# Ownership Characteristics and Earnings Quality: The Moderating Effect of Institutional Settings

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**A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy**

**2020**

# Declaration

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Signed: Rotcharin Kunsrison
Date: 05/2020

# Acknowledgements

First, I would like to express my sincere gratitude to my first supervisor, Dr. Julia A. Smith, who is always by my side to guide me throughout my PhD. Her invaluable advice and kindness have supported and encouraged me to complete my PhD journey. My sincere appreciation also goes to my seconded supervisor, Professor Krishna Paudyal, for his useful guidance and great support. Similarly, I would like to extend my sincere appreciation to Professor Gavin C Reid for allowing me to discuss my research and to receive constructive feedback, which has been applied to improve my research. The approved version of the thesis after the viva has been improved by the advice of the Internal Examiner (Dr Leilei Tang) and the External Examiner (Professor Reza Kouhy). All of the above are great role models.

Secondly, I would like to thank all the members in Accounting and Finance Department, The University of Strathclyde, for their continuous help and support, especially Martin Kemmit and Lorna Carlaw. Martin always gives me a hand when I encounter problems regarding data collection. Likewise, Lorna is always there for me to help with several difficulties I have encountered during my study. Doing a PhD here has been a great experience although the weather is too cold for me. Finally, I thank my beloved family for their patience during my studies. I devote all my achievement to my mother, who is an incredible mom, and my late grandfather, who is my hard-working role model. I wish he could see my achievement.

# Abstract

Ongoing debate within the corporate governance literature is inconclusive on the impact of ownership characteristics on earnings quality. The ambiguity of findings has been widely attributed to differences in institutional settings and across different national regimes. This thesis is concerned, therefore, with how institutional settings in a number of different countries modify the link between ownership characteristics and earnings quality. It focuses on the importance of the country-level institutional context and the extent of interplay between governance mechanisms, both within firms and between countries. Extant studies of this nature are scant and unsatisfactory, providing a research gap that this thesis aims to fill. Such evidence is helpful to regulators in designing governance regulations which help to improve the quality of financial information.

By specifying and applying a contingency model, using moderating regressions, this research aims to advance, through empirical research, our understanding of how governance mechanisms within firms and countries impact on earnings quality. It advances the literature by using both accruals and real earnings management as proxies for earnings quality, showing how the differences between them enhance, or limit, governance mechanisms. Baseline regression models are estimated at the firm level, and are used to test the direct effect of ownership characteristics on accruals and real earnings management. The work provides a quantitative analysis of panel data from 2013-2017 utilising the most recent data available at the inception of the research upon which this thesis depends. It examines secondary-source data, newly compiled from a combination of the OSIRIS and Datastream databases, from Hong Kong, Indonesia, South Korea, Malaysia, the Philippines, Singapore, Thailand, Taiwan, the United Kingdom, and the United States, thus enabling novel analysis, within and across countries, of the impact of ownership on earnings quality.

Using these data, the baseline model reveals that the incentivised behaviour of owners towards accruals and real earnings management depends upon their self-interest. This confirms predictions of agency theory, implying that alternative techniques of earnings management are likely to be used strategically, depending on the ownership characteristics of firms. Further, the results show that the same set of governance mechanisms may not limit all techniques of earnings management. Importantly, the moderating effects of country-level institutional attributes alter the earnings management incentives of owners. The results confirm institutional theory, that country-level contextual factors influence the behaviour of individuals. Further, they shed new light on the interplay effect between ownership characteristics and country-level institutional settings. This research develops the governance literature, in showing how governance mechanisms within firms and countries work as an intertwined system in reality. Such findings should be of benefit to regulators in governance design.

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# List of Abbreviations

| | |
|---|---|
| ABCFO | Abnormal cash flows from operations |
| ABDACC1 | The Absolute Value of Abnormal Discretionary Accruals computed by the Jones (1991) Model |
| ABDACC2 | The Absolute Value of Abnormal Discretionary Accruals computed by the Modified Jones (1995) Model |
| ABDACC3 | The Absolute Value of Abnormal Discretionary Accruals computed by the Performance-Matched Model |
| ABDISEX | Abnormal discretionary expenses |
| ABPROD | Abnormal production costs |
| ACC_ENT | The strength of auditing and reporting index, provided by The World Economic Forum and published in The Global Competitiveness Report |
| ADR | Antidirector rights index |
| AEM | Accrual-based earnings management |
| BvD | Bureau Van Dijk |
| DA | Debt to Asset Ratio |
| FASB | Financial Accounting Standards Board |
| FE | The Fixed-Effect Model |
| FOR | The proportion of shares held by foreign shareholders |
| GAAP | Generally Accepted Accounting Principles |
| GDP | Gross domestic product growth rate |
| HLM | Hierarchical Linear Modelling |
| IASB | International Accounting Standards Board |
| ICB | Industry Classification Benchmark |
| IFRS | International Financial Reporting Standards |
| INFLA | GDP deflator (annual %) from the World Bank |
| IP | Information Providers |
| IS_DOM | The proportion of shares held by domestic institutional shareholders |
| ISIN | International Securities Identification Number |
| LARGEST | The proportion of shares held by the largest shareholder |
| LEGAL | The aggregate legal system and property right index |
| Log_TA | Natural log of total assets in US Dollars at the end of the fiscal year |
| MA | The proportion of shares held by current managers |
| MAS | Masculinity |
| OLS | The Ordinary Least Squares |
| PCA | Principal component analysis |
| R&D | Research and development |

| | |
|---|---|
| REM | Real earnings management |
| REM_CD | The aggregate real earnings management, computed by the sum of abnormal cash flow from operations (ABCFO), and abnormal discretionary expenses (ABDISEX) |
| REM_PD | The aggregate real earnings management, computed by the sum of abnormal production costs (ABPROD), and abnormal discretionary expenses (ABDISEX) |
| ROA | Return on Assets |
| SOX | Sarbanes–Oxley Act |
| Type 1 | Principal-Agent Conflict/Shareholder-Manager Conflict |
| Type 2 | Principal-Principal Conflict/Majority-Minority Shareholders Conflict |
| UK | The United Kingdom |
| US | The United States |
| VIF | The variance inflation factor |
| WEF | World Economic Forum |
| WGI | Worldwide Governance Indicators |

# CHAPTER 1

# Introduction

## 1.1 Research Background

"Accounting", as a language of business, has been implemented to communicate the financial information of the firm through financial reports to its stakeholders (Bloomfield, 2008). Traditionally, accounting plays an important role in constraining conflict of interest, known as a stewardship role. However, the evolution of business practices and financing sources move the accounting role to a valuation perspective that assists users of financial reports in making their economic decisions (Zimmerman, 2015). Considering accounting items in financial reports, earnings are a crucial item that play an essential role in financial decisions made by a wide range of users because this item presents a summary amount of firm performance for a particular time period (Dichev *et al.*, 2016). Possessing a crucial role in financial decisions, earnings are likely to be manipulated, thereby misleading financial users, especially in the presence of a conflict of interest. Researchers define such a circumstance as the earnings management phenomena (Healy and Wahlen, 1999).

