.1177/21582440221104089

Ali, S., Ali, S., Jiang, J., Hedvicakova, M., & Murtaza, G. (2022). Does board diversity reduce the probability of financial distress? Evidence from Chinese firms. *Front Psychol*, *13*, 976345. https://doi.org/10.3389/fpsyg.2022.976345

Almashaqbeh, A., Shaari, H., & Abdul-Jabbar, H. (2019). The Effect of Board Diversity on Real Earnings Management: Empirical Evidence From Jordan. *International Journal of Financial Research*, *10*(5). https://doi.org/10.5430/ijfr.v10n5p495

Almutairi, A. R., & Quttainah, M. A. (2019). Corporate governance and accounting conservatism in Islamic banks. *Thunderbird International Business Review*, *61*(5), 745-764. https://doi.org/10.1002/tie.22063

Altman, E. I. (1968). Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. *The Journal of finance (New York)*, *23*(4), 589-609. https://doi.org/10.1111/j.1540-6261.1968.tb00843.x

An, S. (2021). Board Diversity and Monitoring: An Investigation of Gender and Task-Related Diversity. *Public Performance & Management Review*, 1-26. https://doi.org/10.1080/15309576.2021.1914691

Ana, G., & Beatriz, G. (2003). Earnings Management: A Literature Review. *Revista Española de Financiación y Contabilidad*, *32*(115), 311-323.

Anderson, R. C., Reeb, D. M., Upadhyay, A., & Zhao, W. (2011). The Economics of Director Heterogeneity. *Financial management*, *40*(1), 5-38. https://doi.org/10.1111/j.1755-053X.2010.01133.x

Andersson, U., Cuervo-Cazurra, A., & Nielsen, B. B. (2014). From the Editors: Explaining interaction effects within and across levels of analysis. *Journal of International Business Studies*, *45*(9), 1063-1071. https://doi.org/10.1057/jibs.2014.50

Anh, L. H. T., & Khuong, N. V. (2022). Gender diversity and earnings management behaviours in an emerging market: a comparison between regression analysis and FSQCA. *Cogent Business & Management*, *9*(1). https://doi.org/10.1080/23311975.2022.2101243

Ararat, M., Aksu, M., & Tansel Cetin, A. (2015). How Board Diversity Affects Firm Performance in Emerging Markets: Evidence on Channels in Controlled Firms. *Corporate Governance: An International Review*, *23*(2), 83-103. https://doi.org/10.1111/corg.12103

Ararat, M., Aksu, M. H., & Cetin, A. T. (2010). The Impact of Board Diversity on Boards' Monitoring Intensity and Firm Performance: Evidence from the Istanbul Stock Exchange. *Available at SSRN: https://ssrn.com/abstract=1572283 or http://dx.doi.org/10.2139/ssrn.1572283*.

Ardalan, K. (2007). Corporate governance: a paradigmatic look. *International Journal of Social Economics*, *34*(8), 506-524. https://doi.org/10.1108/03068290710763035

Armour, J., Hansmann, H., & Kraakman, R. (2017). Agency Problems and Legal Strategies. In *The Anatomy of Corporate Law* (3 ed.). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198739630.003.0002

Arun, T. G., Almahrog, Y. E., & Ali Aribi, Z. (2015). Female directors and earnings management: Evidence from UK companies. *International Review of Financial Analysis*, *39*, 137-146. https://doi.org/10.1016/j.irfa.2015.03.002

Asgari, M. R., & Behpouri, M. A. (2014). Investigating the effect of tax costs on accounting conservatism: Evidence from Tehran Stock Exchange. *Management Science Letters*, 5-10. https://doi.org/10.5267/j.msl.2013.12.007

Assenga, M. P., Aly, D., & Hussainey, K. (2018). The impact of board characteristics on the financial performance of Tanzanian firms. *Corporate Governance: The International Journal of Business in Society*, *18*(6), 1089-1106. https://doi.org/10.1108/cg-09-2016-0174

ASX Corporate Governance Council. (2019). *Corporate Governance Principles and Recommendations*. https://www.asx.com.au/documents/asx-compliance/cgc-principles-and-recommendations-fourth-edn.pdf

Athanasakou, V. (2011). The Market Reward for Achieving Analyst Earnings Expectations: Does Managing Expectations or Earnings Matter? *Journal of Business Finance & Accounting*, *38*(1/2), 58-95. https://doi.org/10.1111/j.1468-5957.2010.02219.x

Attia, E. F., Ismail, T. H., & Mehafdi, M. (2022). Impact of board of directors attributes on real-based earnings management: further evidence from Egypt. *Future Business Journal*, *8*(1). https://doi.org/10.1186/s43093-022-00169-x

Augustine Enofe, C Iyafekhe, & J Eniola. (2017). Board Ethnicity, Gender Diversity and Earnings Management: Evidence from Quoted Firms in Nigeria. *International Journal of Economics, Commerce and Management*, *V*(6), 78-90.

Azmi, N. A., Zakaria, N. B., Mohd Sanusi, Z., & Wahab, E. A. A. (2021). The effect of board monitoring on operating cash flows manipulation among Malaysian firms. *Journal of legal, ethical and regulatory issues*, *24*(1), 1-13.

Baker, H. K., Pandey, N., Kumar, S., & Haldar, A. (2020). A bibliometric analysis of board diversity: Current status, development, and future research directions. *Journal of Business Research*, *108*, 232-246. https://doi.org/10.1016/j.jbusres.2019.11.025

Ball, R. (2006). International Financial Reporting Standards (IFRS): pros and cons for investors. *Accounting and business research*, *36*(sup1), 5-27. https://doi.org/10.1080/00014788.2006.9730040

Ball, R., Kothari, S. P., & Robin, A. (2000). The effect of international institutional factors on properties of accounting earnings. *Journal of accounting & economics*, *29*(1), 1-51. https://doi.org/10.1016/S0165-4101(00)00012-4

Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: comparative loss recognition timeliness. *Journal of Accounting and Economics*, *39*(1), 83-128. https://doi.org/10.1016/j.jacceco.2004.04.001

Balsam, S. (1998). Discretionary Accounting Choices and CEO Compensation. *Contemporary Accounting Research*, *15*(3), 229-252. https://doi.org/10.1111/j.1911-3846.1998.tb00558.x

Banbhan, A., Cheng, X., & Ud Din, N. (2018). Financially Qualified Members in an Upper Echelon and Their Relationship with Corporate Sustainability: Evidence from an Emerging Economy. *Sustainability*, *10*(12). https://doi.org/10.3390/su10124697

Bannister, J. W., & Newman, H. A. (1996). Accrual usage to manage earnings toward financial analysts' forecasts. *Review of Quantitative Finance and Accounting*, *7*(3), 259-278. https://doi.org/10.1007/BF00245253

Barragato, C. A., & Markelevich, A. (2008). Earnings quality following corporate acquisitions. *Managerial Finance*, *34*(5), 304-315. https://doi.org/10.1108/03074350810866180
Barth, M. E., Landsman, W. R., & Lang, M. H. (2008). International Accounting Standards and Accounting Quality. *Journal of Accounting Research*, *46*(3), 467-498. https://doi.org/10.1111/j.1475-679X.2008.00287.x
Bartlett, M. S. (1951). The Effect of Standardization on a χ 2 Approximation in Factor Analysis. *Biometrika*, *38*(3/4), 337. https://doi.org/10.2307/2332580
Bartov, E., Gul, F. A., & Tsui, J. S. L. (2000). Discretionary-accruals models and audit qualifications. *Journal of Accounting and Economics*, *30*(3), 421-452. https://doi.org/10.1016/S0165-4101(01)00015-5
Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings1. *Journal of Accounting and Economics*, *24*(1), 3-37. https://doi.org/https://doi.org/10.1016/S0165-4101(97)00014-1
Bear, S., Rahman, N., & Post, C. (2010). The Impact of Board Diversity and Gender Composition on Corporate Social Responsibility and Firm Reputation. *Journal of Business Ethics*, *97*(2), 207-221. https://doi.org/10.1007/s10551-010-0505-2
Beaver, W. H., & Ryan, S. G. (2000). Biases and Lags in Book Value and Their Effects on the Ability of the Book-to-Market Ratio to Predict Book Return on Equity. *Journal of Accounting Research*, *38*(1), 127-148. https://doi.org/10.2307/2672925
Beaver, W. H., & Ryan, S. G. (2005). Conditional and Unconditional Conservatism:Concepts and Modeling. *Review of Accounting Studies*, *10*(2), 269-309. https://doi.org/10.1007/s11142-005-1532-6
Becker, G. S. (1962). Investment in Human Capital: A Theoretical Analysis. *The Journal of political economy*, *70*(5), 9-49. https://doi.org/10.1086/258724
Beekes, W., Pope, P., & Young, S. (2004). The Link Between Earnings Timeliness, Earnings Conservatism and Board Composition: evidence from the UK. *Corporate governance : an international review*, *12*(1), 47-59. https://doi.org/10.1111/j.1467-8683.2004.00342.x
Bell, W., Catton, W. R., & Turner, J. H. (1978). Blau: "Inequality and Heterogeneity: A Primitive Theory of Social Structure". *Contemporary sociology (Washington)*, *7*(6), 692.
Ben-Amar, W., Francoeur, C., Hafsi, T., & Labelle, R. (2013). What Makes Better Boards? A Closer Look at Diversity and Ownership: What Makes Better Boards? *British journal of management*, *24*(1), 85-101. https://doi.org/10.1111/j.1467-8551.2011.00789.x
Ben Amar, A., & Sayadi, N. (2022). Independent financial expert members on audit committees, earnings management and the role of female directors. *Journal of Accounting and Management Information Systems*, *21*(1), 5-24. https://doi.org/10.24818/jamis.2022.01001
Benkraiem, R., Ben Saad, I., & Lakhal, F. (2021). New insights into IFRS and earnings quality: what conclusions to draw from the French experience? *Journal of Applied Accounting Research*, *22*(2), 307-333. https://doi.org/10.1108/jaar-05-2020-0094
Berry, W. D., Golder, M., & Milton, D. (2012). Improving Tests of Theories Positing Interaction. *The Journal of Politics*, *74*(3), 653-671. https://doi.org/10.1017/s0022381612000199
Biddle, G. C., & Gilles, H. (2006). Accounting Quality and Firm-Level Capital Investment. *The Accounting review*, *81*(5), 963-982. https://doi.org/10.2308/accr.2006.81.5.963
Biddle, G. C., Hilary, G., & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? *Journal of accounting & economics*, *48*(2), 112-131. https://doi.org/10.1016/j.jacceco.2009.09.001
Bilal, Chen, S., & Komal, B. (2018). Audit committee financial expertise and earnings quality: A meta-analysis. *Journal of Business Research*, *84*, 253-270. https://doi.org/10.1016/j.jbusres.2017.11.048
Bin Khidmat, W., Ayub Khan, M., & Ullah, H. (2020). The Effect of Board Diversity on Firm Performance: Evidence from Chinese L isted Companies. *Indian Journal of Corporate Governance*, *13*(1), 9-33. https://doi.org/10.1177/0974686220923793
BoardEx. (2021). *Board of directors' characteristics [Online]. Available: Wharton Research Data Services (WRDS)*. In
Boussaid, N., Hamza, T., & Sougné, D. (2015). Corporate board attributes and conditional accounting conservatism: Evidence from French firms. *Journal of applied business research*, *31*(3), 871-890. https://doi.org/10.19030/jabr.v31i3.9224
Braam, G. a. N., Monomita and Weitzel, Utz and Lodh, Suman,. (2015). Accrual-Based and Real Earnings Management and Political Connections. *International Journal of Accounting*, *50*(2).

Bradshaw, M. T., & Sloan, R. G. (2002). GAAP versus The Street: An Empirical Assessment of Two Alternative Definitions of Earnings. *Journal of Accounting Research*, *40*(1), 41-66. https://doi.org/10.1111/1475-679X.00038

Brambor, T., Clark, W. R., & Golder, M. (2006). Understanding Interaction Models: Improving Empirical Analyses. *Political Analysis*, *14*(1), 63-82. https://doi.org/10.1093/pan/mpi014

Brown, P., Beekes, W., & Verhoeven, P. (2011). Corporate governance, accounting and finance: A review. *Accounting & Finance*, *51*(1), 96-172. https://doi.org/10.1111/j.1467-629X.2010.00385.x

Brown, W., & Maloney, M. (1999). Brown, William O. and Maloney, Michael T., Exit, Voice, and the Role of Corporate Directors: Evidence from Acquisition Performance. . *Available at SSRN: https://ssrn.com/abstract=160308 or http://dx.doi.org/10.2139/ssrn.160308*.

Budiyati, H., & Wijaya, H. (2023). Board of Directors Diversity, Public Ownership, and Earnings Quality. In *Proceedings of the 4th Asia Pacific Management Research Conference (APMRC 2022)* (pp. 649-663). https://doi.org/10.2991/978-94-6463-076-3_50

Burrell, G., & Morgan, G. (1979). *Sociological Paradigms and Organisational Analysis: Elements of the Sociology of Corporate Life*. London : Routledge

Bushman, R., Chen, Q., Engel, E., & Smith, A. (2004). Financial accounting information, organizational complexity and corporate governance systems. *Journal of accounting & economics*, *37*(2), 167-201. https://doi.org/10.1016/j.jacceco.2003.09.005

Callen, J. L., Segal, D., & Hope, O.-K. (2009). The pricing of conservative accounting and the measurement of conservatism at the firm-year level. *Review of Accounting Studies*, *15*(1), 145-178. https://doi.org/10.1007/s11142-009-9087-6

Campbell, K., & Mínguez-Vera, A. (2007). Gender Diversity in the Boardroom and Firm Financial Performance. *Journal of Business Ethics*, *83*(3), 435-451. https://doi.org/10.1007/s10551-007-9630-y

Cano-Rodríguez, M., & Licerán-Gutiérrez, A. (2019). A Review on the multidimensional analysis of earnings quality. *Spanish Accounting Review*, *22*(1), 41-60. https://doi.org/10.6018/rc-sar.22.1.354301

Carpenter, V. L., & Feroz, E. H. (1992). GAAP as a symbol of legitimacy: New York State's decision to adopt generally accepted accounting principles. *Accounting, Organizations and Society*, *17*(7), 613-643. https://doi.org/10.1016/0361-3682(92)90016-L

Carter, D. A., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The Gender and Ethnic Diversity of US Boards and Board Committees and Firm Financial Performance. *Corporate Governance: An International Review*, *18*(5), 396-414. https://doi.org/10.1111/j.1467-8683.2010.00809.x

Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003). Corporate Governance, Board Diversity, and Firm Value. *The Financial review (Buffalo, N.Y.)*, *38*(1), 33-53. https://doi.org/10.1111/1540-6288.00034

Carter, M. E., Lynch, L. J., & Tuna, I. (2007). The Role of Accounting in the Design of CEO Equity Compensation. *The Accounting review*, *82*(2), 327-357. https://doi.org/10.2308/accr.2007.82.2.327

Chan, A. L. C., Lin, S. W. J., & Strong, N. (2009). Accounting conservatism and the cost of equity capital: UK evidence. *Managerial Finance*, *35*(4), 325-345. https://doi.org/10.1108/03074350910935821

Chang, S.-L., Hwang, L.-J., Li, C.-A., & Jhou, C.-T. (2018). Managerial Overconfidence and Earnings Management. *International journal of organizational innovation*, *10*(3), 189-205.

Chapple, L., & Humphrey, J. E. (2013). Does Board Gender Diversity Have a Financial Impact? Evidence Using Stock Portfolio Performance. *Journal of Business Ethics*, *122*(4), 709-723. https://doi.org/10.1007/s10551-013-1785-0

Chen, H., Tang, Q., Jiang, Y., & Lin, Z. (2010). The Role of International Financial Reporting Standards in Accounting Quality: Evidence from the European Union. *Journal of International Financial Management and Accounting 21*(3), 220-278. https://doi.org/10.1111/j.1467-646X.2010.01041.x

Chen, L. (2014). Local Institutions, Audit Quality, and Corporate Scandals of US-Listed Foreign Firms. *Journal of Business Ethics*, *133*(2), 351-373. https://doi.org/10.1007/s10551-014-2370-x

Chen, T. (2012). Analysis on Accrual-Based Models in Detecting Earnings Management.

Chi, J. (2005). Understanding the Endogeneity Between Firm Value and Shareholder Rights. *Financial Management(34*(4), 65-76. https://doi.org/10.1111/j.1755-053X.2005.tb00118.x
Chi, W., Liu, C., & Wang, T. (2009). What affects accounting conservatism: A corporate governance perspective. *Journal of Contemporary Accounting & Economics*, *5*(1), 47-59. https://doi.org/10.1016/j.jcae.2009.06.001
Chiang, H.-T., Lin, S.-L., He, L.-J., & Sung, Y.-T. (2016). Professional Education Background and Earnings Management of Chairmen and Senior Managers. *The International Journal of Business and Finance Research*, *10*(2), 91-108.
Choi, A., Choi, J. H., & Sohn, B. C. (2018). The Joint Effect of Audit Quality and Legal Regimes on the Use of Real Earnings Management: International Evidence. *Contemporary Accounting Research*, *35*(4), 2225-2257. https://doi.org/10.1111/1911-3846.12370
Christopher, A. N. (2017). *Interpreting and using statistics in psychological research / [internet resource]*. Los Angeles, CA : SAGE Publications, Inc.
Cohen, D. A., Dey, A., & Lys, T. Z. (2008). Real and accrual-based earnings management in the pre- and post-sarbanes-oxley periods. *The Accounting review*, *83*(3), 757-787. https://doi.org/10.2308/accr.2008.83.3.757
Cohen, D. A., & Zarowin, P. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of accounting & economics*, *50*(1), 2-19. https://doi.org/10.1016/j.jacceco.2010.01.002
Cohen, J. R., Hoitash, U., Krishnamoorthy, G., & Wright, A. M. (2014). The Effect of Audit Committee Industry Expertise on Monitoring the Financial Reporting Process. *The Accounting review*, *89*(1), 243-273. https://doi.org/10.2308/accr-50585
Collins, D. W., Maydew, E. L., & Weiss, I. S. (1997). Changes in the value-relevance of earnings and book values over the past forty years. *Journal of accounting & economics*, *24*(1), 39-67. https://doi.org/10.1016/S0165-4101(97)00015-3
Collischon, M., & Eberl, A. (2020). Let's Talk About Fixed Effects: Let's Talk About All the Good Things and the Bad Things. *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie*, *72*(2), 289-299. https://doi.org/10.1007/s11577-020-00699-8
Cornell, B., & Landsman, W. R. (2003). Accounting Valuation: Is Earnings Quality an Issue? *Financial analysts journal*, *59*(6), 20-28. https://doi.org/10.2469/faj.v59.n6.2571
Costa, C. M., & Soares, J. M. M. V. (2022). Standard Jones and Modified Jones: An Earnings Management Tutorial. *Revista de Administração Contemporânea*, *26*(2). https://doi.org/10.1590/1982-7849rac2022200305.en
Craig, A. M., & Charles, C. M. (2004). Introduction to educational research, 5th ed. In (Vol. 19, pp. 216). Portland: Portland: Ringgold, Inc.
Creswell, J. W. (2018). *Research design : qualitative, quantitative, and mixed methods approaches* (Fifth edition.. ed.). Thousand Oaks, California : SAGE Publications, Inc.
Cuomo, F., Mallin, C., & Zattoni, A. (2016). Corporate Governance Codes: A Review and Research Agenda. *Corporate Governance: An International Review*, *24*(3), 222-241. https://doi.org/10.1111/corg.12148
Čupić, M., Todorović, M., & Benković, S. (2022). Value relevance of accounting earnings and cash flows in a transition economy: the case of Serbia. *Journal of Accounting in Emerging Economies*, *13*(3), 541-565. https://doi.org/10.1108/jaee-12-2021-0411
Daily, C. M., Dalton, D. R., & Cannella Jr, A. A. (2003). Corporate governance: Decades of dialogue and data. *The Academy of Management review*, *28*(3), 371-382. https://doi.org/10.5465/AMR.2003.10196703
Dakhlallh, M. M., Rashid, N., Abdullah, W. A. W., & Shehab, H. J. A. (2021). The Moderate Effect of Audit Committee Independence on the Board Structure and Real Earnings Management: Evidence from Jordan. *Journal of Contemporary Issues in Business and Government*, *27*(2), 123-133. https://doi.org/10.47750/cibg.2021.27.02.016
Dalton, D. R., Daily, C. M., Certo, S. T., & Roengpitya, R. (2003). Meta-Analyses of Financial Performance and Equity: Fusion or Confusion? *The Academy of Management Journal*, *46*(1), 13-26. https://doi.org/10.5465/30040673
Darmadi, S. (2011). Board Diversity and Firm Performance: The Indonesian Evidence. *Corporate Ownership and Control*, *8*, 1-38.
Darmadi, S. (2013). Board members' education and firm performance: evidence from a developing economy. *International Journal of Commerce and Management*, *23*(2), 113-135. https://doi.org/10.1108/10569211311324911

Datastream International. (2021). *International Financial Statistics [Online]. Available: Refinitiv Workspace*. In

David, A. H., & Katherine, J. K. (2007). What's the Difference? Diversity Constructs as Separation, Variety, or Disparity in Organizations. *The Academy of Management review*, *32*(4), 1199-1228. https://doi.org/10.5465/AMR.2007.26586096

Debnath, N. C., Patnaik, B. C. M., & Satpathy, I. (2019). Female directorship and real earnings management in Bangladesh: Towards an analytical assessment. *Management Science Letters*, 1723-1740. https://doi.org/10.5267/j.msl.2019.6.018

Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, *50*(2-3), 344-401. https://doi.org/10.1016/j.jacceco.2010.09.001

Dechow, P. M., & Dichev, I. D. (2002). The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. *The Accounting review*, *77*(s-1), 35-59. https://doi.org/10.2308/accr.2002.77.s-1.35

Dechow, P. M., Kothari, S. P., & L. Watts, R. (1998). The relation between earnings and cash flows. *Journal of Accounting and Economics*, *25*(2), 133-168. https://doi.org/https://doi.org/10.1016/S0165-4101(98)00020-2

Dechow, P. M., & Schrand, C. M. (2004). *Earnings Quality*. The Research Foundation of CFA Instititue.