Specifically, managers can create the expected amount of earnings through accounting assumptions or estimations as so-called management discretion, which is typically needed in accounting practices (Salerno, 2014; Walker, 2013). Earnings management might reduce the usefulness of earnings due to a lack of reliability and unreliable financial information may cause several problems, including financial crises mentioned by Barnes (2011), which in turn damages the economic system. Accordingly, the quality of reported earnings is a primary concern of financial users, financial preparers, regulators and researchers (Walker, 2013). Therefore, researchers have devoted their attention and efforts to understanding how earnings quality can be improved.

According to existing literature, earnings management is one of the essential practices that influence the quality of reported earnings. Although a lack of earnings manipulation would not completely ensure the high quality of reported earnings, higher manipulation would lower its quality to some extent (Lo, 2008). Accruals and real earnings management have been mentioned in literature as alternative choices of earnings management (Kothari, Mizik and Roychowdhury, 2016). Accruals-based earnings management (AEM) is a classic strategy employed to manipulate reported earnings. Accruals-based principles allowed by Generally Accepted Accounting Principles (GAAP) require management to exercise their discretion over accounting choices (Kothari, Mizik and Roychowdhury, 2016). Management discretion, which is flexible to some extent, can be a loophole and might enable managers to manipulate reported earnings in their favour without violating GAAP. Therefore, AEM is a risk inherent in the accruals basis of accounting and, until recently, was a prevalent strategy of earnings management documented in the literature. Nevertheless, researchers have revealed that managers are likely to switch AEM to real earnings management (REM) in some situations (Cohen, Dey and Lys, 2008; Graham, Harvey and Rajgopal, 2005; Gunny, 2010; Roychowdhury, 2006).

The crucial distinctions between AEM and REM are stated in the literature. AEM is conducted by exercising management discretion over accounting policies to misrepresent economic transactions intentionally. In this regard, managers use accounting choices allowed by GAAP as their tool to distort the number of reported earnings. On the other hand, real activities are managed through operating policies under REM technique (Gunny, 2010, Roychowdhury, 2006). Although AEM and REM have differences in their implementation, these two techniques are used for a similar purpose - to manipulate reported earnings for beating or meeting the expected amount. Hence, both strategies of earnings management affect the quality of reported earnings (Gunny, 2010). Gunny (2010) explains that the limitations of AEM are likely to motivate managers to engage in REM. In particular, managers can typically dominate the choices of accounting treatments by exercising their discretion over it. However, these accounting choices or practices would be later scrutinised by external auditors and regulators. Thus, the practice of AEM might be limited by the strength of external governance.

The empirical finding from the study of Cohen, Dey and Lys (2008) also confirms that prior to the Sarbanes–Oxley Act (SOX hereafter) enacted in 2002, AEM continued to increase before subsequently decreasing after the SOX enactment. In contrast, REM rarely occurred before the introduction of SOX but it has significantly increased since SOX. The differences in these two earnings management techniques raise a concern about the governance system. In other words, it raises a significant question concerning whether the same set of governance mechanisms can curb both AEM and REM. This concern still encourages researchers to continue conducting more research on earnings management, a dynamic topic in the accounting field. The vital purpose is to increase the usefulness of accounting information and to promote the role of accounting in the decision-making process.

## 1.2 Research Motivation

Researchers believe that good governance should improve the transparency of financial information, including reported earnings (Bilal, Chen and Komal, 2018; Fan and Wong, 2002; García-Meca and Sánchez-Ballesta, 2009). Consequently, there has been a growing body of research examining how governance mechanisms influence the quality of reported earnings including this research. The primary aspect of corporate governance that attracts much more attention from researchers is the characteristics of corporate ownership (Aguilera, Marano and Haxhi, 2019; García-Meca and Sánchez-Ballesta, 2009; Oehmichen, 2018). Ownership is the root of agency conflicts, according to agency theory, thus it is considered to be an important variable in governance research (Aguilera and Crespi-Cladera, 2016). The characteristics of ownership demonstrate how firms are monitored by the owner and represent the forms of agency conflict (Aguilera and Crespi-Cladera, 2016; Clacher, Hillier and McColgan, 2010; Fan and Wong, 2002). Conflict of interest is acknowledged as the main incentive for earnings management in the extant literature when the benefits of agents are not aligned with principal (i.e. managers and owners). Thus, agency theory is a predominant theory applied in prior research as a theoretical framework to explain the effect of ownership, firm-level governance, on earnings management (Bilal, Chen and Komal, 2018; Dinh and Calabrò, 2018; Oehmichen, 2018).

The effect of firm-level governance in terms of ownership characteristics on the quality of reported earnings, therefore, has continually been examined. Interestingly, the results reported in extant research are still inconsistent among countries. For example, researchers have documented both positive and negative effect of majority shareholders, which typically represents the concentration of ownership, on earnings quality or earnings management (Dou *et al.*, 2018; Fan and Wong, 2002). Researchers have attributed the inconclusive findings to the differences in institutional frameworks between countries (Ball, Kothari and Robin, 2000; Fan and Wong, 2002; García-Meca and Sánchez-Ballesta, 2009). In other words, the influence of owners on the quality of reported earnings is likely to be contingent on the contextual environment in which the firm is embedded. Empirically, such a claim regarding the moderating effect of institutional settings on the link between ownership characteristics and earnings quality is rarely investigated.

In addition, the moderating effect of institutional settings not only needs empirical verification but also calls for the development of a theoretical framework to underpin such an argument and in turn to explain how institutional contexts matter for organisational behaviour, including accounting practices. Managers or owners of the firm located in different countries are likely to behave differently due to the contextual factors surrounding them (Bao and Lewellyn, 2017; Jackson and Deeg, 2008). Generally, this argument emphasises a matter of contexts (Aguilera and Jackson, 2010). In particular, researchers argue that institutional settings at the country level are likely to influence governance mechanisms at the firm level (Aguilera and Jackson, 2003; Filatotchev, Nakajima and Jackson, 2012; Kumar and Zattoni, 2013). However, the interplay roles between these two levels of governance mechanisms has been overlooked in prior research (Bao and Lewellyn, 2017; Ernstberger and Grüning, 2013; Kumar and Zattoni, 2013).

Extant research focuses either on the effect of governance mechanisms at the firm level or the effect of country-level governance in international studies on the quality of reported earnings. Governance characteristics at the firm level are often omitted in cross-country studies. Likewise, the effect of institutional arrangements is disregarded in single-country studies (Gaio, 2010). Such research designs are referred to as the "over-contextualised view or under-contextualised view" (Kumar and Zattoni, 2013, p. 199). Consequently, understanding of the interaction effect between firm-level and country-level governance on the quality of earnings is limited in existing literature.

Therefore, this research proposes to bridge such a gap, which appears when single-country studies disregard the effect of institutional settings or international studies ignore the variation in firm-level governance, by extending the investigation to ascertain the role of institutional settings (country-level governance) on the link between ownership characteristics (firm-level governance) and earnings quality (the outcome of governance mechanisms). Considering governance mechanisms as the intertwined system would allow researchers to better explain the inconclusive findings regarding the effect of ownership characteristics on earnings quality documented in prior research. It would also provide a remarkable contribution to the governance literature in a global context (Kumar and Zattoni, 2013). Accordingly, the interplay roles of multilevel governance are considered to be a new research avenue that needs further exploration to contribute to theoretical and empirical verification (Aguilera, Judge and Terjesen, 2018; Bao and Lewellyn, 2017; Filatotchev, Nakajima and Jackson, 2012; Schiehll and Martins, 2016,). In addition, the findings would also contribute valuable insights into earnings quality literature by considering both AEM and REM. As mentioned earlier, the differences in REM and AEM raise concerns for researchers and regulators due to the design of the governance system to govern these different techniques of earnings management. The rich literature on AEM might not apply in the case of REM and future research is needed in this regard (Zang, 2012).

In summary, this research primarily aims to investigate the effect of institutional settings as moderator variables on the link between ownership characteristics and earnings quality in order to verify the claim referred to in the literature that mixed findings of the ownership effect are attributed to the differences in institutional settings among countries. Furthermore, this current research endeavours to extend the theoretical framework used in prior research by considering a matter of country institutional context to shape the incentive or behaviour of owners toward financial reporting. The research questions, research objectives, and research structure of this study are discussed in the remainder of this chapter.

## 1.3 Research Questions and Research Objectives

### 1.3.1 The Main Research Question

As discussed in the research motivation section, prior research has reported mixed results on the link between ownership characteristics and the quality of reported earnings. The differences in institutional settings between countries have been deemed to be a potential factor for altering the results. The central argument is that ownership characteristics, firm-level governance, and country-level institutional settings are not functioning in isolation, but are working together as an intertwined system. In particular, the incentive or behaviour of owners towards accruals and real earnings management does not only rely on self-interest motivation, as explained by agency theory but is also contingent on the contextual pressure, as suggested by institutional theory. This argument responds to the gap regarding the "over-or under-contextualised view" mentioned in the governance research literature (Kumar and Zattoni, 2013, p. 199). The interplay roles between firm-level and country-level governance have been overlooked in the over-or under-contextualised design in governance research.

Accordingly, it leads to the main empirical research question for this current research, as described below.

**The Main Research Question:** Do institutional settings within countries modify the link between ownership characteristics and earnings quality?

The main research question aims to explain the variance of earnings quality in different contexts due to the interaction effect between firm-level and country-level governance, which have seldom been investigated in prior studies. In addition, to complement the understanding of the main research question, the sub-question is incorporated to examine the direct effect of ownership characteristics on earnings quality. The direct effect would allow researchers to understand the baseline argument, which in turn complements the logical flow of how such a baseline effect is altered by the moderator (Andersson, Cuervo-Cazurra and Nielsen, 2014).

### 1.3.2 Sub-Research Question at the Firm-Level Analysis

The sub-question will be created to address whether and how ownership characteristics influence the quality of reported earnings. Most studies regarding the effect of governance on earnings management or earnings quality are conducted in this manner (Achleitner *et al.*, 2014; Di Meo, García Lara and Surroca, 2017; Fan and Wong, 2002; Gabrielsen, Gramlich and Plenborg, 2002; Warfield, Wild and Wild, 1995). Ownership is considered to represent both agency conflicts and governance mechanisms at the firm level (Aguilera and Crespi-Cladera, 2016). Agency theory is considered to underpin a set of testable hypotheses at this level. Although there is much research to investigate the influence of ownership characteristics on earnings quality, most studies measure earning quality in terms of AEM. The evidence of REM is still insufficient. As mentioned earlier in the research background section, prior research acknowledges that the nature of AEM and REM differs significantly, and thus the motivation to implement AEM and REM might be dissimilar (Roychowdhury, 2006; Cohen, Dey and Lys, 2008; Zang, 2012; Graham, Harvey and Rajgopal, 2005). Subsequently, the empirical findings of AEM may not be able to make an inference for REM. This is also important for regulators to understand whether the same set of governance can limit both AEM and REM. The sub-question is presented below.

**Sub-Research Question:** Do the earnings management strategies, AEM and REM, vary due to the effect of ownership characteristics?

### 1.3.3 Research Objectives

The main research question has been outlined above, namely investigating how institutional settings within countries modify the links between ownership characteristics and earnings quality. This led to the sub-research question, of the effects that ownership characteristics have on earnings management strategies, like AEM and REM. To answer these questions, two primary research objectives were set, as such research objectives allow researchers to operationalise research questions (Saunders, Lewis and Thornhill, 2016). Research objective 1, is the response to the sub-research question. It aims to investigate the effect of ownership characteristics on different techniques of earnings management. As mentioned in section 1.3.2, owners may have different incentives or preferences towards alternative techniques of earnings management. Thus, it is important to study the effect of ownership characteristics on different techniques of earnings management such as the accruals and real earnings management used in this case.

Research objective 2, is the response to the main research question, which aims to investigate whether (and how) institutional settings at the country level shape the incentive or behaviour of owners to monitor the quality of reported earnings. To advance this objective, the moderating effect of institutional settings, perceived as the country-level context, will be studied. Specifically, research objective 2 aims to shed light on the interaction mechanisms between firm-level and country-level governance in order to understand how specific dimensions of institutional settings at the country level modify the behaviour of a given owner towards accruals and real earnings management-proxies for earnings quality. The conceptual framework will be extended by integrating the assumptions of agency theory and institutional theory to explain the effect of governance mechanisms on the quality of reported earnings and to underpin the contingency design in the empirical analysis. The examination of the interplay roles between governance mechanisms arranged within the firm and country would be of benefit to regulators in governance design as well as to academics. In sum, the research objectives are as follows:

**Research Objective 1:** To investigate the effect of ownership characteristics on earnings quality.

**Research Objective 2:** To investigate the moderating effect of institutional settings within countries on the link between ownership characteristics and earnings quality.