Dechow, P. M., & Skinner, D. J. (2000). Earnings management: Reconciling the views of accounting academics, practitioners, and regulators. *Accounting Horizons*, *14*(2), 235-250. https://doi.org/10.2308/acch.2000.14.2.235

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting Earnings Management. *The Accounting review*, *70*(2), 193-225.

Dedunu, H. H., & Anuradha, P. (2020). Impact of Board Diversity on Firm Performance: Evidence from Sri Lanka. *International Journal of Management, Innovation & Entrepreneurial Research*, *6*(1), 23-31. https://doi.org/10.18510/ijmier.2020.614

DeFond, M. L. (2010). Earnings quality research: Advances, challenges and future research. *Journal of Accounting and Economics*, *50*(2-3), 402-409. https://doi.org/10.1016/j.jacceco.2010.10.004

DeFond, M. L., & Jiambalvo, J. (1994). Debt covenant violation and manipulation of accruals. *Journal of accounting & economics*, *17*(1), 145-176. https://doi.org/10.1016/0165-4101(94)90008-6

Demsetz, H. (1983). The Structure of Ownership and the Theory of the Firm. *The Journal of law & economics*, *26*(2), 375-390. https://doi.org/10.1086/467041

Depken, C. A., Nguyen, G. X., & Sarkar, S. K. (2006). *Agency Costs, Executive Compensation, Bonding and Monitoring: A Stochastic Frontier Approach* Presented at Stockholm, Sweden, https://pages.uncc.edu/wp-content/uploads/sites/866/2014/11/agencycosts.pdf

Doukakis, L. C. (2014). The effect of mandatory IFRS adoption on real and accrual-based earnings management activities. *Journal of Accounting and Public Policy*, *33*(6), 551-572. https://doi.org/10.1016/j.jaccpubpol.2014.08.006

Easley, D., Hvidkjaer, S., & O'Hara, M. (2002). Is Information Risk a Determinant of Asset Returns? *The Journal of Finance*, *57*(5), 2185-2221. https://doi.org/10.1111/1540-6261.00493

Eisenhardt, K. M. (1989). Agency Theory: An Assessment and Review. *The Academy of Management review*, *14*(1), 57-74. https://doi.org/10.2307/258191

Elhaj, E., Mansor, N., & Salleh, S. I. M. (2022). The Effectiveness of Risk Management Committee Attributes and Real Earnings Management: Empirical Evidence from Malaysia. *Journal of Positive School Psychology*, *6*(6), 1-14.

Ellwart, T., Hertel, B. I. J. M. v. d. H. G., Bündgens, S., & Rack, O. (2013). Managing knowledge exchange and identification in age diverse teams. *Journal of Managerial Psychology*, *28*(7/8), 950-972. https://doi.org/10.1108/jmp-06-2013-0181

Elms, N., & Nicholson, G. (2020). How director identification shapes accountability and scope of contribution. *Accounting, Auditing & Accountability Journal*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/aaaj-12-2019-4358

Elzahar, H., Zalata, A., & Hassaan, M. (2022). Attributes of female directors and accruals-based earnings management. *Cogent Business & Management*, *9*(1). https://doi.org/10.1080/23311975.2022.2139212

Enache, L., & García-Meca, E. (2018). Board Composition and Accounting Conservatism: The Role of Business Experts, Support Specialist and Community Influentials. *Australian Accounting Review*, *29*(1), 252-265. https://doi.org/10.1111/auar.12279
Enomoto, M., Kimura, F., & Yamaguchi, T. (2018). A cross-country study on the relationship between financial development and earnings management. *Journal of International Financial Management & Accounting*, *29*(2), 166-194. https://doi.org/10.1111/jifm.12078
Erhardt, N. L., Werbel, J. D., & Shrader, C. B. (2003). Board of Director Diversity and Firm Financial Performance. *Corporate governance : an international review*, *11*(2), 102-111. https://doi.org/10.1111/1467-8683.00011
Erickson, M., & Wang, S.-w. (1999). Earnings management by acquiring firms in stock for stock mergers. *Journal of accounting & economics*, *27*(2), 149-176. https://doi.org/10.1016/S0165-4101(99)00008-7
European Commission. (2022). *Commission welcomes political agreement on Gender Balance on Corporate Boards*
Evans, M. E., Houston, R. W., Peters, M. F., & Pratt, J. H. (2014). Reporting Regulatory Environments and Earnings Management: U.S. and Non-U.S. Firms Using U.S. GAAP or IFRS. *The Accounting review*, *90*(5), 1969-1994. https://doi.org/10.2308/accr-51008
Ewert, R., & Wagenhofer, A. (2015). Economic Relations Among Earnings Quality Measures. *A Journal of Accounting, Finance and Business Studies*, *51*, 311-355.
Faleye, O., Hoitash, R., & Hoitash, U. (2011). The costs of intense board monitoring. *Journal of Financial Economics*, *101*(1), 160-181. https://doi.org/10.1016/j.jfineco.2011.02.010
Faleye, O., Hoitash, R., & Hoitash, U. (2013). Advisory Directors. *Available at SSRN: https://ssrn.com/abstract=1866166 or http://dx.doi.org/10.2139/ssrn.1866166*.
Faleye, O., Hoitash, R., & Hoitash, U. (2017). Industry expertise on corporate boards. *Review of Quantitative Finance and Accounting*, *50*(2), 441-479. https://doi.org/10.1007/s11156-017-0635-z
Fama, E. F., & Jensen, M. C. (1983). Separation of Ownership and Control. *The Journal of law & economics*, *26*(2), 301-325. https://doi.org/10.1086/467037
FASB. (1980). Statement of financial accounting concepts no. 2 Qualitative characteristics of accounting information. *Journal of Accountancy (pre-1986)*, *150*(000002), 105.
Feltham, G. A., & Ohlson, J. A. (1995). Valuation and Clean Surplus Accounting for Operating and Financial Activities. *Contemporary Accounting Research*, *11*(2), 689-731. https://doi.org/10.1111/j.1911-3846.1995.tb00462.x
Ferentinou, A. C., & Anagnostopoulou, S. C. (2016). Accrual-based and real earnings management before and after IFRS adoption. *Journal of Applied Accounting Research*, *17*(1), 2-23. https://doi.org/10.1108/jaar-01-2014-0009
Ferrari, M., Stefano, B., Kose, J., & Justin, D. (2015). Til Death Do Us Part: the Long Tenured Directors Puzzle.
Ferrero-Ferrero, I., Fernández-Izquierdo, M. Á., & Muñoz-Torres, M. J. (2015). Age Diversity: An Empirical Study in the Board of Directors. *Cybernetics and Systems*, *46*(3-4), 249-270. https://doi.org/10.1080/01969722.2015.1012894
Ferris, S. P., Jagannathan, M., & Pritchard, A. C. (2003). Too Busy to Mind the Business? Monitoring by Directors with Multiple Board Appointments. *The Journal of finance (New York)*, *58*(3), 1087-1111. https://doi.org/10.1111/1540-6261.00559
Fich, E. M., & Shivdasani, A. (2006). Are Busy Boards Effective Monitors? *J FINANC*, *61*(2), 689-724. https://doi.org/10.1111/j.1540-6261.2006.00852.x
Fields, T. D., Lys, T. Z., & Vincent, L. (2001). Empirical research on accounting choice. *Journal of accounting & economics*, *31*(1), 255-307. https://doi.org/10.1016/S0165-4101(01)00028-3
Filatotchev, I., & Boyd, B. K. (2009). Taking Stock of Corporate Governance Research While Looking to the Future. *Corporate governance : an international review*, *17*(3), 257-265. https://doi.org/10.1111/j.1467-8683.2009.00748.x
Financial Reporting Council. (2018). *The UK Corporate Governance Code*. https://www.frc.org.uk/getattachment/88bd8c45-50ea-4841-95b0-d2f4f48069a2/2018-uk-corporate-governance-code-final.pdf
Forbes, D. P., & Milliken, F. J. (1999). Cognition and Corporate Governance: Understanding Boards of Directors as Strategic Decision-Making Groups. *The Academy of Management review*, *24*(3), 489-505. https://doi.org/10.5465/amr.1999.2202133

Fracassi, C., & Tate, G. (2012). External Networking and Internal Firm Governance. *The Journal of Finance*, *67*(1), 153-194. https://doi.org/10.1111/j.1540-6261.2011.01706.x
Francis, B., Hasan, I., & Li, L. (2016). A cross-country study of legal-system strength and real earnings management. *Journal of Accounting and Public Policy*, *35*(5), 477-512. https://doi.org/10.1016/j.jaccpubpol.2016.06.004
Francis, B., Hasan, I., Park, J. C., & Wu, Q. (2015). Gender Differences in Financial Reporting Decision Making: Evidence from Accounting Conservatism. *Contemporary Accounting Research*, *32*(3), 1285-1318. https://doi.org/10.1111/1911-3846.12098
Francis, J., Lafond, R., Olsson, P., & Schipper, K. (2003). Earnings Quality and the Pricing Effects of Earnings Patterns. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.414142
Francis, J., LaFond, R., Olsson, P., & Schipper, K. (2005). The market pricing of accruals quality. *Journal of accounting & economics*, *39*(2), 295-327. https://doi.org/10.1016/j.jacceco.2004.06.003
Francis, J., LaFond, R., Olsson, P. M., & Schipper, K. (2004). Costs of Equity and Earnings Attributes. *The Accounting review*, *79*(4), 967-1010. https://doi.org/10.2308/accr.2004.79.4.967
Francis, J., & Schipper, K. (1999). Have Financial Statements Lost Their Relevance? *Journal of Accounting Research*, *37*(2), 319-352. https://doi.org/10.2307/2491412
Fuad, F., Juliarto, A., Prasetyo, A. B., & Fahlevi, A. R. (2022). Early compliance with IFRS 16, earnings management, and corruption: evidence from Southeast Asia. *Cogent Business & Management*, *9*(1). https://doi.org/10.1080/23311975.2022.2141092
Gaio, C. (2010). The Relative Importance of Firm and Country Characteristics for Earnings Quality around the World. *European Accounting Review*, *19*(4), 693-738. https://doi.org/10.1080/09638180903384643
Gaio, C., & Raposo, C. (2011). Earnings quality and firm valuation: international evidence*. *Accounting & Finance*, *51*(2), 467-499. https://doi.org/10.1111/j.1467-629X.2010.00362.x
Galai, D., Sulganik, E., & Wiener, Z. (2003). Accounting Values Versus Market Values and Earnings Management in Banks. *Available at SSRN: https://ssrn.com/abstract=459401 or http://dx.doi.org/10.2139/ssrn.459401*.
Gao, S., & Gao, J. (2016). Earnings Management: A Literature Review. *International Seminar on Education, Innovation and Economic Management*, *75*.
García-Sánchez, I.-M., Martínez-Ferrero, J., & García-Meca, E. (2017). Gender diversity, financial expertise and its effects on accounting quality. *Management Decision*, *55*(2), 347-382. https://doi.org/10.1108/md-02-2016-0090
García Lara, J. M., García Osma, B., & Penalva, F. (2009). Accounting conservatism and corporate governance. *Rev Account Stud*, *14*(1), 161-201. https://doi.org/10.1007/s11142-007-9060-1
Gassen, J., Uwe Fülbier, R., & Sellhorn, T. (2006). International Differences in Conditional Conservatism - The Role of Unconditional Conservatism and Income Smoothing. *The European accounting review*, *15*(4), 527-564. https://doi.org/10.1080/09638180601102107
Ghaleb, B. A. A., Al-Duai, S. D., & Hashed, A. A. (2020). Audit Committee Chair's Legal Expertise and Real Activities Manipulation: Empirical Evidence from Malaysian Energy and Utilities Sectors. *International Journal of Energy Economics and Policy*, *11*(1), 65-73. https://doi.org/10.32479/ijeep.10258
Ghaleb, B. A. A., Kamardin, H., Tabash, M. I., & Shafiullah, M. (2020). Family ownership concentration and real earnings management: Empirical evidence from an emerging market. *Cogent Economics & Finance*, *8*(1), 1-17. https://doi.org/10.1080/23322039.2020.1751488
Ghaleb, B. A. A., Qaderi, S. A., Almashaqbeh, A., Qasem, A., & Ntim, C. G. (2021). Corporate social responsibility, board gender diversity and real earnings management: The case of Jordan. *Cogent Business & Management*, *8*(1). https://doi.org/10.1080/23311975.2021.1883222
Ghazali, A. W., Nurullah, M., Ibrahim, S., Sanusi, Z. M., & Mohame, N. (2019). The effect of corporate board diversity: Real earnings management among Malaysian listed firms. *International journal of business and management science*, *9*(2), 257-276.
Gitundu, E. W., Kiprop, S. K., Kibet, L. K., & Kisaka, S. E. (2016). Corporate Governance and Financial Performance: Theoretical and Philosophical Predicaments in Research. *European Journal of Business and Management*, *8*(11), 164-174.
Givoly, D., & Hayn, C. (2000). The changing time-series properties of earnings, cash flows and accruals: Has financial reporting become more conservative? *Journal of Accounting and Economics*, *29*(3), 287-320. https://doi.org/https://doi.org/10.1016/S0165-4101(00)00024-0

Gokmen, M. K. (2013). Accounting Conservatism: A Literature Review. *Muhasebe ve Vergi Uygulamaları*, *6*(2), 1-22.
Golder, M. (2006). Presidential Coattails and Legislative Fragmentation. *American journal of political science*, *50*(1), 34-48. https://doi.org/10.1111/j.1540-5907.2006.00168.x
Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of accounting & economics*, *40*(1), 3-73. https://doi.org/10.1016/j.jacceco.2005.01.002
Grant Thornton. (2018). Diversity snapshot: Ethnicity, Age and Gender. In *Women in business survey*.
Gray, S., & Nowland, J. (2017). The diversity of expertise on corporate boards in Australia. *Accounting & Finance*, *57*(2), 429-463. https://doi.org/10.1111/acfi.12146
Groening, C. (2019). When do investors value board gender diversity? *Corporate Governance: The International Journal of Business in Society*, *19*(1), 60-79. https://doi.org/10.1108/cg-01-2018-0012
Gujarati, D. N. (2009). *Basic econometrics* (5th (international ed.) ed.). Boston : McGraw-Hill.
Gul, F. A., & Leung, S. (2004). Board leadership, outside directors' expertise and voluntary corporate disclosures. *Journal of Accounting and Public Policy*, *23*(5), 351-379. https://doi.org/10.1016/j.jaccpubpol.2004.07.001
Gul, F. A., Srinidhi, B., & Ng, A. C. (2011). Does board gender diversity improve the informativeness of stock prices? *Journal of Accounting and Economics*, *51*(3), 314-338. https://doi.org/10.1016/j.jacceco.2011.01.005
Gull, A. A., Nekhili, M., Nagati, H., & Chtioui, T. (2018). Beyond gender diversity: How specific attributes of female directors affect earnings management. *The British Accounting Review*, *50*(3), 255-274. https://doi.org/10.1016/j.bar.2017.09.001
Gunny, K. A. (2010). The Relation Between Earnings Management Using Real Activities Manipulation and Future Performance: Evidence from Meeting Earnings Benchmarks. *Contemporary Accounting Research*, *27*(3), 855-888. https://doi.org/10.1111/j.1911-3846.2010.01029.x
Hafsi, T., & Turgut, G. (2012). Boardroom Diversity and its Effect on Social Performance: Conceptualization and Empirical Evidence. *Journal of Business Ethics*, *112*(3), 463-479. https://doi.org/10.1007/s10551-012-1272-z
Hagendorff, J., & Keasey, K. (2012). The value of board diversity in banking: evidence from the market for corporate control. *The European Journal of Finance*, *18*(1), 41-58. https://doi.org/10.1080/1351847x.2010.481471
Hair, J. F. (2019). *Multivariate data analysis* (Eighth ed.). Andover, Hampshire : Cengage.
Hair, J. F., Babin, B. J., & Anderson, R. E. (2018). *Multivariate Data Analysis*. Mason, OH: Cengage.
Hammadi, H. J., & Jassim, M. R. (2022). The Effect Of The Demographic Characteristics Of The Board Of Directors On The Quality Of Receivables: A Study On A Sample Of Companies Listed In The Iraqi Stock Exchange. *SPECIAL EDUCATION*, *1*(43), 1127-1140.
Harjoto, M. A., Laksmana, I., & Yang, Y.-w. (2018). Board diversity and corporate investment oversight. *Journal of Business Research*, *90*, 40-47. https://doi.org/10.1016/j.jbusres.2018.04.033
Harjoto, M. A., Laksmana, I., & Yang, Y. w. (2019). Board nationality and educational background diversity and corporate social performance. *Corporate Governance: The International Journal of Business in Society*, *19*(2), 217-239. https://doi.org/10.1108/cg-04-2018-0138
Harrison, D. A., Price, K. H., & Bell, M. P. (1998). Beyond Relational Demography: Time and the Effects of Surface- and Deep-level Diversity on Work Group Cohesion. *Academy of Management Journal*, *41*(1), 96-107.
Harrison, D. A., Price, K. H., Gavin, J. H., & Florey, A. T. (2002). Time, teams, and task performance: Changing effects of surface- and deep-level diversity on group functioning. *ACAD MANAGE J*, *45*(5), 1029-1045. https://doi.org/10.2307/3069328
Harrison, J. R. (1987). The Strategic Use of Corporate Board Committees. *California management review*, *30*(1), 109-125. https://doi.org/10.2307/41165269
Hasan, F., & Islam, M. R. (2022). Impact of Board Diversity on Firm Performance. *PREPRINT (Version 2) available at Research Square [https://doi.org/10.21203/rs.3.rs-1905244/v2]*. https://doi.org/10.21203/rs.3.rs-1905244/v2
Hasan, M. T., Hossain, M. K., Rekabder, M. S., Molla, M. S., & Ashif, A. S. M. (2022). IFRS adoption and real earnings management in Bangladesh: The role of board characteristics. *Cogent Business & Management*, *9*(1). https://doi.org/10.1080/23311975.2022.2094587

Hashim, F., & Ahmed, E. (2019). Board Diversity and Earning Quality: Examining the Role of Internal Audit as a Moderator. *Australasian Accounting, Business and Finance Journal*, *13*(4), 73-91. https://doi.org/10.14453/aabfj.v13i4.6
Hassan, R., Marimuthu, M., & Johl, S. K. (2015). Diversity, Corporate Governance and Implication on Firm Financial Performance. *Global Business and Management Research: An International Journal*, *7*(2), 28-36.
Hassan, S. U., & Ibrahim, G. (2014). Governance Attributes and Real Activities Manipulation of Listed Manufacturing Firms in Nigeria. *International Journal of Accounting and Taxation*, *2*(1), 37-62.
Hausman, J. A. (1978). Specification Tests in Econometrics. *ECONOMETRICA*, *46*(6), 1251-1271. https://doi.org/10.2307/1913827
Haxhi, I., & Aguilera, R. (2014). Haxhi I., & Aguilera, R. V. 2014. Corporate governance through codes, In C. Cooper (Ed.) Wiley Encyclopedia of Management 3rd Edition, Volume 6, International Management, Wiley-Blackwell. In.
Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis [internet resource] : a regression-based approach* (Second edition.. ed.). New York : Guilford Press.
Healy, P. M. (1985). The effect of bonus schemes on accounting decisions. *Journal of accounting & economics*, *7*(1), 85-107. https://doi.org/10.1016/0165-4101(85)90029-1
Healy, P. M., & Wahlen, J. M. (1999). A Review of the Earnings Management Literature and Its Implications for Standard Setting. *Accounting Horizons*, *13*(4), 365-383. https://doi.org/10.2308/acch.1999.13.4.365
Hendriksen, E. S. (1977). *Accounting theory* (3rd ed.). Irwin.
Herman, E. S. (1981). *Corporate control, corporate power*. Cambridge Cambridge University Press.
Hidayah, N. (2016). The Influence of Board Diversity and Corporate Governance Implementation on the Corporate Value Case Study: Property and Real Estate Companies Listed on Indonesia Stock Exchange. *European Journal of Business and Management*, *8*(35), 129-134.
Hillman, A. J. (2015). Board Diversity: Beginning to Unpeel the Onion. *Corporate Governance: An International Review*, *23*(2), 104-107. https://doi.org/10.1111/corg.12090
Hillman, A. J., Cannella, A. A., & Harris, I. C. (2002). Women and Racial Minorities in the Boardroom: How Do Directors Differ? *Journal of Management*, *28*(6), 747-763. https://doi.org/10.1016/S0149-2063(02)00192-7
Hillman, A. J., Cannella, A. A., & Paetzold, R. L. (2000). The Resource Dependence Role of Corporate Directors: Strategic Adaptation of Board Composition in Response to Environmental Change. *Journal of Management Studies*, *37*(2), 235-256. https://doi.org/10.1111/1467-6486.00179
Hillman, A. J., & Dalziel, T. (2003). Boards of Directors and Firm Performance: Integrating Agency and Resource Dependence Perspectives. *The Academy of Management review*, *28*(3), 383-396. https://doi.org/10.2307/30040728
Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource Dependence Theory: A Review. *Journal of Management*, *35*(6), 1404-1427. https://doi.org/10.1177/0149206309343469
Hoang, T. C., Abeysekera, I., & Ma, S. (2017). The Effect of Board Diversity on Earnings Quality: An Empirical Study of Listed Firms in Vietnam. *Australian Accounting Review*, *27*(2), 146-163. https://doi.org/10.1111/auar.12128
Hodder, L. D., Hopkins, P. E., & Wahlen, J. M. (2006). Risk-Relevance of Fair-Value Income Measures for Commercial Banks. *The Accounting review*, *81*(2), 337-375. https://doi.org/10.2308/accr.2006.81.2.337
Hodgson, A., Inlakorn, S., Lhaopadchan, S., & Sabsombat, N. (2022). Diversity in Diversity: The Demand for and Profitability of Sub-boards in Thai Listed Corporations. *International Journal of Business*, *27*(3), 1-28.
Hribar, P., Kravet, T., & Wilson, R. (2013). A new measure of accounting quality. *Review of Accounting Studies*, *19*(1), 506-538. https://doi.org/10.1007/s11142-013-9253-8
Hsu, P.-H., & Hu, X. (2016). Advisory Board and Earnings Persistence. *Journal of Accounting, Auditing & Finance*, *31*(1), 134-157. https://doi.org/10.1177/0148558x15571733
Hsueh-En, H. (2010). The Relationship between Board Characteristics and Financial Performance: An Empirical Study of United States Initial Public Offerings. *International journal of management*, *27*(2), 332.

Huang, S., & Hilary, G. (2018). Zombie Board: Board Tenure and Firm Performance. *Journal of Accounting Research*, *56*(4), 1285-1329. https://doi.org/10.1111/1475-679x.12209
Huijgen, C., & Lubberink, M. (2005). Earnings Conservatism, Litigation and Contracting: The Case of Cross-Listed Firms. *Journal of Business Finance & Accounting*, *32*(7-8), 1275-1309. https://doi.org/10.1111/j.0306-686X.2005.00629.x
Husein Pulungan, & Sadat, M. S. (2014). Accounting Conservatism Analysis in Indonesia after Adoption of IFRS and Relation to the Characteristics of the Board As One of the Mechanism of Corporate Governance (Empirical Study on Manufacturing Companies Listed on the Stock Exchange). *Available at SSRN: https://ssrn.com/abstract=2949709 or http://dx.doi.org/10.2139/ssrn.2949709*.
International Accounting Standard Board. (2015). Exposure Draft of Conceptual Framework for Finanical Reporting. *IASB, London*.
International Corporate Governance Network. (2021). *ICGN Global Governance Principles*. https://www.icgn.org/icgn-global-governance-principles
Investor Stewardship Group (ISG). (2017). *Corporate Governance principles for US Listed Companies*. https://isgframework.org/corporate-governance-principles/
Ipino, E., & Parbonetti, A. (2016). Mandatory IFRS adoption: the trade-off between accrual-based and real earnings management. *Accounting and business research*, *47*(1), 91-121. https://doi.org/10.1080/00014788.2016.1238293
Isaboke, C., & Chen, Y. (2019). IFRS adoption, value relevance and conditional conservatism: evidence from China. *International Journal of Accounting & Information Management*, *27*(4), 529-546. https://doi.org/10.1108/ijaim-09-2018-0101
Islam, M. A. (2011). Is Modified Jones Model Effective in Detecting Earnings Management? Evidence from A Developing Economy. *International Journal of Economics and Finance*, *3*. https://doi.org/10.5539/ijef.v3n2p116
Jackson, S. B., & Wilcox, W. E. (2000). Do Managers Grant Sales Price Reductions to Avoid Losses and Declines in Earnings and Sales? *Quarterly journal of business and economics*, *39*(4), 3-20.
Jaggi, B., & Lee, P. (2002). Earnings Management Response to Debt Covenant Violations and Debt Restructuring. *Journal of Accounting, Auditing & Finance*, *17*(4), 295-324. https://doi.org/10.1177/0148558X0201700402
Janahi, M., Millo, Y., & Voulgaris, G. (2022). Age diversity and the monitoring role of corporate boards: Evidence from banks. *Human Relations*. https://doi.org/10.1177/00187267221108729
Jarne-Jarne, J. I., Callao-Gastón, S., Marco-Fondevila, M., & Llena-Macarulla, F. (2022). The Impact of Organizational Culture on the Effectiveness of Corporate Governance to Control Earnings Management. *Journal of Risk and Financial Management*, *15*(9). https://doi.org/10.3390/jrfm15090379
Jarva, H., Lodh, S., Nandy, M., & Ojala, H. (2022). Do Big 4 audits affect conditional conservatism under IFRS? International Evidence. *Available at SSRN: https://ssrn.com/abstract=3505282 or http://dx.doi.org/10.2139/ssrn.3505282*.
Jehn, K. A., Northcraft, G. B., & Neale, M. A. (1999). Why Differences Make a Difference: A Field Study of Diversity, Conflict, and Performance in Workgroups. *ADMIN SCI QUART*, *44*(4), 741-763. https://doi.org/10.2307/2667054
Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, *3*, 305-360.
Jérôme, M., & Christine, M.-S. (2019). Surface- and deep-level diversity of directors and financial performance of French listed firms. *Institut de socio-économie des entreprises et des organisations (Écully, Rhône). recherches en sciences de gestion*(133), 81-115.
Joardar, A., Kostova, T., & Ravlin, E. C. (2007). An experimental study of the acceptance of a foreign newcomer into a workgroup. *Journal of international management*, *13*(4), 513-537. https://doi.org/10.1016/j.intman.2007.02.002
John, A. (1995). Correlations Genuine and Spurious in Pearson and Yule. *Statistical Science*, *10*(4), 364-376. https://doi.org/10.1214/ss/1177009870
Johnson, S. G., Schnatterly, K., & Hill, A. D. (2013). Board Composition Beyond Independence: Social Capital, Human Capital, and Demographics. *Journal of Management*, *39*(1), 232-262. https://doi.org/10.1177/0149206312463938

Jones, J. J. (1991). Earnings Management During Import Relief Investigations. *Journal of Accounting Research*, *29*(2), 193-228. https://doi.org/10.2307/2491047
Joos, P., & Lang, M. (1994). The Effects of Accounting Diversity: Evidence from the European Union. *Journal of Accounting Research*, *32*(SUPP), 141-168. https://doi.org/10.2307/2491444
Kaczmarek, S., Kimino, S., & Pye, A. (2012). Board Task-related Faultlines and Firm Performance: A Decade of Evidence. *Corporate Governance: An International Review*, *20*(4), 337-351. https://doi.org/10.1111/j.1467-8683.2011.00895.x
Kagzi, M., & Guha, M. (2018a). Board demographic diversity: a review of literature. *Journal of Strategy and Management*, *11*(1), 33-51. https://doi.org/10.1108/jsma-01-2017-0002
Kagzi, M., & Guha, M. (2018b). Does board demographic diversity influence firm performance? Evidence from Indian-knowledge intensive firms. *Benchmarking: An International Journal*, *25*(3), 1028-1058. https://doi.org/10.1108/bij-07-2017-0203
Kaiser, H. F., & Rice, J. (1974). Little Jiffy, Mark 4. *Educational Psychological Measurement*, *34*(1), 111-117. https://doi.org/10.1177/001316447403400115
Kallamu, B. S., & Saat, N. A. M. (2015). Audit committee attributes and firm performance: evidence from Malaysian finance companies. *Asian Review of Accounting*, *23*(3), 206-231. https://doi.org/10.1108/ara-11-2013-0076
Kamarudin, K. A., Ariff, A. M., & Wan Ismail, W. A. (2021). Product market competition, board gender diversity and corporate sustainability performance: international evidence. *Journal of Financial Reporting and Accounting*, *20*(2), 233-260. https://doi.org/10.1108/jfra-01-2021-0020
Kanagaretnam, K., Lim, C. Y., & Lobo, G. J. (2014). Influence of National Culture on Accounting Conservatism and Risk-Taking in the Banking Industry. *The Accounting review*, *89*(3), 1115-1149. https://doi.org/10.2308/accr-50682
Kang, H., Cheng, M., & Gray, S. J. (2007). Corporate Governance and Board Composition: diversity and independence of Australian boards. *Corporate governance : an international review*, *15*(2), 194-207. https://doi.org/10.1111/j.1467-8683.2007.00554.x
Kapoor, N., & Goel, S. (2017). Board Characteristics, Firm Profitability and Earnings Management: Evidence from India. *Australian Accounting Review*, *27*(2), 180-194. https://doi.org/10.1111/auar.12144
Kasznik, R. (1999). On the Association between Voluntary Disclosure and Earnings Management. *Journal of Accounting Research*, *37*(1), 57-81. https://doi.org/10.2307/2491396
Khalifa, M., & Trabelsi, S. (2022). Do bankrupt firms recognize publicly available bad news in a timely fashion? *China Accounting and Finance Review*. https://doi.org/10.1108/cafr-05-2022-0047
Khan, A., & Baker, H. K. (2022). How board diversity and ownership structure shape sustainable corporate performance. *Managerial and Decision Economics*, *43*(8), 3751-3770. https://doi.org/10.1002/mde.3626
Khan, I., Khan, I., & Saeed, B. b. (2019). Does board diversity affect quality of corporate social responsibility disclosure? Evidence from Pakistan. *Corporate Social Responsibility and Environmental Management*. https://doi.org/10.1002/csr.1753
Khan, I., Khan, I., & Senturk, I. (2019). Board diversity and quality of CSR disclosure: evidence from Pakistan. *Corporate Governance: The International Journal of Business in Society*, *19*(6), 1187-1203. https://doi.org/10.1108/cg-12-2018-0371
Khan, M., & Watts, R. L. (2009). Estimation and empirical properties of a firm-year measure of accounting conservatism. *Journal of accounting & economics*, *48*(2), 132-150. https://doi.org/10.1016/j.jacceco.2009.08.002
Khan, S., Kamal, Y., Abbas, M., & Hussain, S. (2022). Board of directors and earnings manipulation: evidence from regulatory change. *Future Business Journal*, *8*(1). https://doi.org/10.1186/s43093-022-00173-1
Khan, T. M., Nosheen, S., & ul Haq, N. (2020). Corporate governance mechanism and comparative analysis of one-tier and two-tier board structures: evidence from ASEAN countries. *International Journal of Disclosure and Governance*, *17*(2-3), 61-72. https://doi.org/10.1057/s41310-020-00075-0
Khatib, S. F. A., Abdullah, D. F., Elamer, A. A., & Abueid, R. (2020). Nudging toward diversity in the boardroom: A systematic literature review of board diversity of financial institutions. *Business Strategy and the Environment*. https://doi.org/10.1002/bse.2665

Kim, B. H., & Pevzner, M. (2010). Conditional accounting conservatism and future negative surprises: An empirical investigation. *Journal of Accounting and Public Policy*, *29*(4), 311-329. https://doi.org/10.1016/j.jaccpubpol.2010.03.003
Kim, H., & Lim, C. (2010). Diversity, outside directors and firm valuation: Korean evidence. *Journal of Business Research*, *63*(3), 284-291. https://doi.org/10.1016/j.jbusres.2009.01.013
Kim, J., Kim, Y., & Zhou, J. (2017). Languages and earnings management. *Journal of Accounting and Economics*, *63*(2-3), 288-306. https://doi.org/10.1016/j.jacceco.2017.04.001
Kim, K., Mauldin, E., & Patro, S. (2014). Outside directors and board advising and monitoring performance. *Journal of Accounting and Economics*, *57*(2-3), 110-131. https://doi.org/10.1016/j.jacceco.2014.02.001
Kolev, K. D., Wangrow, D. B., Barker, V. L., & Schepker, D. J. (2019). Board Committees in Corporate Governance: A Cross-Disciplinary Review and Agenda for the Future. *Journal of Management Studies*. https://doi.org/10.1111/joms.12444
Kor, Y. Y., & Sundaramurthy, C. (2009). Experience-Based Human Capital and Social Capital of Outside Directors. *Journal of Management*, *35*(4), 981-1006. https://doi.org/10.1177/0149206308321551
Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of accounting & economics*, *39*(1), 163-197. https://doi.org/10.1016/j.jacceco.2004.11.002
Kouaib, A., & Almulhim, A. (2019). Earnings manipulations and board's diversity: The moderating role of audit. *The Journal of High Technology Management Research*, *30*(2). https://doi.org/10.1016/j.hitech.2019.100356
Kousenidis, D. V., Ladas, A. C., & Negakis, C. I. (2013). The effects of the European debt crisis on earnings quality. *International Review of Financial Analysis*, *30*, 351-362. https://doi.org/10.1016/j.irfa.2013.03.004
Krishnan, G. V., & Visvanathan, G. (2008). Does the SOX Definition of an Accounting Expert Matter? The Association between Audit Committee Directors' Accounting Expertise and Accounting Conservatism. *Contemporary Accounting Research*, *25*(3), 827-858. https://doi.org/10.1506/car.25.3.7
Krismiaji, Aryani, Y. A., & Suhardjanto, D. (2016). International Financial Reporting Standards, board governance, and accounting quality. *Asian Review of Accounting*, *24*(4), 474-497. https://doi.org/10.1108/ara-06-2014-0064
Kroll, M., Walters, B. A., & Wright, P. (2008). Board vigilance, director experience, and corporate outcomes. *Strategic Management Journal*, *29*(4), 363-382. https://doi.org/10.1002/smj.649
Kyaw, K., Olugbode, M., & Petracci, B. (2015). Does gender diverse board mean less earnings management? *Finance Research Letters*, *14*, 135-141. https://doi.org/10.1016/j.frl.2015.05.006
La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of Financial Economics*, *58*(1), 3-27. https://doi.org/10.1016/S0304-405X(00)00065-9
Labelle, R., Makni Gargouri, R., & Francoeur, C. (2010). Ethics, Diversity Management, and Financial Reporting Quality. *Journal of Business Ethics*, *93*(2), 335–355. https://doi.org/10.1007/s10551-009-0225-7
LaFond, R., & Watts, R. L. (2008). The Information Role of Conservatism. *The Accounting review*, *83*(2), 447-478. http://www.jstor.org/stable/30245364
Lamina, C., Sturm, G., Kollerits, B., & Kronenberg, F. (2012). Visualizing interaction effects: a proposal for presentation and interpretation. *J Clin Epidemiol*, *65*(8), 855-862. https://doi.org/10.1016/j.jclinepi.2012.02.013
Latané, B., Williams, K., & Harkins, S. (1979). Many hands make light the work: The causes and consequences of social loafing. *Journal of personality and social psychology*, *37*(6), 822-832. https://doi.org/10.1037/0022-3514.37.6.822
Lawrence, A., Sloan, R., & Sun, Y. (2013). Non-discretionary conservatism: Evidence and implications. *Journal of accounting & economics*, *56*(2-3), 112-133. https://doi.org/10.1016/j.jacceco.2013.10.005
Lawrence, P. R., & Lorsch, J. W. (1967). Differentiation and Integration in Complex Organizations. *Administrative science quarterly*, *12*(1), 1-47. https://doi.org/10.2307/2391211

Leuz, C., Nanda, D., & Wysocki, P. D. (2003). Earnings management and investor protection: an international comparison. *Journal of Financial Economics*, *69*(3), 505-527. https://doi.org/10.1016/S0304-405X(03)00121-1
Lev, B., & Zarowin, P. (1999). The Boundaries of Financial Reporting and How to Extend Them. *Journal of Accounting Research*, *37*(2), 353-385. https://doi.org/10.2307/2491413
Leventis, S., Dimitropoulos, P., & Owusu-Ansah, S. (2013). Corporate Governance and Accounting Conservatism: Evidence from the Banking Industry. *Corporate Governance: An International Review*, *21*(3), 264-286. https://doi.org/10.1111/corg.12015
Li, N., & Wahid, A. S. (2018). Director Tenure Diversity and Board Monitoring Effectiveness. *Contemporary Accounting Research*, *35*(3), 1363-1394. https://doi.org/10.1111/1911-3846.12332
Li, X., Than, E. T., Ahmed, R., Ishaque, M., & Huynh, T. L. D. (2021). Gender diversity of boards and executives on real earnings management in the bull or bear period: Empirical evidence from China. *International Journal of Finance & Economics*. https://doi.org/10.1002/ijfe.2562
Liao, Q., & Ouyang, B. (2019). Shareholder litigation risk and real earnings management: a causal inference. *Review of accounting & finance*, *18*(4), 557-588. https://doi.org/https://doi.org/10.1108/RAF-06-2018-0122
Lin, J. W., Li, J. F., & Yang, J. S. (2006). The effect of audit committee performance on earnings quality. *Managerial Auditing Journal*, *21*(9), 921-933. https://doi.org/10.1108/02686900610705019
Lipe, R. (1990). The Relation between Stock Returns and Accounting Earnings Given Alternative Information. *The Accounting review*, *65*(1), 49-71.
Liu, M., Shi, Y., Wilson, C., & Wu, Z. (2017). Does family involvement explain why corporate social responsibility affects earnings management? *Journal of Business Research*, *75*, 8-16. https://doi.org/10.1016/j.jbusres.2017.02.001
Lu, Y., Ntim, C. G., Zhang, Q., & Li, P. (2022). Board of directors' attributes and corporate outcomes: A systematic literature review and future research agenda. *International Review of Financial Analysis*, *84*. https://doi.org/10.1016/j.irfa.2022.102424
Makhlouf, M. H., Jamiel Al-Sufy, F., & Almubaideen, H. (2018). Board Diversity and Accounting Conservatism: Evidence from Jordan. *International Business Research*, *11*(7). https://doi.org/10.5539/ibr.v11n7p130
Man, C.-k., & Wong, B. (2013). Corporate governance and earnings management: A survey of literature. *Journal of applied business research*, *29*(2), 391-418. https://doi.org/10.19030/jabr.v29i2.7646
Mark, S. B. (1996). An Empirical Analysis of the Relation between the Board of Director Composition and Financial Statement Fraud. *The Accounting review*, *71*(4), 443-465.
Marra, A., Mazzola, P., & Prencipe, A. (2011). Board Monitoring and Earnings Management Pre- and Post-IFRS. *The International Journal of Accounting*, *46*(2), 205-230. https://doi.org/10.1016/j.intacc.2011.04.007
Martin, G. P., Wiseman, R. M., & Gomez-Mejia, L. R. (2019). The Interactive Effect of Monitoring and Incentive Alignment on Agency Costs. *Journal of Management*, *45*(2), 701-727. https://doi.org/10.1177/0149206316678453
Martinez-Jimenez, R., Hernández-Ortiz, M. J., & Cabrera Fernández, A. I. (2020). Gender diversity influence on board effectiveness and business performance. *Corporate Governance: The International Journal of Business in Society*, *20*(2), 307-323. https://doi.org/10.1108/cg-07-2019-0206
Masmoudi Mardessi, S., & Makni Fourati, Y. (2020). The impact of audit committee on real earnings management: Evidence from Netherlands. *Corporate Governance and Sustainability Review*, *4*(1), 33-46. https://doi.org/10.22495/cgsrv4i1p3
McKinsey, & Company. (2007). *Women Matter. Gender diversity, a corporate performance driver.*Paris: McKinsey & Company.
McNichols, M. F. (2002). Discussion of the quality of accruals and earnings: The role of accrual estimation errors. *The Accounting review*, *77*(s-1), 61-69. https://doi.org/10.2308/accr.2002.77.s-1.61
Menicucci, E. (2020). *Earnings Quality [internet resource] : Definitions, Measures, and Financial Reporting* (1st edition 2020.. ed.). Cham : Springer International Publishing.