## 1.4 Scope of Research

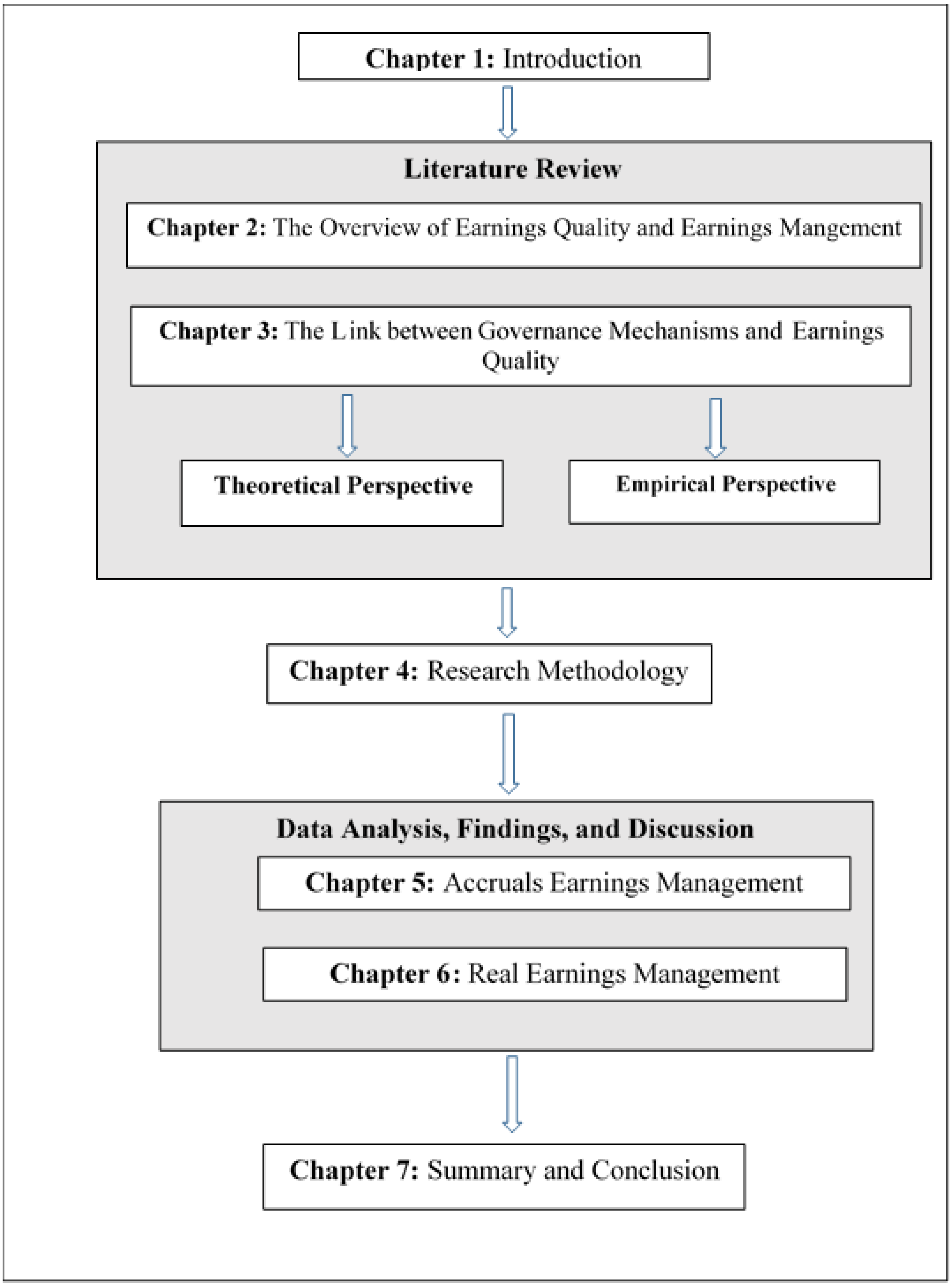
To operationalise these research questions, this research uses the dataset of companies listed in ten countries: Hong Kong, Indonesia, South Korea, Malaysia, the Philippines, Singapore, Thailand, Taiwan, the United Kingdom and the United States. These ten countries are selected to reflect the varieties of ownership characteristics and institutional settings, which are variables of interest in this research. The period of study ranges from 2013 – 2017. The initial sample size, which is available for analysis, covers 47,462 firm-year observations. However, a certain number of observations reported in the analysis might vary due to the model specification (see Chapter 4 Section 4.6 for more detail). In addition, there are four aspects of ownership studied in this research: ownership concentration, managerial ownership, domestic institutional ownership, and foreign ownership. These four aspects will be studied along with three salient features of institutional settings at the country level: the efficacy of the legal environment, the degree of minority shareholders protection, and the strength of accounting enforcement.

Earnings management, the accounting phenomenon this research aims to study, is the proxy for earnings quality. Accruals and real earnings management are the focus in this research to reflect the possible techniques of earnings management, which can be used in a practical manner to alter reported earnings - the bottom line on the income statement, in other words. Finally, the deductive approach is applied to underpin the logical reasoning made in this research and the quantitative technique, namely regression, is the primary technique used to analyse data.

## 1.5 The Structure of Research

This section illustrates the outline of this research in order to provide an overview of individual chapters. There are seven chapters as presented in Figure 1.1. The research background, motivation, questions, objectives and its scope were discussed in Chapter 1. Chapter 2 presents the background of earnings management, the accounting phenomenon this research aims to study. Such a chapter will lay the foundation of earnings quality and earnings management. Chapter 3 reviews literature regarding the effect of firm-level and country-level governance on the quality of reported earnings. The review is conducted in terms of theoretical and empirical perspectives. The primary aim is to address the gap(s) in the extant literature and, in turn, to direct research questions. Chapter 4, discusses and justifies the research methodology, which will be applied to operationalise research questions. The empirical analysis, findings, and discussion on accrual and real earnings management are presented in Chapter 5 and Chapter 6 respectively. Finally, Chapter 7 recaps all crucial findings regarding the effect of governance on accruals and real earnings management together. Research limitations, future research recommendations, research contributions, and implications are also discussed in Chapter 7.