Mertzanis, C., Balntas, V., & Pantazopoulos, T. (2019). Internal auditor perceptions of corporate governance in Greece after the crisis. *Qualitative Research in Accounting & Management*, *17*(2), 201-227. https://doi.org/10.1108/qram-07-2018-0045
Mgammal, M. H. (2022). Appraisal study on board diversity: Review and agenda for future research. *Cogent Business & Management*, *9*(1). https://doi.org/10.1080/23311975.2022.2121241
Milgrom, P. R. (1992). *Economics, organization and management*. London : Prentice-Hall International.
Milliken, F. J., & Martins, L. L. (1996). Searching for Common Threads: Understanding the Multiple Effects of Diversity in Organizational Groups. *The Academy of Management review*, *21*(2), 402-433. https://doi.org/10.5465/amr.1996.9605060217
Miloud, T. (2014). Earnings Management And Initial Public Offerings: An Empirical Analysis. *Journal of Applied Business Research (JABR)*, *30*(1). https://doi.org/10.19030/jabr.v30i1.8288
Minichilli, A., Zattoni, A., Nielsen, S., & Huse, M. (2012). Board task performance: An exploration of micro- and macro-level determinants of board effectiveness. *J Organ Behav*, *33*(2), 193-215. https://doi.org/10.1002/job.743
Misangyi, V. F., & Acharya, A. G. (2014). Substitutes or Complements? A Configurational Examination of Corporate Governance Mechanisms. *Academy of Management Journal*, *57*(6), 1681-1705. https://doi.org/10.5465/amj.2012.0728
Mnif, Y., & Ben Hamouda, A. (2020). Audit quality and the trade-off between real and accrual earnings management in the oil and gas industry: the GCC evidence. *Journal of Applied Accounting Research*, *22*(2), 223-251. https://doi.org/10.1108/jaar-12-2019-0167
Mohammed, N., Ismail, K. N. I. K., & Amran, N. A. (2019). Corporate Governance and Accounting Conservatism: The Moderating Role of Family Ownership. *International Business and Accounting Research Journal*, *3*(2). https://doi.org/10.15294/ibarj.v3i2.64
Mollah, S., Al Farooque, O., Mobarek, A., & Molyneux, P. (2019). Bank Corporate Governance and Future Earnings Predictability. *Journal of Financial Services Research*, *56*(3), 369-394. https://doi.org/10.1007/s10693-019-00307-7
Mora, A., & Walker, M. (2015). The implications of research on accounting conservatism for accounting standard setting. *Accounting and business research*, *45*(5), 620-650. https://doi.org/10.1080/00014788.2015.1048770
Mustafa, A. S., Che-Ahmad, A., & Chandren, S. (2018). Board diversity, audit committee characteristics and audit quality: The moderating role of control-ownership wedge. *Business and Economic Horizons*, *14*(3), 587-614. https://doi.org/10.15208/beh.2018.42
Nasr, M. A., & Ntim, C. G. (2018). Corporate governance mechanisms and accounting conservatism: evidence from Egypt. *Corporate Governance: The International Journal of Business in Society*, *18*(3), 386-407. https://doi.org/10.1108/cg-05-2017-0108
Ness, R. K. V. (2010). Board of director composition and financial performance in a Sarbanes-Oxley world. *Academy of Business and Economics Journal*, *10(5)*, 56-74.
Neuhaus, J. M. (2006). Fixed Effects Regression Methods for Longitudinal Data Using SAS. In (Vol. 101, pp. 1308-1308). Alexandria: Alexandria: Taylor & Francis.
Nguyen, T., Locke, S., & Reddy, K. (2015). Ownership concentration and corporate performance from a dynamic perspective: Does national governance quality matter? *International Review of Financial Analysis*, *41*, 148-161. https://doi.org/10.1016/j.irfa.2015.06.005
Nguyen, T., Nguyen, A., Locke, S., Reddy, K., & Murray, L. (2017). Does the human capital of board directors add value to firms? Evidence from an Asian market. *Cogent Economics & Finance*, *5*(1). https://doi.org/10.1080/23322039.2017.1385439
Nguyen, T. H. H., Ntim, C. G., & Malagila, J. K. (2020). Women on corporate boards and corporate financial and non-financial performance: A systematic literature review and future research agenda. *International Review of Financial Analysis*, *71*. https://doi.org/10.1016/j.irfa.2020.101554
Nguyen, T. T., Duong, C. M., Nguyen, N. T. M., & Bui, H. Q. (2019). Accounting conservatism and banking expertise on board of directors. *Review of Quantitative Finance and Accounting*, *55*(2), 501-539. https://doi.org/10.1007/s11156-019-00851-2
Nichols, C., James, W., & Matthew, W. (2009). Publicly traded versus privately held: implications for conditional conservatism in bank accounting. *Rev Account Stud*, *14*(1), 88-122. https://doi.org/10.1007/s11142-008-9082-3

Nicholson, G. J., & Kiel, G. C. (2004). Breakthrough board performance: how to harness your board's intellectual capital[1]. *Corporate governance (Bradford)*, *4*(1), 5-23. https://doi.org/10.1108/14720700410521925
Nielsen, S., & Huse, M. (2010). The Contribution of Women on Boards of Directors: Going beyond the Surface. *Corporate Governance: An International Review*, *18*(2), 136-148. https://doi.org/10.1111/j.1467-8683.2010.00784.x
Ntim, C. G. (2013). Monitoring board committee structure and market valuation in large publicly listed South African corporations. *International Journal of Managerial and Financial Accounting*, *5*(3). https://doi.org/10.1504/ijmfa.2013.058552
Nur, S., & Fachrurrozie, F. (2020). Effect of Managerial Ownership, Leverage, Firm Size and Profitability on Accounting Conservatism. *Accounting Analysis Journal*, *8*(3), 151-157. https://doi.org/10.15294/aaj.v8i3.27847
OECD. (2015). *G20/OECD Principles of Corporate Governance*. https://www.oecd.org/corporate/principles-corporate-governance/
Okaily, J. A., Dixon, R., & Salama, A. (2019). Corporate governance quality and premature revenue recognition: evidence from the UK. *International Journal of Managerial Finance*, *15*(1), 79-99. https://doi.org/10.1108/ijmf-02-2018-0047
Ong, C. H., & Wan, D. (2008). Three conceptual models of board role performance. *Corporate Governance: The International Journal of Business in Society*, *8*(3), 317-329. https://doi.org/10.1108/14720700810879196
Onuoha, O. J., Okpanachi, J., Jim-Suleiman, S., & Agbi, S. E. (2021). Board Diversity and Earnings Quality of Listed Deposit Money Banks in Nigeria. *Journal of Finance and Accounting*, *9*(1), 11-31. https://doi.org/10.12691/jfa-9-1-2
Orazalin, N. (2019). Board gender diversity, corporate governance, and earnings management. *Gender in Management: An International Journal*, *35*(1), 37-60. https://doi.org/10.1108/gm-03-2018-0027
Osma, B. G., & Noguer, B. G.-d.-A. (2007). The Effect of the Board Composition and its Monitoring Committees on Earnings Management: evidence from Spain. *Corporate governance : an international review*, *15*(6), 1413-1428. https://doi.org/10.1111/j.1467-8683.2007.00654.x
Pathirage, C., Amaratunga, D., & Haigh, R. P. (2008). The Role of Philosophical Context in the Development of Theory: Towards Methodological Pluralism. *The Built & Human Environment Review*, *1*, 1-10.
Pechersky, A. (2016). Diversity in Board of Directors: Review of Diversity as a Factor to Enhance Board Performance. *Studia Commercialia Bratislavensia*, *9*(33), 88-101. https://doi.org/10.1515/stcb-2016-0009
Penman, S. H., & Zhang, X.-J. (2002). Accounting Conservatism, the Quality of Earnings, and Stock Returns. *The Accounting review*, *77*(2), 237-264. https://doi.org/10.2308/accr.2002.77.2.237
Pérez, B., Molina, I., & Peña, D. (2014). Outlier detection and robust estimation in linear regression models with fixed group effects. *Journal of statistical computation and simulation*, *84*(12), 2652-2669. https://doi.org/10.1080/00949655.2013.811669
Peterson, C. A., Philpot, J., & O'Shaughnessy, K. C. (2007). African-American Diversity in the Boardrooms of the US Fortune 500: director presence, expertise and committee membership. *Corporate governance : an international review*, *15*(4), 558-575. https://doi.org/10.1111/j.1467-8683.2007.00588.x
Pfeffer, J. (1972). Size and Composition of Corporate Boards of Directors: The Organization and its Environment. *Administrative science quarterly*, *17*(2), 218-228. https://doi.org/10.2307/2393956
Pfeffer, J. (1973). Size, Composition, and Function of Hospital Boards of Directors: A Study of Organization-Environment Linkage. *Administrative science quarterly*, *18*(3), 349-364. https://doi.org/10.2307/2391668
Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: a resource dependence perspective*. New York : Harper & Row.
Pope, P. F., & Walker, M. (1999). International Differences in the Timeliness, Conservatism, and Classification of Earnings. *Journal of Accounting Research*, *37*(SUPP), 53-87. https://doi.org/10.2307/2491345
Preacher, K. J., Curran, P. J., & Bauer, D. J. (2006). Computational Tools for Probing Interactions in Multiple Linear Regression, Multilevel Modeling, and Latent Curve Analysis. *Journal of*

Educational and Behavioral Statistics, *31*(4), 437-448. https://doi.org/10.3102/10769986031004437
Presley, T. J., Parker, S., & Abbott, L. J. (2012). Female Board Presence and the Likelihood of Financial Restatement. *Accounting Horizons*, *26*(4), 607-629. https://doi.org/10.2308/acch-50249
Puat Nelson, S., & Devi, S. (2013). Audit committee experts and earnings quality. *Corporate Governance: The International Journal of Business in Society*, *13*(4), 335-351. https://doi.org/10.1108/cg-02-2011-0009
Pulungan, H., & Sadat, M. S. (2014). Accounting Conservatism Analysis in Indonesia after Adoption of IFRS and Relation to the Characteristics of the Board As One of the Mechanism of Corporate Governance (Empirical Study on Manufacturing Companies Listed on the Stock Exchange). *Available at SSRN: https://ssrn.com/abstract=2949709 or http://dx.doi.org/10.2139/ssrn.2949709*.
Qiang, X. (2007). The effects of contracting, litigation, regulation, and tax costs on conditional and unconditional conservatism: sectional evidence at the firm level. *The Accounting review*, *82*(3), 759.
Rakshit, D., & Paul, A. (2021). Earnings management and financial distress: An analysis of Indian Textile Companies.
Ramadan, G. R., Prasetyo, O. F., Mujaddid, A., Masyudi, A. R., Mahdi, R. A., Junior, K. L., &, & Putra, Z. P. (2021). Board Of Directors Gender Diversity And Real Earnings Management: Does Female Board Of Director Matter?. *Jurnal Reviu Akuntansi Dan Keuangan*, *11*(2), 306-320. https://doi.org/10.22219/jrak.v11i2.15915
Raman, K., & Shahrur, H. (2008). Relationship-Specific Investments and Earnings Management: Evidence on Corporate Suppliers and Customers. *The Accounting review*, *83*(4), 1041-1081.
Ranasinghe, D., Mather, P. R., & Young, S. (2015). Board Processes, Cognitive Conflicts and Financial Reporting Quality. *Available at SSRN: https://ssrn.com/abstract=2618934*.
Randall Zhaohui, X., Gary, K. T., & Michael, T. D. (2007). Review of Real Earnings Management Literature. *Journal of Accounting Literature*, *26*, 195.
Reddy, S., Jadhav, A. M., & Pai P, Y. (2019). Gender diversity in boardrooms – A literature review. *Cogent Economics & Finance*, *7*(1). https://doi.org/10.1080/23322039.2019.1644703
Rediker, K. J., & Seth, A. (1995). Boards of directors and substitution effects of alternative governance mechanisms. *Strategic Management Journal*, *16*(2), 85-99. https://doi.org/10.1002/smj.4250160202
Reeb, D., & Upadhyay, A. (2010). Subordinate board structures. *Journal of Corporate Finance*, *16*(4), 469-486. https://doi.org/10.1016/j.jcorpfin.2010.04.005
Reguera-Alvarado, N., de Fuentes, P., & Laffarga, J. (2015). Does Board Gender Diversity Influence Financial Performance? Evidence from Spain. *Journal of Business Ethics*, *141*(2), 337-350. https://doi.org/10.1007/s10551-015-2735-9
Richardson, S. (2003). Earnings quality and short sellers. *Accounting Horizons*, *17*(s-1), 49-61. https://doi.org/10.2308/acch.2003.17.s-1.49
Richardson, S. A., Sloan, R. G., Soliman, M. T., & Tuna, İ. (2005). Accrual reliability, earnings persistence and stock prices. *Journal of Accounting and Economics*, *39*(3), 437-485. https://doi.org/10.1016/j.jacceco.2005.04.005
Rink, F. A., & Ellemers, N. (2009). Temporary Versus Permanent Group Membership: How the Future Prospects of Newcomers Affect Newcomer Acceptance and Newcomer Influence. *Pers Soc Psychol Bull*, *35*(6), 764-775. https://doi.org/10.1177/0146167209333177
Rojana, K., & Yang, Q. (2019). The Characteristics of Top Management and Firm's Earnings Management: The Evidence from Thailand. *Copernican Journal of Finance & Accounting*, *8*(3), 49-74. https://doi.org/10.12775/CJFA.2019.012
Rose, C. (2005). The Composition of Semi-Two-Tier Corporate Boards and Firm Performance. *Corporate governance : an international review*, *13*(5), 691-701. https://doi.org/10.1111/j.1467-8683.2005.00460.x
Rose, C. (2007). Does female board representation influence firm performance? The Danish evidence. *Corporate governance : an international review*, *15*(2), 404-413. https://doi.org/10.1111/j.1467-8683.2007.00570.x
Rose, C., Munch-Madsen, P., & Funch, M. (2013). Does Board Diversity Really Matter? Gender does not, but citizenship does. *International journal of business science & applied management*, *8*(1), 16-27.

Rosen, B., & Jerdee, T. H. (1976). The influence of age stereotypes on managerial decisions. *Journal of applied psychology*, *61*(4), 428-432. https://doi.org/10.1037/0021-9010.61.4.428
Rosner, R. L. (2003). Earnings Manipulation in Failing Firms. *Comtemporary Accounting Research*, *20*(2), 361-408. https://doi.org/10.1506/8EVN-9KRB-3AE4-EE81
Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of accounting & economics*, *42*(3), 335-370. https://doi.org/10.1016/j.jacceco.2006.01.002
Roychowdhury, S., & Martin, X. (2013). Understanding discretion in conservatism: An alternative viewpoint. *Journal of Accounting and Economics*, *56*(2-3), 134-146. https://doi.org/10.1016/j.jacceco.2013.11.001
RStudio Team. (2023). *RStudio: Integrated Development for R. RStudio*. In http://www.rstudio.com/
Ruch, G. W., & Taylor, G. (2015). Accounting conservatism: A review of the literature. *Journal of Accounting Literature*, *34*, 17-38.
Rutherford, M. A., & Buchholtz, A. K. (2007). Investigating the Relationship Between Board Characteristics and Board Information. *Corporate Governance*, *15*(4), 576-584. https://doi.org/10.1111/j.1467-8683.2007.00589.x
S&P Capital IQ. (2021). *In International Financial Statistics [Online]. Available: https://www.capitaliq.com/* In
Saeed, M. B., & Saeed, S. K. (2018). Corporate Governance and Accounting Conservatism: Moderating role of Audit Quality and Disclosure Quality. *Business & Economic Review*, *10*(2), 123-150. https://doi.org/10.22547/ber/10.2.6
Salah, W. (2018). The Effect of Firm Characteristics on Earnings Quality: The Moderating Role of Firm Size. International Conference of Industrial and Service Organizations Management, Hurghada, Egypt.
Sami, H., Paek, W., Folsom, D. M., & Chen, L. H. (2014). Accounting Conservatism, Earnings Persistence, and Pricing Multiples on Earnings. *Accounting Horizons*, *28*(2), 233-260. https://doi.org/10.2308/acch-50664
Sanad, Z., Kukreja, G., & Shiwakoti, R. (2020). *The Relationship Between Board Diversity and Earnings Management Practices: Literature Review* Proceedings of the Industrial Revolution & Business Management: 11th Annual PwR Doctoral Symposium (PWRDS) 2020,
Sani, A., Abdul Latif, R., & Al-dhamari, R. (2018). Risk Management Committee and Real Earnings Management Through Sales: Evidence from Nigeria. *12*, 62-69.
Saunders, M. N. K. (2019). *Research Methods for Business Students*. Pearson Education.
Schipper, K. (1989). Commentary on Earnings Management. *Accounting Horizons*, *3*(4), 91-102.
Schipper, K., & Vincent, L. (2003). Earnings quality. *Accounting Horizons*, *17*(s-1), 97-110. https://doi.org/10.2308/acch.2003.17.s-1.97
Schnake Mel, E., Fredenberger, W. B., & Williams, R. J. (2005). The influence of board characteristics on the frequency of 10-K investigations of firms in the Financial Services Sector. *Journal of Business Strategies*, *22*(2), 101.
Schopohl, L., Urquhart, A., & Zhang, H. (2021). Female CFOs, leverage and the moderating role of board diversity and CEO power. *Journal of Corporate Finance*, *71*. https://doi.org/10.1016/j.jcorpfin.2020.101858
Schwartz-Ziv, M., & Weisbach, M. S. (2013). What do boards really do? Evidence from minutes of board meetings. *Journal of Financial Economics*, *108*(2), 349-366. https://doi.org/10.1016/j.jfineco.2012.04.011
Sellami, M., & Fakhfakh, H. (2013). Effect of the Mandatory Adoption of IFRS on Real and Accruals-based Earnings Management: Empirical Evidence From France. *International Journal of Accounting and Economics Studies*, *2*(1). https://doi.org/10.14419/ijaes.v2i1.1485
Setiawan, D. (2020). IFRS, Family Ownership and Earnings Management in The Indonesian Banking Industry. *International Journal of Economics & Management*, *14*(2), 233-246.
Shackelford, D. A., & Shevlin, T. (2001). Empirical tax research in accounting. *Journal of accounting & economics*, *31*(1), 321-387. https://doi.org/10.1016/S0165-4101(01)00022-2
Sharifah, B. (2012). Board diversity and discretionary accruals of the top 100 Malaysia corporate governance (MCG) index company. *African Journal of Business Management*, *6*(29). https://doi.org/10.5897/ajbm11.1052
Shimamoto, K., & Takeda, F. (2020). IFRS Adoption and Accounting Conservatism of Japanese Firms with Governance System Transition. *International Advances in Economic Research*, *26*(2), 161-173. https://doi.org/10.1007/s11294-020-09788-y

Shleifer, A., & Vishny, R. W. (1997). A Survey of Corporate Governance. *The Journal of finance (New York)*, *52*(2), 737-783. https://doi.org/10.1111/j.1540-6261.1997.tb04820.x
Shukeri, S. N., Shin, O. W., & Shaari, M. S. (2012). Does Board of Director's Characteristics Affect Firm Performance? Evidence from Malaysian Public Listed Companies. *International Business Research*, *5*(9). https://doi.org/10.5539/ibr.v5n9p120
Sial, M. S., Vo, X. V., Al-Haddad, L., & Trang, T. N. (2019). Impact of female directors on the board and foreign institutional investors on earning manipulation of Chinese listed companies. *Asia-Pacific Journal of Business Administration*, *11*(3), 288-300. https://doi.org/10.1108/apjba-10-2018-0189
Singapore Exchange Limited (SGX). (2018). Code of Corporate Governance. https://rulebook.sgx.com/rulebook/code-corporate-governance-2018
Sloan, R. G. (1996). Do Stock Prices Fully Reflect Information in Accruals and Cash Flows about Future Earnings? *The Accounting review*, *71*(3), 289-315.
Smith, M., & Sarabi, Y. (2020). "What do interlocks do" revisited – a bibliometric analysis. *Management Research Review*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/mrr-05-2020-0258
Sohn, B. C., & Zhou, L. (2017). Political connections and accounting conservatism: Evidence from Chinese listed firms. *Corporate Ownership and Control*, *15*(1), 143-154. https://doi.org/10.22495/cocv15i1art14
Soliman, W. (2019). The Moderating Effect of Firm Characteristics on the Association Between Accounting Conservatism and Cash Holdings. *International Journal of Accounting and Financial Reporting*, *9*, 385. https://doi.org/10.5296/ijafr.v9i4.15887
Srinidhi, B. I. N., Gul, F. A., & Tsui, J. (2011). Female Directors and Earnings Quality*. *Contemporary Accounting Research*, *28*(5), 1610-1644. https://doi.org/10.1111/j.1911-3846.2011.01071.x
Stiles, P., & Taylor, B. (2002). *Boards at Work*. https://doi.org/10.1093/acprof:oso/9780199258161.001.0001
Strydom, M., Au Yong, H. H., & Rankin, M. (2016). A few good (wo)men? Gender diversity on Australian boards. *Australian Journal of Management*, *42*(3), 404-427. https://doi.org/10.1177/0312896216657579
Sultana, N. (2015). Audit Committee Characteristics and Accounting Conservatism. *International journal of auditing*, *19*(2), 88-102. https://doi.org/10.1111/ijau.12034
Sultana, N., & Van der Zahn, M. (2015). *Board Gender Diversity and Earnings Conservatism* University of Curtin.
Sun, X. S., & Bhuiyan, M. B. U. (2020). Board tenure: A review. *Journal of Corporate Accounting & Finance*, *31*(4), 178-196. https://doi.org/10.1002/jcaf.22464
Šušak, T., Kramarić, T. P., & Bartulović, M. (2023). Gender diversity in the boardroom and earnings management during the period of the COVID-19 crisis. *Zbornik Radova Ekonomski Fakultet u Rijeka*, *41*(1), 41-63. https://doi.org/https://doi.org/10.18045/zbefri.2023.1.41
Sweeney, A. P. (1994). Debt-covenant violations and managers' accounting responses. *Journal of accounting & economics*, *17*(3), 281-308. https://doi.org/10.1016/0165-4101(94)90030-2
Talavera, O., Yin, S., & Zhang, M. (2018). Age diversity, directors' personal values, and bank performance. *International Review of Financial Analysis*, *55*, 60-79. https://doi.org/10.1016/j.irfa.2017.10.007
Talmud, I., & Izraeli, D. N. (1999). The relationship between gender and performance issues of concern to directors: correlates or institution? *Journal of Organizational Behavior*, *20*, 459-474.
Tan, C. (2011). The One-Tier and Two-Tier Board Structures and Hybrids in Asia - Convergence and What Really Matters for Corporate Governance. 1-34. https://ssrn.com/abstract=2140345 or http://dx.doi.org/10.2139/ssrn.2140345
Tee, C. M. (2019). Political connections, the cost of debt and board attributes: evidence from Malaysia. *Managerial Finance*, *45*(7), 842-855. https://doi.org/10.1108/mf-04-2018-0179
Tee, C. M., & Rassiah, P. (2019). Ethnic board diversity, earnings quality and institutional investors: evidence from Malaysian corporate boards. *Accounting & Finance*, *60*(4), 4257-4290. https://doi.org/10.1111/acfi.12485
Teets, W. R. (2002). Quality of earnings: an introduction to the Issues in Accounting Education special issue. *Issues in accounting education*, *17*(4), 355.

Teixeira, J. F., & Rodrigues, L. L. (2022). Earnings management: a bibliometric analysis. *International Journal of Accounting & Information Management*, *30*(5), 664-683. https://doi.org/10.1108/ijaim-12-2021-0259
Teoh, S. H., Welch, I., & Wong, T. J. (1998). Earnings Management and the Long-Run Market Performance of Initial Public Offerings. *The Journal of finance (New York)*, *53*(6), 1935-1974. https://doi.org/10.1111/0022-1082.00079
Terjesen, S., & Sealy, R. (2016). Board Gender Quotas: Exploring Ethical Tensions From A Multi-Theoretical Perspective. *Business Ethics Quarterly*, *26*(1), 23-65. https://doi.org/10.1017/beq.2016.7
Terjesen, S., Sealy, R., & Singh, V. (2009). Women Directors on Corporate Boards: A Review and Research Agenda. *Corporate Governance: An International Review*, *17*(3), 320-337. https://doi.org/10.1111/j.1467-8683.2009.00742.x
Teymouri, M. R., & Sadeghi, M. (2020). Investigating the Effect of Firm Characteristics on Accounting Conservatism and the Effect of Accounting Conservatism on Financial Governance. *Arch Pharma Pract*, *11*((S1)), 124-133.
The Stock Exchange of Hong Kong Limited. (2018). *Corporate Governance Code*. https://en-rules.hkex.com.hk/rulebook/appendix-14-corporate-governance-code
Thiruvadi, S., & Huang, H. W. (2011). Audit committee gender differences and earnings management. *Gender in Management: An International Journal*, *26*(7), 483-498. https://doi.org/10.1108/17542411111175469
Tian, Y., & Smith, J. A. (2020). Empirical Insights into Supervisory Boards of Listed Companies in China. *Asian Journal of Economics, Business and Accounting*, 19-37. https://doi.org/10.9734/ajeba/2020/v19i430310
Torchia, M., Calabrò, A., & Morner, M. (2015). Board of Directors' Diversity, Creativity, and Cognitive Conflict. *International Studies of Management & Organization*, *45*(1), 6-24. https://doi.org/10.1080/00208825.2015.1005992
Tosi, H. L. (2008). Quo Vadis? Suggestions for future corporate governance research. *Journal of Management and Governance*, *12*(2), 153-169. https://doi.org/10.1007/s10997-008-9054-9
Triki Damak, S. (2018). Gender diverse board and earnings management: evidence from French listed companies. *Sustainability Accounting, Management and Policy Journal*, *9*(3), 289-312. https://doi.org/10.1108/sampj-08-2017-0088
Turner, M. E., & Pratkanis, A. R. (1998). Twenty-Five Years of Groupthink Theory and Research: Lessons from the Evaluation of a Theory. *Organizational Behavior and Human Decision Processes*, *73*(2-3), 105-115. https://doi.org/10.1006/obhd.1998.2756
Upadhyay, A. D., Bhargava, R., & Faircloth, S. D. (2014). Board structure and role of monitoring committees. *Journal of Business Research*, *67*(7), 1486-1492. https://doi.org/10.1016/j.jbusres.2013.07.017
Uyar, A., Elbardan, H., Kuzey, C., & Karaman, A. S. (2022). Audit and CSR committees: are they complements or substitutes in CSR reporting, assurance and GRI framework adoption? *International Journal of Accounting & Information Management*, *31*(1), 1-36. https://doi.org/10.1108/ijaim-04-2022-0086
Vafeas, N. (2003). Length of Board Tenure and Outside Director Independence. *Journal of Business Finance & Accounting*, *30*(7-8), 1043-1064. https://doi.org/10.1111/1468-5957.05525
Van Den Steen, E. (2010). Culture Clash: The Costs and Benefits of Homogeneity. *Management science*, *56*(10), 1718-1738. https://doi.org/10.1287/mnsc.1100.1214
Van der Walt, N., & Ingley, C. (2003). Board Dynamics and the Influence of Professional Background, Gender and Ethnic Diversity of Directors. *Corporate governance : an international review*, *11*(3), 218-234. https://doi.org/10.1111/1467-8683.00320
Van der Walt, N., Ingley, C., Shergill, G. S., & Townsend, A. (2006). Board configuration: are diverse boards better boards? *Corporate Governance: The International Journal of Business in Society*, *6*(2), 129-147. https://doi.org/10.1108/14720700610655141
Van Knippenberg, D., De Dreu, C. K. W., & Homan, A. C. (2004). Work Group Diversity and Group Performance: An Integrative Model and Research Agenda. *Journal of applied psychology*, *89*(6), 1008-1022. https://doi.org/10.1037/0021-9010.89.6.1008
Wafa Hili, P. H. A. D. (2012). Corporate Boards Gender Diversity and Earnings Persistence: The Case of French Listed Firms. *Global Journal of Management And Business Research; Vol 12 No 22 (2012): Global Journal of Management and Business*. https://journalofbusiness.org/index.php/GJMBR/article/view/919

Wagana, D. M., & Nzulwa, J. D. (2016). Corporate Governance, Board Gender Diversity And Corporate Performance: A Critical Review Of Literature. *European Scientific Journal, ESJ*, *12*(7). https://doi.org/10.19044/esj.2016.v12n7p221
Walker, A., Machold, S., & Ahmed, P. K. (2015). Diversity and Conflict in Boards of Directors. *International Studies of Management & Organization*, *45*(1), 25-42. https://doi.org/10.1080/00208825.2015.1005995
Wan Mohammad, W. M., & Wasiuzzaman, S. (2019). Effect of audit committee independence, board ethnicity and family ownership on earnings management in Malaysia. *Journal of Accounting in Emerging Economies*, *10*(1), 74-99. https://doi.org/10.1108/jaee-01-2019-0001
Wang, L. (2014). *Board Gender Diversity and Accounting Conservatism: Evidence from Finland* University of OULU].
Watts, R. L. (2003). Conservatism in accounting part I: Explanations and implications. *Accounting Horizons*, *17*(3), 207-221. https://doi.org/10.2308/acch.2003.17.3.207
Watts, R. L., & Zimmerman, J. L. (1978). Towards a Positive Theory of the Determination of Accounting Standards. *The Accounting review*, *53*(1), 112-134. http://www.jstor.org/stable/245729
Watts, R. L., & Zimmerman, J. L. (1986). *Positive accounting theory*. Englewood Cliffs, N.J. : Prentice-Hall.
Waweru, N. M., & Prot, N. P. (2018). Corporate governance compliance and accrual earnings management in eastern Africa. *Managerial Auditing Journal*, *33*(2), 171-191. https://doi.org/10.1108/maj-09-2016-1438
Webber, S. S., & Donahue, L. M. (2001). Impact of highly and less job-related diversity on work group cohesion and performance: a meta-analysis. *Journal of Management*, *27*(2), 141-162. https://doi.org/10.1016/S0149-2063(00)00093-3
Weber. (2004). Editor's Comments: The Rhetoric of Positivism versus Interpretivism: A Personal View. *MIS quarterly*, *28*(1), iii-xii. https://doi.org/10.2307/25148621
Westphal, J. D., & Milton, L. P. (2000). How Experience and Network Ties Affect the Influence of Demographic Minorities on Corporate Boards. *Administrative science quarterly*, *45*(2), 366-398. https://doi.org/10.2307/2667075
White, H. (1980). A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity. *ECONOMETRICA*, *48*(4), 817-838. https://doi.org/10.2307/1912934
Widagdo, A. K., Rahmawati, Djuminah, Arifah, S., Goestjahjanti, F. S., & Kiswanto. (2022). The Impact of Ownership Characteristics and Gender on Earnings Management: Indonesian Companies. *Journal of Risk and Financial Management*, *16*(1). https://doi.org/10.3390/jrfm16010017
Wilcox, A. R. (1973). Indices of Qualitative Variation and Political Measurement. *The Western Political Quarterly*, *26*(2), 325-343. https://doi.org/10.2307/446831
Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data*. Cambridge, Mass. : MIT Press.
Wu, Q., Hasan, I., & Francis, B. (2013). The Benefits of Conservative Accounting to Shareholders: Evidence from the Financial Crisis. *Accounting Horizons*, *27*(2), 319-346. https://doi.org/10.2308/acch-50431
Wu, Y. W. (1997). Management Buyouts and Earnings Management. *Journal of Accounting, Auditing & Finance*, *12*(4), 373-389. https://doi.org/10.1177/0148558X9701200402
Yang, Y. (2011). Effects of Cognitive and Affective Conflict Between Hotel's Top Managers on Firm Performance in China. *Journal of China Tourism Research*, *7*(1), 42-61. https://doi.org/10.1080/19388160.2011.551046
Ye, K., Zhang, R., & Rezaee, Z. (2010). Does top executive gender diversity affect earnings quality? A large sample analysis of Chinese listed firms. *Advances in Accounting*, *26*(1), 47-54. https://doi.org/10.1016/j.adiac.2010.02.008
Yermack, D. (2006). Board Members and Company Value. *Fin Mkts Portfolio Mgmt*, *20*(1), 33-47. https://doi.org/10.1007/s11408-006-0003-9
Yuan, Z., Wang, Z., & Liu, B. (2023). Employee education level and real earnings management: evidence from China. *Asia-Pacific Journal of Accounting & Economics*, 1-26. https://doi.org/10.1080/16081625.2023.2176327
Yunos, R. M., Ahmad, S. A., & Sulaiman, N. (2014). The Influence of Internal Governance Mechanisms on Accounting Conservatism. *Procedia, social and behavioral sciences*, *164*, 501-507. https://doi.org/10.1016/j.sbspro.2014.11.138

Zalata, A. M., Ntim, C. G., Alsohagy, M. H., & Malagila, J. (2021). Gender diversity and earnings management: the case of female directors with financial background. *Review of Quantitative Finance and Accounting*, *58*(1), 101-136. https://doi.org/10.1007/s11156-021-00991-4

Zalata, A. M., Ntim, C. G., Choudhry, T., Hassanein, A., & Elzahar, H. (2019). Female directors and managerial opportunism: Monitoring versus advisory female directors. *The Leadership Quarterly*, *30*(5). https://doi.org/10.1016/j.leaqua.2019.101309

Zang, A. Y. (2011). Evidence on the Trade-Off between Real Activities Manipulation and Accrual-Based Earnings Management. *The Accounting review*, *87*(2), 675-703. https://doi.org/10.2308/accr-10196

Zéghal, D., Chtourou, S., & Sellami, Y. M. (2011). An analysis of the effect of mandatory adoption of IAS/IFRS on earnings management. *Journal of international accounting, auditing & taxation*, *20*(2), 61-72. https://doi.org/10.1016/j.intaccaudtax.2011.06.001

Zgarni, I., Hlioui, K., & Zehri, F. (2016). Effective audit committee, audit quality and earnings management. *Journal of Accounting in Emerging Economies*, *6*(2), 138-155. https://doi.org/10.1108/jaee-09-2013-0048

Zhang, J. (2008). The contracting benefits of accounting conservatism to lenders and borrowers. *Journal of accounting & economics*, *45*(1), 27-54. https://doi.org/10.1016/j.jacceco.2007.06.002

Zheng, C., & Kouwenberg, R. (2019). A Bibliometric Review of Global Research on Corporate Governance and Board Attributes. *Sustainability*, *11*(12). https://doi.org/10.3390/su11123428

Zhong, Y., & Li, W. (2017). Accounting Conservatism: A Literature Review. *Australian Accounting Review*, *27*(2), 195-213. https://doi.org/10.1111/auar.12107

Ziegel, E. R., & Senn, S. (1994). Cross-Over Trials in Clinical Research. *Technometrics*, *36*(2), 233. https://doi.org/10.2307/1270263

Zona, F., & Zattoni, A. (2007). Beyond the Black Box of Demography: board processes and task effectiveness within Italian firms. *Corporate governance : an international review*, *15*(5), 852-864. https://doi.org/10.1111/j.1467-8683.2007.00606.x

Appendices

Appendix A: Defining and Measuring Variables

Variables	Measurement	Acronym
	Dependent Variables	
Accruals Earnings Management	This study employs three accruals earnings management techniques.	*AEM*
	The absolute value of abnormal discretionary accruals computed by the modified Jones (1995) Model	*AEM1**
	The absolute value of abnormal discretionary accruals computed by the performance-matched model (Kothari et al., 2005) and modified by (Raman and Shahrur, 2008)	*AEM2*
	The absolute value of accruals quality model (Dechow and Dichev, 2002) and modified by (McNichols, 2002 and Francis et al., 2005)	*AEM3*
Real Earnings Management	This study employs three real earnings management techniques. (Roychowdhury, 2006, Liao and Ouyang, 2019, Ghaleb et al., 2020b)	*REM*
	Aggregate REM is computed by the sum of abnormal cash flow and abnormal discretionary expenses	*REM1*
	Aggregate REM is computed by the sum of abnormal discretionary expenses and abnormal production	*REM2*
	Aggregate REM is computed by the sum of abnormal cash flow, abnormal discretionary expenses and abnormal production	*REM3**
Conditional Conservatism	This study employs three measures of conditional accounting conservatism.	*CON*
	Conditional conservatism by C-Ratio (Basu, 1997)	*CON1**
	Conditional conservatism by Change NI model (Ball and Shivakumar, 2005)	*CON2*
	Conditional conservatism by C-Score model (Khan and Watts, 2009)	*CON3*
Unconditional Conservatism	This study employs two measures of unconditional accounting conservatism	*UNCON*
	Unconditional conservatism by a book-value-based measure (Beaver and Ryan, 2000)	*UNCON1**
	Unconditional conservatism by an accruals-based measure (Givoly and Hayn, 2000)	*UNCON2*
Earnings Quality	The aggregate standardised earnings quality score is determined by averaging the firm's decile rankings for the four individual earnings quality measures.	*EQ*
	AEM1 + REM3 + CON1 + UNCON1	*EQ1**
	AEM2 + REM3 + CON3 + UNCON1	*EQ2*
	AEM3 + REM3 + CON2 + UNCON1	*EQ3*
	Independent Variables	
Board Diversity	The present study categorises Board diversity into eight different aspects.	
Board's Aggregate-level Diversity	Blau's index of diversity at the aggregate level [gender, age, education, tenure, experience&expertise]	*DIVERSITY*
Board's Surface-level Diversity	Blau's index of diversity at the surface level [gender, and age]	*SURFACE*

Variables	Measurement	Acronym
Board's Deep-level Diversity	Blau's index of diversity at the deep level [education, tenure, and experience&expertise]	*DEEP*
Board's Gender Diversity	Blau's index of diversity for gender	*GEN*
Board's Age Diversity	Blau's index of diversity for age	*AGE*
Board's Education Diversity	Blau's index of diversity for education	*EDU*
Board's Tenure Diversity	Blau's index of diversity for tenure	*TEN*
Board's Experience&Expertise Diversity	Blau's index of diversity for experience&expertist	*EXP*
	Moderators	
Board Roles	This study classifies the functions of the Board as monitoring and advisory	
Monitoring committee	Number of monitoring committees, which are audit, compensation, nominating, and other committees performing similar tasks	*MONIC**
Advisory committee	Number of committees other than the monitoring committees	*ADVIC**
Monitoring director	Directors who are members of a minimum of two monitoring committees	*MONID*
Advisory director	Directors who do not have any directorship roles on monitoring committees, but instead hold directorships on at least one advisory committee	*ADVID*
	Control Variables	
Firm's size	Natural logarithm of firms' market value	*SIZE*
Firm's age	The number of years of existence	*FAGE*
Return on assets	Net income before extraordinary items divided by lagged total assets	*ROA*
Firm's growth	Annual percent change in sales	*GROWTH*
Z-Score	Altman Z-score	*ZSCORE*
IFRS	Dummy variable: 1 if the firm applies IFRS; otherwise, 0	*IFRS*
Big4 auditor	Dummy variable: 1 if the firm uses one of the big FOUR audit firms as the auditor; otherwise, 0	*BIG4*

* These variables will be utilised in the primary analysis, whereas the remaining variables will be employed in alternative tests.