Figure 1.1 The Structure of Research


**Chapter 1:** Introduction
**Literature Review**
**Chapter 2:** The Overview of Earnings Quality and Earnings Mangement
**Chapter 3:** The Link between Governance Mechanisms and Earnings Quality
**Theoretical Perspective**
**Empirical Perspective**
**Chapter 4:** Research Methodology
**Data Analysis, Findings, and Discussion**
**Chapter 5:** Accruals Earnings Management
**Chapter 6:** Real Earnings Management
**Chapter 7:** Summary and Conclusion

# CHAPTER 2

# The Overview of Earnings Quality and Earnings Management

## 2.1 Introduction

The concepts of earnings quality and earnings management are discussed in this chapter. This underpins the understanding of crucial accounting phenomena in which this research aims to study. The chapter is arranged by explaining the definition of earnings quality, a dynamic word that can be defined differently depending on the context, in Section 2.2. Section 2.3 discusses earnings management practices; accounting phenomena that influence the quality of reported earnings. The definition, incentive, and scope of earnings management are also reviewed and discussed in this section. Finally, the nature of two earnings management strategies, namely accruals and real earnings management, are presented in Section 2.4 along with their effect on the quality of earnings.

## 2.2 The Definition of Earnings Quality

### 2.2.1 The Definition of Earnings Quality in the Literature

A report of earnings aims to capture the performance of the firm over a particular period. It is also considered to be the most significant item on the financial report, dominating the decision making of financial statement users (Dichev *et al.*, 2016). Consequently, the quality of this accounting item has received much attention from researchers, investors, and regulators. However, researchers have acknowledged that the definition of earnings quality is still an ongoing debate in the literature (Dechow, Ge and Schrand, 2010). In other words, there is no single perspective to define or measure the quality of earnings (Dichev *et al.*, 2013). For example, Dichev *et al.* (2016) explain that the quality of reported earnings is perceived when this item can truly capture the firm's actual financial performance. Similarly, Dechow, Ge and Schrand (2010) mention that if reported earnings can provide more information about the firm's performance in order to facilitate the function of decision making, the quality of such an item is higher. Schipper and Vincent (2003), on the other hand, perceive accounting earnings to be of good quality if they are reported faithfully. The faithfulness of earnings presentation is recognised when this item can reflect the real economic phenomena it is supposed to capture. According to these generic definitions of earnings quality, there are three primary perspectives to explain the quality of reported earnings: properties of earnings, market-based perspective, and external indicator perspective (Bilal, Chen and Komal, 2018; Dechow, Ge and Schrand, 2010).

#### 2.2.1.1 Properties of Earnings

There are five sub-characteristics of earnings under the perspective of earnings properties: earnings persistence, accruals, earnings smoothness, earnings timeliness, and target beating (Dechow, Ge and Schrand, 2010). Some studies describe the features of earnings quality by focusing on its persistence or sustainability (Bradshaw, Richardson and Sloan, 2001; Penman and Xiao-Jun, 2002; Richardson, 2003; Sloan, 1996). These two properties of earnings are linked together. Oei, Ramsay and Mather (2008) explain the meaning of earnings persistence as the power of current reported earnings to forecast future earnings. Similarly, Penman and Xiao-Jun (2002) mention if earnings reported in the income statement can be a good indicator for predicting future performance; such earnings are perceived as highly sustainable earnings from the perspective of analysts and hence are of high quality. Comparing the interpretations of persistence and sustainability of reported earnings described by researchers, the interpretations themselves are similar, but different terminologies have been applied. Thus, one may conclude that the persistent or sustainable feature of reported earnings is said to signal to users, especially investors, a better ability to predict future earnings (Dechow, Ge and Schrand, 2010).

In addition to earnings persistence, accruals are one property of earnings to reflect its quality. The basic concept is that earnings consist of accruals and cash components. The persistence and sustainability relate to the lower level of the accruals' component and higher cash component in reported earnings. There is empirical evidence documented in the literature to support this claim. For example, Sloan (1996) states that firms with current reported earnings comprised significantly of accruals will normally encounter a decline of earnings in the following period. In addition, Bradshaw, Richardson and Sloan (2001) state that firms with a significant accruals component in its earnings are likely to act against accounting requirements in subsequent years. The flexibilities in accrual principles of allowing managers to exercise their discretion over financial reporting may enable managers to distort reported earnings, known as earnings management (Abdelghany, 2005). However, Richardson *et al.* (2005) argue that only the less reliable accruals, which are potentially caused by unreliable estimations or measurement errors, induce low earnings quality. This implies that the principles of accruals are still useful for financial report presentation (Arif, Marshall and Yohn, 2016). Only the abnormal discretionary accruals that researchers perceived as a proxy of earnings management. The advantages and disadvantages of accruals remain an ongoing debate in accounting literature due to the importance of accruals in financial accounting.

Researchers have also mentioned earning smoothness as one of the properties of earnings quality. The important principle of income smoothing is that a lower degree of earnings fluctuation from time to time indicates higher earnings smoothness (Leuz, Nanda and Wysocki, 2003; Tucker and Zarowin, 2006). More precisely, a lower variation in income stream is expected to provide financial statement users with more useful information for predicting future earnings. Accordingly, earnings smoothness would make the reported earnings more informative for users and in this regard, the quality of such items is considered to be at a high level. Analysts and investors usually view the quality of earnings from this perspective (Shaw, 2003). Consequently, it may motivate managers to smooth their reported earnings in order to attract investors.

Earnings timeliness, the fourth attribute of earnings quality, is summarised by Dechow, Ge and Schrand (2010). Ball and Shivakumar (2005) argue that a timely loss recognition in financial statements would enhance the usefulness of financial information. Financial statement users should be able to predict future cash flow by being informed about economic gains or losses in a timely manner. Additionally, timeliness of earnings recognition also relies on the conservative concept that bad news, such as losses, should be quickly reflected on the financial statement, in contrast to good news, which should not (Basu, 1997). In a practical manner, however, managers tend to avoid recognising losses in a timely fashion because it might influence their compensation (Ettredge, Huang and Zhang, 2012).

On the other hand, earnings target beating is also mentioned as one of the terminologies to explain the property of earnings quality in the extant literature (e.g. He, 2015; Gleason and Mills, 2008; Habib and Hansen, 2008; Mindak, Sen and Stephan, 2016). Mindak, Sen and Stephan (2016) discuss there being three substantial earnings thresholds mentioned in the literature as significant earnings targets: zero earnings, previous year's earnings, and analysts' forecast earnings. Compensation contracts and market incentives are mentioned in prior research to be the essential rationales for firms to beat or meet a specific earnings target (Dechow, Ge and Schrand, 2010). In this regard, target beating may induce earnings management, which in turn damages the quality of reported earnings. Researchers posit that firms in which their earnings amount is slightly higher or lower than those earnings thresholds are likely to engage in earnings management practices[1].