Appendix B: Robustness Test of Multiple Regression Analysis for Accruals Earnings Management

Tables B1 present fixed-effects regressions of Board diversity and alternative AEMs, while Tables B2 show alternative regression methods. All explanatory variables are lagged by one year. The results are controlled by variables such as year, country, and industry dummies. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Table B1: Alternative Proxy for Accruals Earnings Management (AEM2)

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.017	0.009	0.004	0.000	0.016	-0.006	0.001	0.125
Independent Variables									
DIVERSITY	(-)	-0.008*	-0.014**	-0.003	-0.011	-0.024**	0.009	-0.001	-0.149***
Control Variables									
SIZE		-0.008***	-0.008***	-0.008***	-0.008***	-0.008***	-0.008***	-0.008***	-0.008***
AGE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
ROA		-0.060***	-0.060***	-0.060***	-0.060***	-0.060***	-0.060***	-0.060***	-0.060***
GROWTH		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
ZSCORE		-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***
IFRS		-0.070**	-0.069**	-0.070**	-0.069**	-0.069**	-0.070**	-0.070**	-0.073**
BIG4		-0.009	-0.009	-0.009	-0.009	-0.010	-0.010	-0.009	-0.009
R-Squared		0.222	0.220	0.222	0.220	0.220	0.220	0.223	0.220

Table B1: (Continued) Alternative Proxy for Accruals Earnings Management (AEM3)

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.003	-0.048	-0.022	-0.078	-0.056	0.011	-0.078	0.383
Independent Variables									
DIVERSITY	(-)	-0.036**	-0.044**	-0.037*	-0.053*	-0.032	-0.140***	0.005	-0.547***
Control Variables									
SIZE		-0.028***	-0.028***	-0.028***	-0.028***	-0.028***	-0.027***	-0.028***	-0.028***
AGE		-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
ROA		-0.650***	-0.650***	-0.650***	-0.650***	-0.650***	-0.650***	-0.650***	-0.649***
GROWTH		0.012**	0.012**	0.011**	0.012**	0.012**	0.012**	0.011**	0.012**
ZSCORE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
IFRS		0.276***	0.278***	0.273***	0.278***	0.275***	0.275***	0.274***	0.264***
BIG4		0.115***	0.114***	0.114***	0.114***	0.112***	0.114***	0.112***	0.114***
R-Squared		0.253	0.251	0.253	0.250	0.251	0.252	0.251	0.252

Table B2: Alternative OLS Estimation – Accruals Earnings Management

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.283***	0.245***	0.292***	0.240***	0.257***	0.233***	0.256***	0.259***
Independent Variables									
DIVERSITY	(-)	-0.018***	-0.008	-0.029***	-0.003	-0.027**	0.011	-0.044***	-0.023
Control Variables									
SIZE		-0.023***	-0.024***	-0.023***	-0.024***	-0.024***	-0.025***	-0.023***	-0.024***
AGE		0.001	0.001	0.001	0.001	0.001	0.001	0.001**	0.001
ROA		-0.232***	-0.236***	-0.231***	-0.236***	-0.236***	-0.236***	-0.227***	-0.236***
GROWTH		0.009***	0.010***	0.009***	0.010***	0.010***	0.010***	0.009***	0.010***
ZSCORE		-0.001***	-0.001**	-0.001***	-0.001**	-0.001**	-0.001**	-0.001***	-0.001**
IFRS		-0.019***	-0.019***	-0.019***	-0.019***	-0.018***	-0.019***	-0.017***	-0.019***
BIG4		-0.001	-0.003	-0.003	-0.004	-0.003	-0.004	-0.005	-0.003
R-Squared		0.216	0.214	0.216	0.214	0.214	0.214	0.218	0.214

Table B2: (Continued) Alternative Random Effects Estimation – Accruals Earnings Management

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.367***	0.330***	0.365***	0.321***	0.335***	0.314***	0.333***	0.384***
Independent Variables									
DIVERSITY	(-)	-0.018***	-0.014***	-0.025***	-0.010	-0.025**	0.008	-0.033***	-0.079***
Control *Variables*									
SIZE		-0.021***	-0.022***	-0.022***	-0.022***	-0.022***	-0.023***	-0.022***	-0.022***
AGE		0.000	0.000	0.000	0.000	0.000*	0.000	0.000	0.000
ROA		-0.138***	-0.140***	-0.138***	-0.140***	-0.141***	-0.141***	-0.137***	-0.141***
GROWTH		0.004**	0.004**	0.004**	0.004**	0.004**	0.004**	0.003**	0.004**
ZSCORE		-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
IFRS		-0.037***	-0.037***	-0.037***	-0.037***	-0.036***	-0.037***	-0.036***	-0.038***
BIG4		-0.019***	-0.020***	-0.020***	-0.020***	-0.021***	-0.022***	-0.021***	-0.020***
R-Squared		0.092	0.091	0.092	0.090	0.091	0.090	0.093	0.091

Appendix C: Robustness Test of Multiple Regression Analysis for Real Earnings Management

Tables C1 present fixed-effects regressions of Board diversity and alternative REMs, while Tables C2 show alternative regression methods. All explanatory variables are lagged by one year. The results are controlled by variables such as year, country, and industry dummies. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Table C1: Alternative Proxy for Real Earnings Management (REM1)

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		-0.074	-0.039	-0.038	-0.006	-0.029	-0.021	-0.007	-0.076
Independent Variables									
DIVERSITY	(-)	0.031***	0.047***	0.021*	0.058***	0.033	0.023	0.019	0.083
Control Variables									
SIZE		-0.029***	-0.029***	-0.029***	-0.029***	-0.029***	-0.029***	-0.029***	-0.029***
AGE		0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
ROA		-0.107***	-0.107***	-0.107***	-0.108***	-0.107***	-0.107***	-0.107***	-0.107***
GROWTH		-0.005*	-0.006*	-0.005*	-0.005*	-0.005*	-0.005*	-0.005*	-0.005*
ZSCORE		-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
IFRS		-0.220***	-0.223***	-0.218***	-0.223***	-0.220***	-0.219***	-0.218***	-0.217***
BIG4		-0.154***	-0.154***	-0.153***	-0.155***	-0.152***	-0.153***	-0.153***	-0.153***
R-Squared		0.340	0.340	0.340	0.340	0.340	0.339	0.340	0.340

Table C1: (Continued) Alternative Proxy for Real Earnings Management (REM2)

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.096	0.090	0.110	0.097	0.079	0.112	0.097	0.127
Independent Variables									
DIVERSITY	(-)	0.001	0.010	-0.008	0.002	0.026*	-0.023	-0.004	-0.035
Control *Variables*									
SIZE		0.009***	0.009***	0.009***	0.009***	0.009***	0.009***	0.009***	0.009***
AGE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
ROA		0.337***	0.337***	0.337***	0.337***	0.338***	0.337***	0.337***	0.338***
GROWTH		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
ZSCORE		-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
IFRS		0.047	0.046	0.046	0.047	0.046	0.047	0.047	0.046
BIG4		-0.006	-0.007	-0.006	-0.006	-0.006	-0.006	-0.006	-0.006
R-Squared		0.318	0.318	0.318	0.318	0.319	0.318	0.318	0.318

Table C2: Alternative OLS Estimation – Real Earnings Management

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		-0.077***	-0.044**	-0.079***	-0.036**	-0.047**	-0.036*	-0.050***	0.002
Independent Variables									
DIVERSITY	(-)	0.017***	0.012*	0.024***	0.011	0.016	0.001	0.037***	-0.047
Control *Variables*									
SIZE		0.008***	0.009***	0.009***	0.009***	0.010***	0.010***	0.009***	0.010***
AGE		0.001**	0.001***	0.001**	0.001***	0.001***	0.001***	0.001**	0.001***
ROA		-0.015	-0.012	-0.016	-0.012	-0.012	-0.012	-0.019*	-0.012
GROWTH		-0.014***	-0.015***	-0.014***	-0.015***	-0.015***	-0.015***	-0.014***	-0.015***
ZSCORE		-0.001	-0.001*	-0.001	-0.001*	-0.001*	-0.001*	-0.001	-0.001*
IFRS		-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.005	-0.004
BIG4		-0.022***	-0.021***	-0.020***	-0.021***	-0.020***	-0.020***	-0.019***	-0.019***
R-Squared		0.011	0.010	0.011	0.010	0.010	0.010	0.012	0.010

Table C2: (Continued) Alternative Random Effects Estimation – Real Earnings Management

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		-0.063***	-0.028	-0.062***	-0.020	-0.028	-0.019	-0.033*	0.019
Independent Variables									
DIVERSITY	(-)	0.017***	0.011*	0.024***	0.010	0.016	0.000	0.037***	-0.046
Control Variables									
SIZE		0.008***	0.009***	0.009***	0.009***	0.010***	0.010***	0.009***	0.010***
AGE		0.001**	0.001***	0.001**	0.001***	0.001***	0.001***	0.001**	0.001***
ROA		-0.015	-0.012	-0.016	-0.012	-0.012	-0.012	-0.019*	-0.012
GROWTH		-0.014***	-0.015***	-0.014***	-0.015***	-0.015***	-0.015***	-0.014***	-0.015***
ZSCORE		-0.001	-0.001*	-0.001	-0.001*	-0.001*	-0.001*	-0.001	-0.001*
IFRS		-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.005	-0.004
BIG4		-0.022***	-0.021***	-0.020***	-0.021***	-0.020***	-0.020***	-0.019***	-0.019***
R-Squared		0.011	0.010	0.011	0.010	0.010	0.009	0.012	0.010

Appendix D: Robustness Test of Trade-off Earnings Management

Table D1 presents fixed-effects regressions of Board diversity and the ratio of REM to AEM as a trade-off regression analysis. All explanatory variables are lagged by one year. The results are controlled by variables such as year, country, and industry dummies. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Table D1: Analysis for Trade-off The ratio[40] of REM to AEM

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.194	0.877*	0.067	0.929**	0.848*	0.624	0.755*	0.694
		(0.536)	(0.472)	(0.526)	(0.448)	(0.513)	(0.490)	(0.451)	(0.877)
Independent Variables									
DIVERSITY	(+)	0.274**	0.073	0.475**	0.058	0.139	0.520	0.525**	0.284
		(0.109)	(0.175)	(0.151)	(0.202)	(0.379)	(0.332)	(0.184)	(0.865)
Control Variables									
SIZE		0.029	0.048	0.030	0.048	0.050	0.046	0.036	0.049
		(0.032)	(0.032)	(0.032)	(0.032)	(0.031)	(0.031)	(0.032)	(0.031)
AGE		0.003*	0.004**	0.003*	0.004**	0.004**	0.003**	0.003*	0.004**
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
ROA		-0.158	-0.102	-0.178	-0.102	-0.098	-0.102	-0.181	-0.100
		(0.300)	(0.300)	(0.300)	(0.300)	(0.300)	(0.300)	(0.300)	(0.300)
GROWTH		-0.106	-0.163**	-0.172**	-0.159**	-0.172**	-0.173**	-0.172**	-0.158**
		(0.077)	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)
ZSCORE		-0.031*	0.001	0.001	0.002	0.001	0.001	0.001	0.002
		(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
IFRS		-0.089	-0.078	-0.101	-0.076	-0.082	-0.075	-0.090	-0.087
		(0.390)	(0.390)	(0.390)	(0.390)	(0.390)	(0.390)	(0.390)	(0.391)
BIG4		0.008	0.035	0.040	0.038	0.042	0.035	0.054	0.040
		(0.157)	(0.158)	(0.157)	(0.158)	(0.157)	(0.157)	(0.157)	(0.157)
R-Squared		0.284	0.284	0.284	0.284	0.284	0.284	0.284	0.284

[40] This test employs the ratio of REM3 to AEM1, which yields comparable outcomes to the ratios of REM3 to AEM2 and REM3 to AEM3.

Appendix E: The Marginal Effects of Board Diversity on Accruals Earnings Management

Tables E1 and E2 present the corresponding standard errors of the marginal effects of Board diversity on AEM at different values of Board roles.

Table E1: The marginal effects of Board diversity on AEM1 as a function of Board monitoring role

Monitoring committee	Estimate	SE	z	Pr(>|z|)	2.50%	97.50%
0	-0.0502	0.0162	-3.1100	0.0019	-0.0819	-0.0185
1	-0.0353	0.0110	-3.2000	0.0014	-0.0569	-0.0137
2	-0.0204	0.0064	-3.1600	0.0016	-0.0330	-0.0078
3	-0.0055	0.0045	-1.2100	0.2277	-0.0143	0.0034
4	0.0095	0.0077	1.2300	0.2170	-0.0056	0.0245
5	0.0244	0.0125	1.9500	0.0510	-0.0001	0.0489
6	0.0393	0.0177	2.2200	0.0263	0.0046	0.0739

Table E2: The marginal effects of Board diversity on AEM1 as a function of Board advisory role

Advisory committee	Estimate	SE	z	Pr(>|z|)	2.50%	97.50%
0	-0.0099	0.0049	-2.0148	0.0439	-0.0195	-0.0003
1	-0.0051	0.0052	-0.9768	0.3287	-0.0152	0.0051
2	-0.0002	0.0086	-0.0258	0.9794	-0.0170	0.0166
3	0.0046	0.0128	0.3607	0.7183	-0.0205	0.0297
4	0.0095	0.0173	0.5476	0.5840	-0.0244	0.0433
5	0.0143	0.0218	0.6549	0.5125	-0.0285	0.0571
6	0.0191	0.0264	0.7240	0.4691	-0.0327	0.0709
7	0.0240	0.0311	0.7719	0.4402	-0.0369	0.0848
9	0.0336	0.0404	0.8340	0.4043	-0.0454	0.1127

Appendix F: The Marginal Effects of Board Diversity on Real Earnings Management

Tables F1 and F2 present the corresponding standard errors of the marginal effects of Board diversity on REM at different values of Board roles.

Table F1: The marginal effects of Board diversity on REM3 as a function of Board monitoring role

Monitoring committee	Estimate	SE	z	Pr(>|z|)	2.50%	97.50%
0	0.0381	0.0348	1.0940	0.2741	-0.0302	0.1063
1	0.0352	0.0238	1.4820	0.1383	-0.0114	0.0818
2	0.0324	0.0139	2.3330	0.0197	0.0052	0.0596
3	0.0295	0.0098	3.0280	0.0025	0.0104	0.0487
4	0.0267	0.0165	1.6180	0.1057	-0.0057	0.0591
5	0.0239	0.0269	0.8860	0.3754	-0.0289	0.0766
6	0.0210	0.0381	0.5520	0.5813	-0.0537	0.0957

Table F2: The marginal effects of Board diversity on REM3 as a function of Board advisory role

Advisory committee	Estimate	SE	z	Pr(>|z|)	2.50%	97.50%
0	0.0300	0.0106	2.8350	0.0046	0.0093	0.0508
1	0.0298	0.0112	2.6670	0.0077	0.0079	0.0516
2	0.0295	0.0185	1.5990	0.1098	-0.0067	0.0657
3	0.0293	0.0276	1.0610	0.2885	-0.0248	0.0833
4	0.0290	0.0372	0.7800	0.4353	-0.0439	0.1019
5	0.0288	0.0470	0.6120	0.5406	-0.0634	0.1209
6	0.0285	0.0569	0.5010	0.6163	-0.0831	0.1401
7	0.0283	0.0669	0.4230	0.6725	-0.1028	0.1594
9	0.0278	0.0869	0.3200	0.7492	-0.1426	0.1981

Appendix G: Robustness Test of Moderating Effect in AEM model

Table G1 presents fixed-effects regressions of Board diversity where dependent variables are alternative AEMs, with Board roles as moderators. Table G2 shows the regression results of Board directorship as alternative moderators. All explanatory variables are lagged by one year. The results are controlled by variables such as firm size, firm age, ROA, firm growth, Z-score, IFRS, Big4, year, country, and industry dummies. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Table G1: Board Monitoring Role and Board Diversity on AEM2 and AEM3

		AEM2			AEM3		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		0.177	0.065	0.174	0.149	0.142	-0.015
Independent Variables							
DIVERSITY	(-)	-0.050***			-0.057		
SURFACE	(-)		-0.045*			-0.143	
DEEP	(-)			-0.072***			-0.004
Moderators							
MONIC	(-)	-0.055***	-0.019*	-0.059***	-0.050	-0.065*	-0.001
Interactions							
*DIVERSE*MONIC*	(+ , -)	0.015***			0.007		
*SURFACE*MONIC*	(+ , -)		0.011			0.035	
*DEEP*MONIC*	(+ , -)			0.024***			-0.012
R-Squared		0.222	0.220	0.223	0.256	0.252	0.258

Table G1: (Continued) Board Advisory Role and Board Diversity on AEM2 and AEM3

		AEM2			AEM3		
Variables	Expected Sign	Aggregate	Surface	Deep	Aggregate	Surface	Deep
Constant		0.022	0.009	0.013	0.050	-0.032	0.025
Independent Variables							
DIVERSITY	(-)	-0.010**			-0.058***		
SURFACE	(-)		-0.014*			-0.065***	
DEEP	(-)			-0.009			-0.067***
Moderators							
ADVIC	(-)	-0.014	0.004	-0.025	-0.155***	-0.045	-0.149***
Interactions							
*DIVERSE*ADVIC*	(+ , -)	0.005			0.048***		
*SURFACE*ADVIC*	(+ , -)		-0.001			0.043*	
*DEEP*ADVIC*	(+ , -)			0.013*			0.070***
R-Squared		0.223	0.221	0.223	0.254	0.252	0.253

Table G2: Alternatives Moderators on the Link between Board Diversity and AEM

		Panel A			Panel B		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		0.057	0.039	0.022	0.025	0.010	0.015
Independent Variables							
DIVERSITY	(-)	-0.014***			-0.012**		
SURFACE	(-)		-0.027***			-0.016**	
DEEP	(-)			-0.006			-0.010
Moderators							
MONID	(-)	-0.021**	-0.014***	-0.009			
ADVID	(-)				-0.008	-0.001	-0.011**
Interactions							
*DIVERSE*MONID*	(+ , -)	0.006**					
*SUFRACE*MONID*	(+ , -)		0.010***				
*DEEP*MONID*	(+ , -)			0.003			
*DIVERSE*ADVID*	(+ , -)				0.003*		
*SURFACE*ADVID*	(+ , -)					0.001	
*DEEP*ADVID*	(+ , -)						0.006**
R-Squared		0.222	0.220	0.222	0.224	0.221	0.224

Appendix H: Robustness Test of Moderating Effect in REM model

Table H1 presents fixed-effects regressions of Board diversity where dependent variables are alternative REMs, with Board roles as moderators. Table H2 shows the regression results of Board directorship as alternative moderators. All explanatory variables are lagged by one year. The results are controlled by variables such as firm size, firm age, ROA, firm growth, Z-score, IFRS, Big4, year, country, and industry dummies. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Table H1: Board Monitoring Role and Board Diversity on REM1 and REM2

		REM1			REM2		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		-0.057	-0.022	-0.005	0.018	0.078	0.001
Independent Variables							
DIVERSITY	(-)	0.037			0.020		
SURFACE	(-)		0.065			0.010	
DEEP	(-)			0.022			0.037
Moderators							
MONIC	(-)	-0.005	-0.005	-0.011	0.027	0.004	0.038
Interactions							
*DIVERSE*MONIC*	(+ , -)	-0.002			-0.007		
*SURFACE*MONIC*	(+ , -)		-0.006			-0.001	
*DEEP*MONIC*	(+ , -)			-0.001			-0.016
R-Squared		0.341	0.341	0.340	0.318	0.318	0.319

Table H1: (Continued) Board Advisory Role and Board Diversity on REM1 and REM2

		REM1			REM2		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		-0.074	-0.042	-0.034	0.095	0.092	0.106
Independent Variables							
DIVERSITY	(-)	0.030***			0.001		
SURFACE	(-)		0.051***			0.007	
DEEP	(-)			0.018			-0.006
Moderators							
ADVIC	(-)	-0.002	0.009	-0.014	0.003	-0.005	0.016
Interactions							
*DIVERSE*ADVIC*	(+ , -)	-0.001			-0.001		
*SURFACE*ADVIC*	(+ , -)		-0.009			0.005	
*DEEP*ADVIC*	(+ , -)			0.007			-0.007
R-Squared		0.340	0.340	0.340	0.318	0.318	0.318

Table H2: Alternatives Moderators on the Link between Board Diversity and REM

		Panel A			Panel B		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		-0.001	0.018	0.035	-0.065	-0.037	-0.018
Independent Variables							
DIVERSITY	(-)	0.027**			0.030***		
SURFACE	(-)		0.049***			0.056***	
DEEP	(-)			0.011			0.013
Moderators							
MONID	(-)	-0.027	-0.020*	-0.022			
ADVID	(-)				0.005	0.007	0.003
Interactions							
*DIVERSE*MONID*	(+ , -)	0.004					
*SUFRACE*MONID*	(+ , -)		0.004				
*DEEP*MONID*	(+ , -)			0.003			
*DIVERSE*ADVID*	(+ , -)				-0.001		
*SURFACE*ADVID*	(+ , -)					-0.003	
*DEEP*ADVID*	(+ , -)						0.001
R-Squared		0.314	0.314	0.313	0.313	0.313	0.312

Appendix I: Robustness Test of Multiple Regression Analysis for Conditional Conservatism

Tables I1 present fixed-effects regressions of Board diversity and alternative CONs, while Tables I2 show alternative regression methods. Table I3 provides additional test regarding conservatism components by including variables for governance and firm characteristics as proxies. All explanatory variables are lagged by one year. The results are controlled by variables such as year, country, and industry dummies. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Table I1: Alternative Proxy for Conditional Conservatism (CON2)

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		-2.143	-1.993	-1.328	-1.571	-0.915	-0.988	-1.285	-6.472**
Independent Variables									
DIVERSITY	(+)	0.303	0.768	0.005	1.199*	-0.604	-0.540	-0.093	5.905**
Control Variables									
SIZE		-0.059***	-0.063***	-0.036***	-0.075***	-0.034***	-0.030***	-0.033***	-0.063***
AGE		0.009	0.009	0.009	0.009	0.009*	0.009*	0.009*	0.009*
ROA		0.141	0.170	0.205	0.143	0.204	9.000	0.221	0.284
GROWTH		-0.078	-0.084	-0.089	-0.074	-0.086	-0.089	-0.092	-0.083
ZSCORE		-0.049*	-0.050*	-0.050*	-0.050*	-0.050*	-0.050*	-0.051*	-0.049*
IFRS		-0.574	-0.557	-0.561	-0.523	-0.546	-0.565	-0.559	-0.744
BIG4		0.496	0.442	0.536	0.408	0.545	0.545	0.534	0.464
R-Squared		0.432	0.432	0.432	0.432	0.432	0.432	0.432	0.432

Table I1: (Continued) Alternative Proxy for Conditional Conservatism (CON3)

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.450***	0.452***	0.454***	0.456***	0.443***	0.473***	0.456***	0.465***
Independent Variable									
DIVERSITY	(+)	0.003	0.005	0.001	-0.001	0.020	-0.026	0.009	-0.010
Control Variables									
SIZE		-0.037***	-0.037***	-0.037***	-0.037***	-0.037***	-0.036***	-0.037***	-0.037***
AGE		0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
ROA		0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
GROWTH		0.005**	0.005**	0.005**	0.005**	0.005**	0.005**	0.005**	0.005**
ZSCORE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
IFRS		-0.030	-0.030	-0.029	-0.029	-0.030	-0.029	-0.029	-0.030
BIG4		-0.022*	-0.022*	-0.022*	-0.022*	-0.022*	-0.022*	-0.022*	-0.022*
R-Squared		0.422	0.422	0.422	0.422	0.422	0.422	0.422	0.422

Table I2: Alternative OLS Estimation – Conditional Conservatism

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		-1.384**	-0.842	-0.707	-0.317	-1.157*	-0.308	-0.439	-0.799
Independent Variables									
DIVERSITY	(+)	0.434***	0.826***	0.206	0.746***	1.285***	-0.045	0.284	0.566
Control *Variables*									
SIZE		-0.059*	-0.055*	-0.034*	-0.050*	-0.030*	-0.025*	-0.033*	-0.027*
AGE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
ROA		-0.349	-0.284	-0.296	-0.286	-0.252	-0.260	-0.317	-0.253
GROWTH		0.017	0.007	0.007	0.010	0.006	0.001	0.009	0.001
ZSCORE		0.001	-0.004	-0.006	-0.005	-0.006	-0.056	-0.005	-0.004
IFRS		0.562**	0.559**	0.565**	0.574**	0.540**	0.563**	0.554**	0.569**
BIG4		0.338*	0.294	0.395**	0.316	0.378*	0.398**	0.405**	0.388*
R-Squared		0.001	0.001	0.000	0.001	0.001	0.000	0.000	0.000

Table I2: (Continued) Alternative Random Effects Estimation – Conditional Conservatism

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		-1.276	-0.861	-0.587	-0.381	-0.979	-0.233	-0.363	-0.420
Independent Variables									
DIVERSITY	(+)	0.383**	0.733***	0.179	0.658**	1.128**	-0.045	0.261	0.195
Control Variables									
SIZE		-0.057*	-0.054*	-0.035*	-0.049*	-0.032*	-0.028*	-0.035*	-0.029*
AGE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
ROA		-0.290	-0.234	-0.244	-0.237	-0.205	-0.213	-0.264	-0.211
GROWTH		0.033	0.024	0.026	0.027	0.016	0.021	0.028	0.021
ZSCORE		0.001	-0.004	-0.006	-0.005	-0.006	-0.006	-0.006	-0.005
IFRS		0.484	0.482	0.487	0.495	0.464	0.485	0.476	0.489
BIG4		0.357	0.320	0.408*	0.340	0.393*	0.412*	0.416*	0.408*
R-Squared		0.002	0.002	0.001	0.002	0.001	0.001	0.001	0.001

Table I3: Alternatives Conditional Conservatism Measure

	Aggregate	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant	-1.267***	-1.299***	-1.222***	-1.307***	-1.281***	-1.281***	-1.263***	-1.132***
D	-0.013	-0.021	-0.033	-0.033	-0.037	-0.020	-0.037	-0.108
R	-0.112**	-0.102***	-0.193***	-0.146***	-0.095**	-0.178***	-0.161***	-0.138
*D*R*	0.015	0.063	0.123*	0.132***	0.064	0.171***	0.138***	0.021
DIVERSITY	-0.012	0.005	-0.031*	-0.001	0.015	-0.001	-0.033*	-0.194**
*D*DIVERSITY*	-0.010	-0.021	-0.002	-0.027	-0.001	-0.028	0.001	0.084
*R*DIVERSITY*	-0.016	-0.068***	0.023	-0.066**	-0.094**	0.041	0.020	-0.017
*D*R*DIVERSITY*	0.048**	0.106***	0.010	0.109***	0.128*	-0.043	0.021	0.143
SIZE	0.058***	0.058***	0.059***	0.058***	0.059***	0.060***	0.059***	0.060***
*D*SIZE*	0.004	0.004	0.003	0.004	0.003	0.003	0.003	0.003
*R*SIZE*	0.019***	0.020***	0.016***	0.020***	0.018***	0.016***	0.017***	0.017***
*D*R*SIZE*	-0.028***	-0.030***	-0.024***	-0.029***	-0.026***	-0.024***	-0.025***	-0.025***
AGE	0.012*	0.012*	0.011*	0.012*	0.011*	0.011*	0.011*	0.012*
*D*AGE*	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
*R*AGE*	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
*D*R*AGE*	-0.001*	-0.001*	-0.001*	-0.001*	-0.001*	-0.001*	-0.001*	-0.001*
ROA	0.335***	0.335***	0.339***	0.338***	0.337***	0.342***	0.339***	0.337***
*D*ROA*	0.055	0.058	0.052	0.056	0.055	0.049	0.053	0.056
*R*ROA*	0.110***	0.114***	0.101***	0.109***	0.110***	0.102***	0.101***	0.108***
*D*R*ROA*	-0.019	-0.016	-0.010	-0.010	-0.011	-0.005	-0.008	-0.009
GROWTH	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
*D*GROWTH*	0.012	0.013	0.013	0.013	0.013	0.014	0.013	0.013
*R*GROWTH*	0.009	0.009	0.010	0.009	0.009	0.009	0.010	0.009
*D*R*GROWTH*	0.002	0.002	0.001	0.003	0.002	0.002	0.002	0.002
ZSCORE	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
*D*ZSCORE*	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
*R*ZSCORE*	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
*D*R*ZSCORE*	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
IFRS	-0.143**	-0.138**	-0.144**	-0.136**	-0.144**	-0.141**	-0.145**	-0.147**

	Aggregate	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
*D*IFRS*	0.014	0.014	0.014	0.014	0.015	0.014	0.014	0.017
*R*IFRS*	0.064***	0.062***	0.063***	0.061***	0.066***	0.066***	0.063***	0.065***
*D*R*IFRS*	-0.085***	-0.083***	-0.084***	-0.082***	-0.088***	-0.087***	-0.086***	-0.084***
BIG4	-0.032	-0.033	-0.031	-0.034	-0.031	-0.032	-0.031	-0.030
*D*BIG4*	-0.010	-0.009	-0.012	-0.009	-0.011	-0.011	-0.011	-0.013
*R*BIG4*	-0.069***	-0.064***	-0.071***	-0.065***	-0.070***	-0.071***	-0.071***	-0.072***
*D*R*BIG4*	0.083***	0.080***	0.088***	0.080***	0.090***	0.090***	0.090***	0.089***
R-Squared	0.299	0.299	0.299	0.299	0.299	0.299	0.299	0.299

Appendix J: Robustness Test of Multiple Regression Analysis for Unconditional Conservatism

Tables J1 present fixed-effects regressions of Board diversity and an alternative UNCON, while Tables J2 show alternative regression methods. All explanatory variables are lagged by one year. The results are controlled by variables such as year, country, and industry dummies. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Table J1: Alternative Proxy for Unconditional Conservatism (UNCON2)

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.110	0.113	0.108	0.112	0.108	0.095	0.113	0.095
Independent Variables									
DIVERSITY	(+)	0.001	-0.001	0.003	-0.004	0.054***	0.044**	-0.004	0.286***
Control Variables									
SIZE		0.019***	0.019***	0.019***	0.019***	0.019***	0.019***	0.019***	0.019***
AGE		0.001*	0.001*	0.001*	0.001*	0.001*	0.001*	0.001*	0.001*
ROA		0.320***	0.320***	0.320***	0.320***	0.320***	0.320***	0.320***	0.320***
GROWTH		-0.008***	0.011***	0.011***	0.011***	0.011***	0.011***	0.011***	0.011***
ZSCORE		-0.001	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***
IFRS		-0.093	-0.093	-0.093	-0.093	-0.093	-0.093	-0.093	-0.093
BIG4		-0.010	-0.010	-0.010	-0.010	-0.010	-0.011	-0.010	-0.010
R-Squared		0.257	0.257	0.257	0.257	0.257	0.257	0.258	0.259

Table J2: Alternative OLS Estimation – Unconditional Conservatism

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.615***	0.680***	0.470***	0.613***	0.617***	0.602***	0.572***	0.786***
Independent Variables									
DIVERSITY	(+)	0.001	-0.104***	0.081***	-0.139***	-0.001	0.023	0.122***	0.207***
Control Variables									
SIZE		-0.077***	-0.074***	-0.081***	-0.073***	-0.077***	-0.078***	-0.081***	-0.077***
AGE		0.001**	0.001*	0.001***	0.001	0.001***	0.001***	0.001***	0.001**
ROA		0.467***	0.471***	0.453***	0.472***	0.467***	0.468***	0.443***	0.465***
GROWTH		-0.008***	-0.037***	-0.038***	-0.035***	-0.039***	-0.038***	-0.038***	-0.034***
ZSCORE		-0.001	-0.010***	-0.010***	-0.010***	-0.010***	-0.010***	-0.010***	-0.010***
IFRS		0.189***	0.189***	0.189***	0.187***	0.189***	0.189***	0.184***	0.187***
BIG4		0.012	0.025**	0.011	0.027**	0.012**	0.012	0.015	0.016
R-Squared		0.244	0.247	0.246	0.248	0.244	0.244	0.248	0.244

Table J2: (Continued) Alternative Random Effects Estimation – Unconditional Conservatism

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		1.086***	1.163***	1.027***	1.157***	1.129***	1.166***	1.101***	1.118***
Independent Variables									
DIVERSITY	(+)	0.022***	-0.018	0.061***	-0.039***	0.029	-0.030	0.090***	0.035
Control Variables									
SIZE		-0.089***	-0.087***	-0.089***	-0.087***	-0.088***	-0.087***	-0.089***	-0.088***
AGE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
ROA		0.191***	0.194***	0.189***	0.195***	0.193***	0.193***	0.186***	0.193***
GROWTH		-0.008***	-0.014***	-0.014***	-0.014***	-0.015***	-0.015***	-0.014***	-0.014***
ZSCORE		-0.001	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***
IFRS		0.152***	0.152***	0.152***	0.152***	0.151***	0.151***	0.149***	0.152***
BIG4		0.031**	0.036***	0.031**	0.038***	0.034**	0.035***	0.032**	0.034**
R-Squared		0.289	0.289	0.291	0.289	0.289	0.289	0.292	0.289

Appendix K: The Marginal Effects of Board Diversity on Conditional Conservatism

Tables K1 and K2 present the corresponding standard errors of the marginal effects of Board diversity on CON at different values of Board roles.

Table K1: The marginal effects of Board diversity on CON1 as a function of Board monitoring role

Monitoring committee	Estimate	SE	z	Pr(>|z|)	2.50%	97.50%
0	4.027	1.143	3.523	< 0.001	1.787	6.268
1	2.662	0.780	3.411	< 0.001	1.132	4.192
2	1.297	0.456	2.845	0.004	0.403	2.190
3	-0.069	0.320	-0.214	0.830	-0.697	0.559
4	-1.434	0.542	-2.646	0.008	-2.496	-0.372
5	-2.799	0.884	-3.168	0.002	-4.531	-1.068
6	-4.165	1.251	-3.330	< 0.001	-6.616	-1.714

Table K2: The marginal effects of Board diversity on CON1 as a function of Board advisory role

Advisory committee	Estimate	SE	z	Pr(>|z|)	2.50%	97.50%
0	0.0860	0.3480	0.2470	0.8050	-0.5950	0.7670
1	0.1720	0.3670	0.4700	0.6380	-0.5460	0.8910
2	0.2590	0.6060	0.4270	0.6690	-0.9290	1.4470
3	0.3450	0.9060	0.3810	0.7030	-1.4300	2.1210
4	0.4320	1.2220	0.3540	0.7240	-1.9630	2.8270
5	0.5180	1.5440	0.3360	0.7370	-2.5090	3.5450
6	0.6050	1.8700	0.3240	0.7460	-3.0600	4.2700
7	0.6920	2.1970	0.3150	0.7530	-3.6150	4.9980
9	0.8650	2.8550	0.3030	0.7620	-4.7310	6.4600

Appendix L: The Marginal Effects of Board Diversity on Unconditional Conservatism

Tables L1 and L2 present the corresponding standard errors of the marginal effects of Board diversity on UNCON at different values of Board roles.

Table L1: The marginal effects of Board diversity on UNCON1 as a function of Board monitoring role

Monitoring committee	Estimate	SE	z	Pr(>|z|)	2.50%	97.50%
0	0.0733	0.0444	1.6499	0.0990	-0.0138	0.1604
1	0.0555	0.0303	1.8341	0.0666	-0.0038	0.1148
2	0.0377	0.0176	2.1435	0.0321	0.0032	0.0721
3	0.0199	0.0125	1.5943	0.1109	-0.0046	0.0443
4	0.0020	0.0213	0.0955	0.9239	-0.0397	0.0438
5	-0.0158	0.0347	-0.4547	0.6493	-0.0838	0.0523
6	-0.0336	0.0491	-0.6846	0.4936	-0.1298	0.0626

Table L2: The marginal effects of Board diversity on UNCON1 as a function of Board advisory role

Advisory committee	Estimate	SE	z	Pr(>|z|)	2.50%	97.50%
0	0.0230	0.0091	2.5200	0.0116	0.0051	0.0409
1	-0.0038	0.0096	-0.3900	0.6968	-0.0226	0.0151
2	-0.0305	0.0159	-1.9200	0.0551	-0.0617	0.0007
3	-0.0572	0.0238	-2.4100	0.0159	-0.1038	-0.0107
4	-0.0840	0.0320	-2.6200	0.0088	-0.1468	-0.0212
5	-0.1107	0.0405	-2.7300	0.0062	-0.1901	-0.0314
6	-0.1375	0.0490	-2.8000	0.0051	-0.2336	-0.0414
7	-0.1642	0.0576	-2.8500	0.0044	-0.2772	-0.0513
9	-0.2177	0.0749	-2.9100	0.0036	-0.3645	-0.0710

Appendix M: Robustness Test of Moderating Effect in CON model

Table M1 presents fixed-effects regressions of Board diversity where dependent variables are alternative CONs, with Board roles as moderators. Table M2 shows the regression results of Board directorship as alternative moderators. All explanatory variables are lagged by one year. The results are controlled by variables such as firm size, firm age, ROA, firm growth, Z-score, IFRS, Big4, year, country, and industry dummies. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Table M1: Board Monitoring Role and Board Diversity on CON2 and CON3

		CON2			*CON3*		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		-25.130	-12.229	-18.839	0.321*	0.468***	0.256
Independent Variables							
DIVERSITY	(+)	7.195**			0.046**		
SURFACE	(+)		9.764**			0.002	
DEEP	(+)			7.968*			0.099***
Moderators	(+)						
MONIC		8.140**	3.414*	6.242**	0.045*	-0.005	0.069***
Interactions							
*DIVERSE*MONIC*	(+ , -)	-2.593***			-0.015**		
*SURFACE*MONIC*	(+ , -)		-3.288**			0.001	
*DEEP*MONIC*	(+ , -)			-3.071**			-0.034***
R-Squared		0.432	0.432	0.432	0.432	0.423	0.423

Table M1: (Continued) Board Advisory Role and Board Diversity on CON2 and CON3

		CON2			*CON3*		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		-2.847	-2.720	-2.067	0.431***	0.441***	0.445***
Independent Variables							
DIVERSITY	(+)	0.338			0.011*		
SURFACE	(+)		0.891			0.021**	
DEEP	(+)			0.002			0.007
Moderators							
ADVIC	(+)	5.010*	2.118	4.510	0.053**	0.026**	0.021
Interactions							
*DIVERSE*ADVIC*	(+ , -)	-1.298			-0.018***		
*SURFACE*ADVIC*	(+ , -)		-1.287			-0.030***	
*DEEP*ADVIC*	(+ , -)			-1.765			-0.014
R-Squared		0.432	0.432	0.432	0.422	0.422	0.422