#### 2.2.1.2 Market-Based Perspective

There is one research stream focusing on the informativeness of earnings reflected by how investors respond to reported earnings, known as market-based perception (Boubaker and Sami, 2011; Fan *et al.*, 2014; Roychowdhury and Sletten, 2012; Tucker and Zarowin, 2006). From this perspective, the earnings informativeness echoes the level of earnings quality and the earnings response coefficient[2] is used to proxy such informativeness. The argument in this research stream is that earnings are of good quality when it is more informative by containing useful information about economic performance, in order to facilitate a decision-making process. Hence, capital market research which is eager to explain the roles of earnings information in the capital market mostly relies on this dimension of earnings quality (Kothari, 2001).

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[1] Some studies name the firms that just meet or miss their earnings thresholds as "Suspected firm" (See Roychowdhury, 2006, p.341).

[2] Earnings response coefficient aims to capture the magnitude of the link between stock return and earnings (Kothari, 2001).

#### 2.2.1.3 External Indicators Perspective

Apart from earnings properties and the market-based perspective, Dechow, Ge and Schrand (2010) point out that there are also external indicators that define what earnings quality is. The financial report re-issuance, which is required in case of a financial misstatement, is perceived in the literature as an external indicator to reflect the quality of reported earnings. Abbott, Parker and Presley (2012) discuss that the fraud and error of accounting treatments in terms of GAAP violations cause the financial report misstatements. In these circumstances, firms are required by the regulators to reissue the corrected version of their financial statements. Accordingly, the misstatements generally reflect the low quality of accounting practices (Guo *et al.*, 2016) and researchers perceive misstatements caused by fraud or error reduce the reliable characteristic of financial information. In addition, Ye and Yu (2017), point out that the financial restatement significantly decreases the trust of analysts and investors due to the confidence in financial information. In addition to fraud and error, the effectiveness of the internal control system is also discussed in literature to influence the probability of financial misstatement. According to “The Sarbanes–Oxley Act Principles of 2002”, internal control is a mechanism in which it needs to be placed in organisations to assure the reliability of accounting information (Jaggi, Mitra and Hossain, 2015). Therefore, its effect is conceivably associated with financial misstatement which, in turn, describes the quality of earnings (Doyle, Ge and McVay, 2007).

Consideration of the definitions of earnings quality mentioned in the literature can ensure that the “earnings quality” is a multidimensional term. Therefore, it must be defined in the specific context of decision making because “quality” might vary among financial statements users. Likewise, in research, it is also essential for researchers to specifically define the definition of earnings quality in their research focus and such a definition should be suitable within the specific research contexts or research purposes (Nelson and Skinner, 2013).

### 2.2.2 The Definition of Earnings Quality in This Research Context

This research argues that the processes to prepare and report earnings are essential factors in determining its quality. This argument is consistent with Schipper and Vincent (2003), who state that the quality of earnings has been affected by accounting treatments and economic transactions because earnings are constructed from both. According to their statement, it implies that only accepted accounting treatments may not generate the high quality of reported earnings if the real economic transactions are distorted intentionally.

Similarly, in the circumstance that real economic transactions are not misleading but managers manipulate accounting choices to misrepresent real economic performance, earnings cannot be considered of high quality. Figure 2.1 illustrates how reported earnings can be distorted through accounting and operating policies. From this point of view, Lo (2008) also proposes a reasonable definition of earnings quality in which earnings should be perceived to be of high quality when they are prepared neutrally and fairly. Unfaithful preparing of earnings, by engaging in earnings management, would cause reported earnings to significantly deviate from the permanent or sustainable earnings, which is also deemed as earnings quality feature mentioned in the previous section. Moreover, biased preparation of earnings by managing accounting choices or distorting operational policies to gain the desired economic transactions must reduce the ability of reported earnings to capture the actual firm's financial performance, as presented in Figure 2.1. When earnings cannot faithfully capture what it is supposed to capture, the usefulness of this accounting number for the decision-making process is also destroyed. Accordingly, reported earnings are of low quality due to the generic definitions proposed by Dechow, Ge and Schrand (2010), Dichev *et al.* (2016), Schipper and Vincent (2003), as described in Section 2.1.1.

In this research, therefore, earnings quality would be perceived to be of high quality when faithfully prepared and reported, without intentional manipulation, to capture the actual financial performance of the firm. Such a definition obtains the sharing attributes of earnings quality from prior research existing in the literature. It also complies with one of the qualitative characteristics of financial information, namely faithfulness, according to The Conceptual Framework developed by FASB[3] and IASB[4] (Birt, Muthusamy and Bir, 2017; Nobes and Stadler, 2015). In addition, such a definition would be suitable in this research context due to the research objectives. The primary purposes of this research are to investigate how corporate governance mechanisms influence the quality of reported earnings and how such influence varies among countries due to the effect of country institutional context. Prior research has hypothesised that governance mechanisms should support best practices, including accounting practices, and should reduce the conflict of interest in organisations (Lau,

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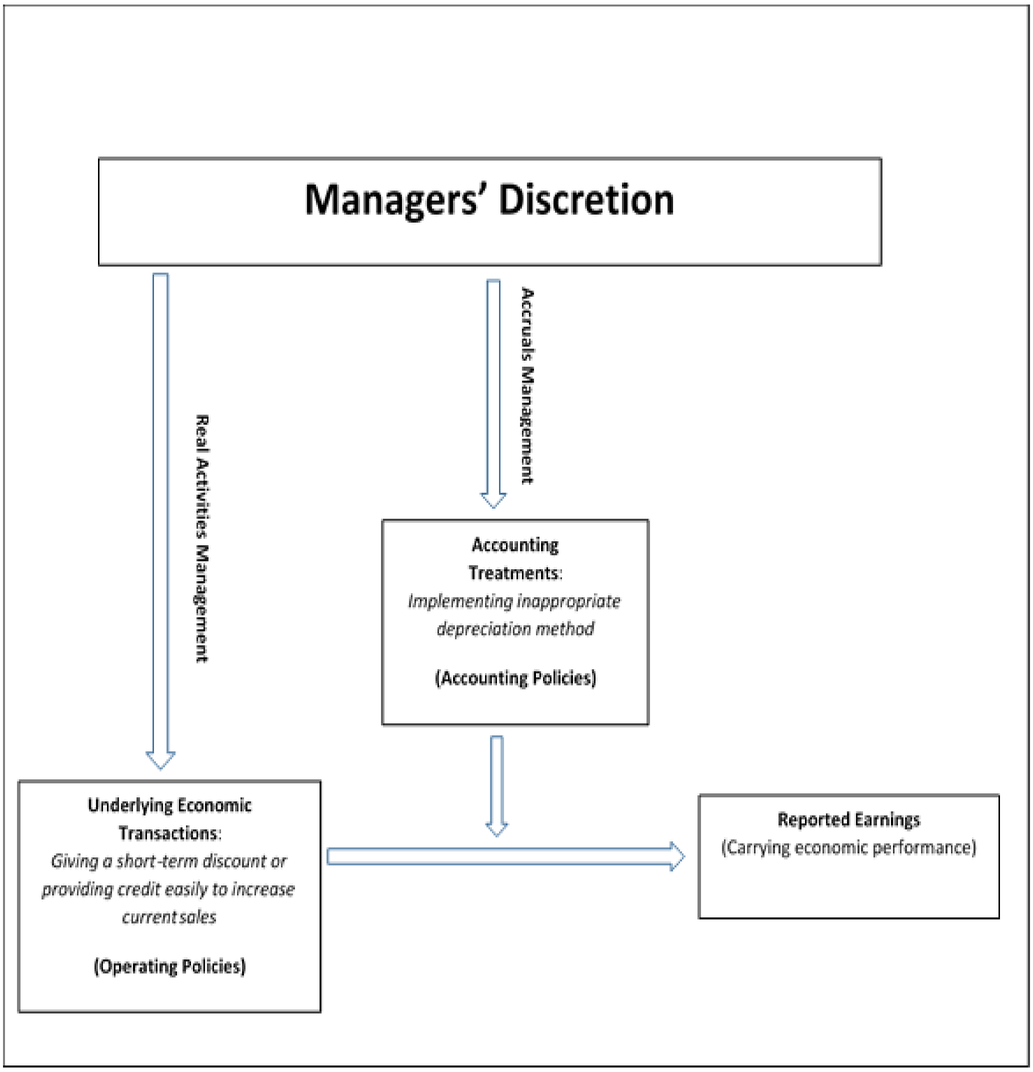
[3] FASB stands for Financial Accounting Standards Board, the independent accounting professional body in the United States of America, which is responsible for establishing accounting standards for public, private companies and not-for profit organisations. The Concepts Statement No.8 containing Conceptual Framework for financial report is available at https://www.fasb.org.