Table M2: Alternatives Moderators on the Link between Board Diversity and CON

Variables	Expected Sign	Panel A			Panel B		
		Aggregate	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		-2.730	-1.081	-1.894	0.247	0.171	0.057
Independent Variables							
DIVERSITY	(+)	0.623*			-0.127		
SURFACE	(+)		0.794			-0.286	
DEEP	(+)			0.657			-0.068
Moderators							
MONID	(+)	1.379**	0.506	1.055*			
ADVID	(+)				-0.445	-0.208	-0.087
Interactions							
*DIVERSE*MONID*	(+ , -)	-0.435**					
*SURFACE*MONID*	(+ , -)		-0.500*				
*DEEP*MONID*	(+ , -)			-0.521*			
*DIVERSE*ADVID*	(+ , -)				0.169		
*SURFACE*ADVID*	(+ , -)					0.290	
*DEEP*ADVID*	(+ , -)						0.105
R-Squared		0.372	0.372	0.372	0.372	0.372	0.372

Appendix N: Robustness Test of Moderating Effect in UNCON

Tables N1 present fixed-effects regressions of Board diversity where dependent variable is an alternative UNCON, with Board roles as moderators. Table N2 shows the regression results of Board directorship as alternative moderators. All explanatory variables are lagged by one year. The results are controlled by variables such as firm size, firm age, ROA, firm growth, Z-score, IFRS, Big4, year, country, and industry dummies. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Table N1: Board Monitoring Role & Diversity on UNCON2

Variables	*Aggregate*	*Surface*	*Deep*
Constant	-0.076	0.085	-0.120
DIVERSITY	0.057*		
SURFACE		0.022	
DEEP			0.108**
Moderators			
MONIC	0.065*	0.010	0.079**
Interactions			
*DIVERSE*MONIC*	-0.020*		
*SURFACE*MONIC*		-0.008	
*DEEP*MONIC*			-0.037**
R-Squared	0.259	0.258	0.259

Table N1: (Continued) Board Advisory Role and Board Diversity on UNCON2

Variables	*Aggregate*	*Surface*	*Deep*
Constant	0.102	0.110	0.101
DIVERSITY	0.005		
SURFACE		0.003	
DEEP			0.008
Moderators			
ADVIC	0.028	0.010	0.025
Interactions			
*DIVERSE*ADVIC*	-0.008		
*SURFACE*ADVIC*		-0.008	
*DEEP*ADVIC*			-0.011
R-Squared	0.257	0.257	0.257

Table N2: Alternatives Moderators on the Link between Board Diversity and UNCON

		Panel A			Panel B		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		0.278	0.273	0.262	0.224	0.261	0.216
Independent Variables							
DIVERSITY	(+)	0.003			0.020**		
SURFACE	(+)		-0.007			0.011	
DEEP	(+)			0.012			0.035***
Moderators							
MONID		-0.021	-0.005	-0.019			
ADVID					0.021*	0.006	0.018*
Interactions							
*DIVERSE*MONID*	(+ , -)	0.007					
*SURFACE*MONID*	(+ , -)		0.007				
*DEEP*MONID*	(+ , -)			0.011			
*DIVERSE*ADVID*	(+ , -)				-0.006**		
*SURFACE*ADVID*	(+ , -)					-0.006	
*DEEP*ADVID*	(+ , -)						-0.009**
R-Squared		0.338	0.338	0.341	0.340	0.340	0.342

Appendix O: Robustness Test of Multiple Regression Analysis for Earnings Quality

Tables O1 present fixed-effects regressions of Board diversity and alternative EQs, while Tables O2 show alternative regression methods. All explanatory variables are lagged by one year. The results are controlled by variables such as year, country, and industry dummies. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Table O1: Alternative Proxy for Earnings Quality (EQ2)

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.505***	0.523***	0.502***	0.525***	0.521***	0.526***	0.519***	0.500***
Independent Variables									
DIVERSITY	(+)	0.007***	0.002	0.013***	0.001	0.005	-0.002	0.018***	0.029*
Control Variables									
SIZE		-0.021***	-0.021***	-0.021***	-0.020***	-0.020***	-0.020***	-0.021***	-0.021***
AGE		0.001**	0.001***	0.001**	0.001***	0.001***	0.001***	0.001**	0.001***
ROA		0.090***	0.091***	0.090***	0.092***	0.092***	0.092***	0.089***	0.091***
GROWTH		-0.004***	-0.004***	-0.004***	-0.004***	-0.004***	-0.004***	-0.004**	-0.004***
ZSCORE		-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
IFRS		0.012*	0.012*	0.011*	0.012*	0.012*	0.012*	0.011*	0.011*
BIG4		0.008***	0.009***	0.009***	0.009***	0.009***	0.009***	0.009***	0.009***
R-Squared		0.251	0.251	0.252	0.251	0.251	0.251	0.252	0.251

Table O1: (Continued) Alternative Proxy for Earnings Quality (EQ3)

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.527***	0.539***	0.526***	0.543***	0.540***	0.546***	0.542***	0.505***
Independent Variables									
DIVERSITY	(+)	0.007*	0.005	0.011*	0.006	0.004	-0.006	0.015**	0.045
Control Variables									
SIZE		-0.004**	-0.004**	-0.004**	-0.004**	-0.004**	-0.004**	-0.004**	-0.004**
AGE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
ROA		0.103***	0.103***	0.103***	0.103***	0.103***	0.103***	0.103***	0.103***
GROWTH		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
ZSCORE		0.001**	0.001**	0.001**	0.001**	0.001**	0.001**	0.001**	0.001**
IFRS		0.004	0.003	0.004	0.004	0.004	0.004	0.004	0.005
BIG4		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
R-Squared		0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.193

Table O2: Alternative OLS Estimation –Earnings Quality

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.477***	0.490***	0.468***	0.488***	0.484***	0.490***	0.481***	0.494***
Independent Variables									
DIVERSITY	(+)	0.004**	-0.003	0.011***	-0.006	0.005	-0.003	0.017***	-0.008
Control Variables									
SIZE		-0.005***	-0.005***	-0.006***	-0.005***	-0.005***	-0.005***	-0.006***	-0.005***
AGE		0.001	0.001	0.001*	0.001	0.001	0.001	0.001**	0.001
ROA		0.111***	0.112***	0.110***	0.113***	0.112***	0.112***	0.109***	0.112***
GROWTH		0.001	-0.006***	-0.006***	-0.005***	-0.006***	-0.006***	-0.006***	-0.005***
ZSCORE		0.001**	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***
IFRS		0.018***	0.018***	0.018***	0.018***	0.018***	0.018***	0.017***	0.018***
BIG4		0.017***	0.018***	0.017***	0.018***	0.017***	0.017***	0.018***	0.017***
R-Squared		0.063	0.062	0.063	0.063	0.062	0.062	0.064	0.062

Table O2: (Continued) Alternative Random Effects Estimation –Earnings Quality

Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Gender*	*Age*	*Education*	*Tenure*	*Expert*
Constant		0.467***	0.481***	0.460***	0.480***	0.477***	0.483***	0.473***	0.483***
Independent Variables									
DIVERSITY	(+)	0.005**	-0.002	0.011***	-0.004	0.005	-0.005	0.017***	-0.005
Control Variables									
SIZE		-0.006***	-0.005***	-0.006***	-0.005***	-0.005***	-0.005***	-0.006***	-0.005***
AGE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
ROA		0.105***	0.106***	0.104***	0.106***	0.106***	0.106***	0.103***	0.106***
GROWTH		0.001	-0.003**	-0.003**	-0.003*	-0.003**	-0.003**	-0.003**	-0.002*
ZSCORE		0.001**	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
IFRS		0.019***	0.019***	0.019***	0.019***	0.019***	0.019***	0.018***	0.019***
BIG4		0.019***	0.020***	0.019***	0.020***	0.019***	0.019***	0.020***	0.019***
R-Squared		0.040	0.040	0.041	0.040	0.040	0.040	0.041	0.040

Appendix P: The Marginal Effects of Board Diversity on Earnings Quality

Tables P1 and P2 present the corresponding standard errors of the marginal effects of Board diversity on earnings quality at different values of Board roles.

Table P1: The marginal effects of Board diversity on EQ1 as a function of Board monitoring role

Monitoring committee	Estimate	SE	z	Pr(>|z|)	2.50%	97.50%
0	0.0158	0.0072	2.2000	0.0278	0.0017	0.0300
1	0.0130	0.0049	2.6850	0.0073	0.0035	0.0225
2	0.0102	0.0028	3.6950	< 0.001	0.0048	0.0156
3	0.0074	0.0020	3.6390	< 0.001	0.0034	0.0114
4	0.0046	0.0036	1.2700	0.2042	-0.0025	0.0117
5	0.0018	0.0059	0.3020	0.7626	-0.0097	0.0133
6	-0.0010	0.0083	-0.1270	0.8993	-0.0172	0.0151

Table P2: The marginal effects of Board diversity on EQ1 as a function of Board advisory role

Advisory committee	Estimate	SE	z	Pr(>|z|)	2.50%	97.50%
0	0.0081	0.0022	3.7070	<0.001	0.0038	0.0124
1	0.0057	0.0023	2.5100	0.0121	0.0013	0.0101
2	0.0033	0.0038	0.8660	0.3866	-0.0041	0.0107
3	0.0008	0.0057	0.1470	0.8832	-0.0103	0.0119
4	-0.0016	0.0077	-0.2100	0.8340	-0.0166	0.0134
5	-0.0040	0.0097	-0.4170	0.6767	-0.0230	0.0149
6	-0.0065	0.0117	-0.5520	0.5813	-0.0295	0.0165
7	-0.0089	0.0138	-0.6450	0.5186	-0.0359	0.0181
9	-0.0138	0.0179	-0.7680	0.4426	-0.0489	0.0214

Appendix Q: Robustness Test of Moderating Effect in EQ model

Table Q1 presents fixed-effects regressions of Board diversity where dependent variables are alternative EQs, with Board roles as moderators. Table Q2 shows the regression results of Board directorship as alternative moderators. All explanatory variables are lagged by one year. The results are controlled by variables such as firm size, firm age, ROA, firm growth, Z-score, IFRS, Big4, year, country, and industry dummies. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Table Q1: Board Monitoring Role and Board Diversity on EQ2 and EQ3

		EQ2			*EQ3*		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		0.468***	0.506***	0.455***	0.394***	0.422***	0.399***
Independent Variables							
DIVERSITY	(+)	0.015**			0.016**		
SURFACE	(+)		0.006			0.020*	
DEEP	(+)			0.030***			0.022**
Moderators							
MONIC	(+)	0.014*	0.007	0.018**	0.022***	0.015***	0.018**
Interactions							
*DIVERSE*MONIC*	(+ , -)	-0.003			-0.005**		
*SURFACE*MONIC*	(+ , -)		-0.001			-0.008*	
*DEEP*MONIC*	(+ , -)			-0.006*			-0.006*
R-Squared		0.252	0.251	0.252	0.193	0.193	0.193

Table Q1: (Continued) Board Advisory Role and Board Diversity on EQ2 and EQ3

		EQ2			*EQ3*		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		0.502***	0.521***	0.500***	0.447***	0.455***	0.448***
Independent Variables							
DIVERSITY	(+)	0.008***			0.004**		
SURFACE	(+)		0.004			0.004	
DEEP	(+)			0.013***			0.006**
Moderators							
ADVIC	(+)	0.021***	0.014**	0.016**	0.027***	0.022***	0.014*
Interactions							
*DIVERSE*ADVIC*	(+ , -)	-0.004**			-0.006***		
*SURFACE*ADVIC*	(+ , -)		-0.006*			-0.012***	
*DEEP*ADVIC*	(+ , -)			-0.005			-0.003
R-Squared		0.253	0.252	0.253	0.194	0.195	0.194

Table Q2: Alternatives Moderators on the Link between Board Diversity and EQ

		Panel A			Panel B		
Variables	Expected Sign	*Aggregate*	*Surface*	*Deep*	*Aggregate*	*Surface*	*Deep*
Constant		0.499***	0.530***	0.493***	0.538***	0.549***	0.532***
Independent Variables							
DIVERSITY	(+)	0.009*			0.005		
SURFACE	(+)		0.003			0.001	
DEEP	(+)			0.017**			0.011*
Moderators							
MONID	(+)	0.020***	0.007	0.022***			
ADVID	(+)				0.003	0.001	0.005
Interactions							
*DIVERSE*MONID*	(+ , -)	-0.005**					
*SURFACE*MONID*	(+ , -)		-0.003				
*DEEP*MONID*	(+ , -)			-0.008**			
*DIVERSE*ADVID*	(+ , -)				-0.001		
*SURFACE*ADVID*	(+ , -)					-0.001	
*DEEP*ADVID*	(+ , -)						-0.002
R-Squared		0.111	0.110	0.111	0.112	0.111	0.112

Appendix R: Additional Test of Multiple Regression Analysis for Non-US and US firms

This table presents fixed-effects regressions of Board diversity (at the aggregate level) and earnings quality attributes (accruals earnings management, real earnings management, conditional conservatism, unconditional conservatism, and aggregate earnings quality). All explanatory variables are lagged by one year. All variables are defined in Appendix A. The results are controlled by variables such as year, country, and industry dummies. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Table R: Regression analysis for Non-US and US firms

Variables	*AEM1*	*AEM1*	*REM3*	*REM3*	*CON1*	*CON1*	*UNCON1*	*UNCON1*	*EQ1*	*EQ1*
Firms	*Non-US*	*US*	*Non-US*	*US*	*Non-US*	*US*	*Non-US*	*US*	*Non-US*	*US*
Constant	0.330***	0.350***	-0.175***	-0.082***	-5.016***	-0.217	0.975***	0.631***	0.458***	0.454***
Independent Variables										
DIVERSITY	-0.023***	-0.015***	0.013**	0.017***	0.545**	0.383**	0.004*	0.025***	0.001*	0.009***
Control Variables										
SIZE	-0.013***	-0.027***	0.010***	0.008***	-0.043*	-0.100**	-0.101***	-0.078***	-0.004***	-0.008***
AGE	0.001	0.001	0.001	0.001	0.004	0.004	0.001**	0.001	0.001*	0.001
ROA	-0.238***	-0.206***	-0.033	-0.024*	-0.521	-0.640	0.596***	0.215***	0.131***	0.069***
GROWTH	0.006**	0.008***	-0.017***	-0.011***	0.149	0.093	-0.031**	-0.025***	-0.002	-0.005***
ZSCORE	-0.001*	-0.001**	-0.001*	-0.001*	-0.011	-0.004	-0.015***	-0.003***	-0.002***	-0.001**
IFRS	-0.018*	0.136***	-0.034***	-0.215***	1.159**	0.228	0.094**	0.114	0.003	0.004
BIG4	-0.012*	0.003	-0.003	-0.026***	0.225	0.412*	0.063**	-0.004	0.012**	0.018***
R-Squared	0.174	0.237	0.463	0.282	0.386	0.366	0.242	0.283	0.102	0.086

Appendix S: Additional Test of Multiple Regression Analysis for Years before Covid and Year 2019

This table presents fixed-effects regressions of Board diversity (at the aggregate level) and earnings quality attributes (accruals earnings management, real earnings management, conditional conservatism, unconditional conservatism, and aggregate earnings quality). All explanatory variables are lagged by one year. All variables are defined in Appendix A. The results are controlled by variables such as year, country, and industry dummies. *, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Table S: Regression analysis for Years 2016-2019 Vs Year 2020

Variables	*AEM1*	*AEM1*	*REM3*	*REM3*	*CON1*	*CON1*	*UNCON1*	*UNCON1*	*EQ1*	*EQ1*
Firms	*2016-2019*	*2020*	*2016-2019*	*2020*	*2016-2019*	*2020*	*2016-2019*	*2020*	*2016-2019*	*2020*
Constant	0.361***	0.339***	-0.117***	-0.102**	-1.644**	-0.407	0.673***	0.730***	0.445***	0.459***
Independent Variables										
DIVERSITY	-0.022***	-0.024***	0.014***	0.022**	0.486***	0.042	0.028***	0.048**	0.008***	0.003*
Control Variables										
SIZE	-0.022***	-0.018***	0.012***	0.017***	-0.041*	-0.050*	-0.089***	-0.104***	-0.007***	-0.009***
AGE	0.001	0.001	0.001	0.001	0.001	0.003	0.001	0.001**	0.001	0.001*
ROA	-0.229***	-0.307***	-0.024*	-0.053**	-0.353	-0.780	0.283***	0.384***	0.080***	0.106***
GROWTH	0.010**	0.019***	-0.016***	-0.035***	0.041	0.093	-0.031**	-0.077***	-0.004**	-0.003
ZSCORE	-0.001*	-0.001*	-0.001*	-0.001	-0.005	-0.002	-0.005***	-0.005***	-0.001***	-0.001**
IFRS	-0.009	-0.023	-0.009	-0.032	0.919*	0.287	0.176**	0.172***	0.005	0.011
BIG4	-0.004	-0.002	-0.015**	-0.025**	0.168	0-0.689	0.018	-0.055**	0.015**	0.015**
R-Squared	0.227	0.300	0.240	0.220	0.414	0.346	0.330	0.343	0.105	0.092

Appendix T: Example of Board Roles classification

This table presents the example of Board roles classification. For the primary test, Board committees will be employed and divided into Board monitoring committee and Board advisory committee. For the robustness test, Board directorship will be used and divided into monitoring director and advisory director. The definition of each type can be seen in Appendix A.

	Committee Name									
	Monitoring Committee			Advisory Committee			The numbers of Board roles variables at firm-level			
	Audit	Compensation	Nominating	Investments	M&A	Ethics	Monitoring Committee	Advisory Committee	Monitoring Director	Advisory Director
Company 1										
Director A	✓	✓					2	2	2	2
Director B	✓	✓			✓		2	2	2	2
Director C					✓		2	2	2	2
Director D				✓			2	2	2	2
Company 2										
Director J	✓	✓		✓	✓		3	3	2	2
Director K	✓						3	3	2	2
Director L	✓	✓	✓			✓	3	3	2	2
Director M				✓			3	3	2	2
Director N					✓		3	3	2	2
Director O			✓				3	3	2	2

Note:

- Company 1 has two monitoring committees: audit and compensation, and it has two advisory committees: investment and M&A. Company 1 has two monitoring directors: Director A and B, and it has two advisory directors: Director C and D.
- Company 2 has three monitoring committees: audit, compensation, and nominating. It has three advisory committees: investment, M&A, and Ethics. Company 2 has two monitoring directors: Director J and L. It has two advisory directors: Director M, and N.

Appendix U: Example of Board Diversity Computation

This table presents examples and further explanation of the computation of Board diversity by using the Blau index. Panel A shows the example of Board's educational diversity, while Panel B demonstrates the example of Board's experience/expertise diversity. The definition of each type can be seen in Appendix A.

Panel A: Education Diversity	Below Bachelor	Bachelor	Master	Doctor	Total	Board diversity variables at firm-level: % Below B.	% Bachelor	% Master	% Doctor	Blau Index	Multiple Factor	Blau Index Adj.
Company 1												
Director A			✓		1	*Board Educational diversity for Company 1*						
Director B	✓				1							
Director C		✓			1	16.67%	16.67%	50.00%	16.67%	0.67	1.33	0.89
Director D			✓		1							
Director E			✓		1							
Director F				✓	1							
Total	1	1	3	1	6							

Panel B: Board's Experience/Expertise Diversity	BA	Acc&Fin	Law	Art	Science	Indust	Oths	Total	The numbers of Board diversity variables at firm-level: % BA	% Acc&Fin	% Law	% Art	% Science	% Indust	% Oths	Blau Index	Multiple Factor	Blau Index Adj.
Company 2																		
Director J	✓	✓				✓		3	*Board Experience/expertise diversity for Company 2*									
Director K			✓					1										
Director L		✓			✓			2	12.5	25.0	12.5	12.5	12.5	12.5	12.5	0.84	1.17	0.98
Director M				✓			✓	2										
	1	2	1	1	1	1	1	8										