[4] IASB stands for International Accounting Standards Board, independent accounting professional committees who develop and publish International Financial Reporting Standards (IFRS). The Conceptual Framework of financial reporting developed by IASB is applied by many countries around the world. The Framework is available at https://www.ifrs.org.

Shrestha and Yu, 2016). In other words, good governance is likely to improve the faithfulness or transparency of reported earnings. Thus, the definition of earnings quality in this research context should reflect the outcome of governance mechanisms, which in turn allows the researcher to generate a set of testable hypotheses.

Earnings management should be the most appropriate proxy in this sense to capture the earnings quality according to its definition in this research context. A high level of earnings management would reduce the quality of reported earnings because such a phenomenon damages the unbiased preparing of reported earnings and hence its faithfulness (Chen *et al.*, 2010). As a result, reported earnings are unlikely to capture the actual firm's performance (Schipper and Vincent, 2003). As mentioned earlier, Figure 2.1 demonstrates how reported earnings are potentially manipulated by distorting real economic transactions or by implementing unappropriated accounting treatments through the processes of financial report preparation. Earnings management, which will be implemented as the earnings quality proxy in this research, is discussed in the following section.

**Figure 2.1 The Manipulation of Earnings by Distorting Real Economic Transactions and Accounting Treatments**


Managers' Discretion
Real Activities Management
Accruals Management
Accounting Treatments: Implementing inappropriate depreciation method
(Accounting Policies)
Underlying Economic Transactions: Giving a short-term discount or providing credit easily to increase current sales
(Operating Policies)
Reported Earnings (Carrying economic performance)

## 2.3 Earnings Management Phenomenon

Under Generally Accepted Accounting Principles (GAAP), managers can exercise discretion over accounting treatments (Salerno, 2014). Healy and Wahlen (1999) suggest that allowing managers to exercise their discretion over financial reporting would enable firms to better communicate their economic performance to financial statements users since managers have the best knowledge of the firm economic transactions, which might differ from firm to firm due to the core business.

Accordingly, management discretion is necessary for financial reporting. However, Abdelghany (2005) argues that such flexibilities in accounting principles may enable managers to alter a reported earnings number by engaging in earnings management.

Similarly, Chen *et al.* (2018) discuss that allowing management discretion over financial reporting is the primary concern of investors and regulators. In particular, Chen *et al*. (2018) mention that management discretion is mainly implemented over earnings. The empirical evidence presented in the literature has shown that management discretion allowed by accruals principles of accounting is associated with the quality of financial reports. For example, Cassell, Myers and Seidel (2015) document that firms without reporting of how management discretion is exercised over the allowance and reserve accounts are more likely to manage earnings. In addition, the survey conducted by Graham, Harvey and Rajgopal (2005) also reveals that managers are more likely to exercise their discretion over accounting choices when they would like to beat earnings targets. Dechow, Myers and Shakespeare (2010) add more comments regarding the allowance of management discretion under GAAP. Specifically, they emphasise that it is difficult for users to reasonably understand how management discretion is employed over financial reporting.

According to the aforementioned arguments, it is obvious that management are the key personnel who can influence the quality of financial reports. In addition, it is plausible to imply that the earnings management phenomenon can be performed by giving managers flexibility in their discretion. Subsequently, earnings management has a negative impact on the faithfulness of reported earnings which in turn reduces the qualitative characteristic of this item (Schipper and Vincent, 2003). In general, earnings management negatively reflects the level of earnings quality (Dechow, Ge and Schrand, 2010; Defond, 2010). The magnitude of abnormal discretionary accruals has become one of the well-known proxies in the literature for capturing the earnings management phenomenon. In other words, a higher level of abnormal discretionary accruals captures a higher degree of earnings management or a lower level of earnings quality. The definition of earnings management defined in prior research would emphasise how management discretion can cause earnings management. This discussion is presented below.

### 2.3.1 The Definition of Earnings Management

To date, researchers have acknowledged that there is no single definition of earnings management. However, researchers have agreed that earnings management derives from management discretion. Ronen and Yaari (2008) categorise the definitions of earnings management documented in the literature into three groups, as presented in Table 2.1.

**Table 2.1 Alternative Definitions of Earnings Management**

| White | Grey | Black |
|---|---|---|
| "Earnings management is taking advantage in the flexibility in the choice of accounting treatment to signal the manager's private information on future cash flows" | "Earnings management is choosing an accounting treatment that is either opportunistic (maximizing the utility of management only) or economically efficient" | "Earnings management is the practice of using tricks to misrepresent or reduce transparency of the financial reports" |

**Source:** Ronen and Yaari (2008, p.25)

Considering the three alternative definitions of earnings management presented in Table 2.1, one may argue that earnings management under the grey area should be classified into two groups; opportunistic behaviour (Black) or the enhancing of financial statements informativeness (White). Ronen and Yaari (2008) differentiate opportunistic earnings management in grey and black definitions by considering whether such practices violate accounting regulations. Considering the consequences, however, some researchers argue that flexibility in management discretion over financial reporting would be either beneficial or hazardous (e.g. Bushman and Williams, 2012; Fields, Lys and Vincent, 2001; Jin, Kanagaretnam and Lobo, 2018; Walker, 2013).

Jin, Kanagaretnam and Lobo (2018) refer to Bushman and Williams (2012) in order to reinforce the black and white notions of earnings management. They mention that earnings management by employing management discretion could be seen from two perspectives, opportunism or efficiency, as a double-edged sword. To respond to the definition of earnings quality in this current research, earnings management falls under the opportunistic perspective, which erodes the faithfulness of reported earnings. Researchers interpret the definition of earnings management in this sense. For example, Schipper (1989) defines earnings management, in the context of external financial reporting, as the intentional intervention in financial report preparation to obtain some individual benefits. In addition, Healy and Wahlen (1999) explain that the phenomenon of earnings management occurs when managers exercise their discretion to structure or alter the financial output in a financial report. The purpose of doing so is to mislead stakeholders about the firm’s performance or to beat the contractual arrangements. These are two widely accepted definitions of earnings management in academic papers (Dechow and Skinner, 2000).

Recently, Roychowdhury (2006) argues that earnings can be managed by distorting the operating policies to the same extent that it can be distorted through accounting policies. Accordingly, Roychowdhury (2006) explains that earnings management also occurs when managers manage the operating policies, which in turn influence the economic transactions, instead of accounting policies to gain the desired earnings amount. The ultimate purpose of doing so is to mislead stakeholders. Roychowdhury (2006) defines such circumstances as “Real Earning Management”. Gunny (2010) also recommends that understanding real earnings management contributes to the perception of earnings quality as well. Real earnings management influences abnormal cash flow from operations and hence diminishes the persistence of earnings, which is one of earnings quality attributes. The definition of earnings management introduced by Walker (2013) also highlights the use of management discretion over accounting choices and real economic transactions to alter the reported earnings. Such a statement supports the argument of Roychowdhury (2006), who proposes that earnings can be managed via real activities.

In line with prior research, this study considers the definition of earnings management to be the same definition discussed by Walker (2013). Typically, such a definition covers the comprehensive view of earnings management in the real world because managers are able to manage a reported earnings number by using their discretion over both accounting and operating policies as previously depicted in Figure 2.1. Accruals earnings management and real earnings management will be studied in this research in order to capture the earnings management phenomenon, which in turn reflects the quality of reported earnings. Zang (2012) also suggests that further research in the earnings management field should not disregard real earnings management because ignoring such a technique would not enable researchers to explain the earnings management phenomenon completely.

In addition to these two earnings management techniques, researchers have mentioned the existence of the classification shifting as one of the techniques to manage financial reports. However, such a technique does not alter the bottom line in the way accruals or real earnings management does (Malikov, Manson and Coakley, 2018). Thus, it is excluded from the scope of this study.

## 2.3.2 Earnings Management Incentive

In addition to the definition of earnings management, it is also important to discuss what factors motivate or coerce management to commit earnings management practices. The extant literature refers to many factors that can motivate or force management to distort reported earnings. According to Healy and Wahlen (1999), they conclude that there are three essential factors; capital markets, contracting, and regulation, which may induce managers to engage in earnings management practices.

### 2.3.2.1 Capital Market Incentive

The capital market, one of the main funding sources for public corporations, can be one logical factor behind managers' willingness to commit earnings manipulation. Obtaining a low cost of capital from selling the firm's stock in the capital market would support firm growth; and investors, as usual, need accounting information to facilitate their buying-selling decisions. The stock price, which reflects how much investors value the firm, is very sensitive to a reported earnings number (Beyer, 2009). Burgstahler, Hail and Leuz (2006) posit that demands from the capital market also shapes the way the firm's earnings are formed and reported. The existence of information asymmetry between market participants is also likely to influence management behaviour in respect of earnings disclosure. Consequently, such information affects investors' behaviour (Bartov and Bodnar, 1996). Accordingly, Fischer and Stocken (2004) contend that the perceptions of firms’ performance by investors play a significant role in earnings management motivation.

In addition, the roles of analysts in capital markets have been documented in the literature as one rational explanation of the earnings management phenomenon. Most prior research has revealed that in general investors count on analysts’ opinions (Yu, 2008). The survey evidence conducted by Graham, Harvey and Rajgopal (2005) also ensures that firms with earnings announcements that do not meet analysts’ expectations suffer from negative stock price feedback. Indeed, the capital market incentive for earnings management proposed by researchers has been empirically proven (e.g., Dechow and Skinner, 2000; Fischer and Stocken, 2004; Healy and Wahlen, 1999; Yu, 2008).

#### 2.3.2.2 Contracting Incentive

The second incentive of earnings management concluded by Healy and Wahlen (1999) is contracting. This is because the firm is the centre of contracts that illustrate the rights and obligations between parties of contracts. According to the theory of the firm, the behaviour of parties will likely be affected by contractual arrangements (Jensen and Meckling, 1976). In addition, financial reports are implemented as communication tools to convey necessary information among contract parties. Thus, if financial reports are distorted, the parties are being misled. Healy and Wahlen (1999) further point out that the incentive of earnings management induced by contracting mostly increases from management compensation contracts and debt covenants. Typically, the compensation contract is designed to align shareholders’ interests and managers’ interests by setting the compensation system based on firm performance. Given such a compensation system, it may drive management manipulating earnings to increase their compensation (Qiang, Lee and Shevlin, 2016). However, Ye (2014) argues that the differences in compensation system design induce a different effect on management incentive and the debate remains ongoing.

Similarly, the strictness of debt covenants is frequently designed depending on financial information. The primary purpose of such covenants is to reduce the potential costs arising from the agency cost of debt that can exist between the firm and its lenders (Jensen and Meckling, 1976) because lenders need to monitor managers in order to ensure that their rights and benefits will not be exploited (Jha, 2013). Earnings management is likely to be employed as a management strategy for avoiding the violation of debt covenants. Empirical evidence in the extant literature supports such a claim. For example, Franz, Hassab Elnaby and Lobo (2014) show that firms that have recently encountered the difficulty of debt repayment have stronger incentives to commit to higher levels of earnings management strategies, including both accruals and real earnings manipulations. Other studies that introduce a similar finding to Franz, Hassab Elnaby and Lobo (2014) are Kim, Lee and Lie (2017), Fung and Goodwin (2013) and Jha (2013).

#### 2.3.2.3 Regulatory Incentive

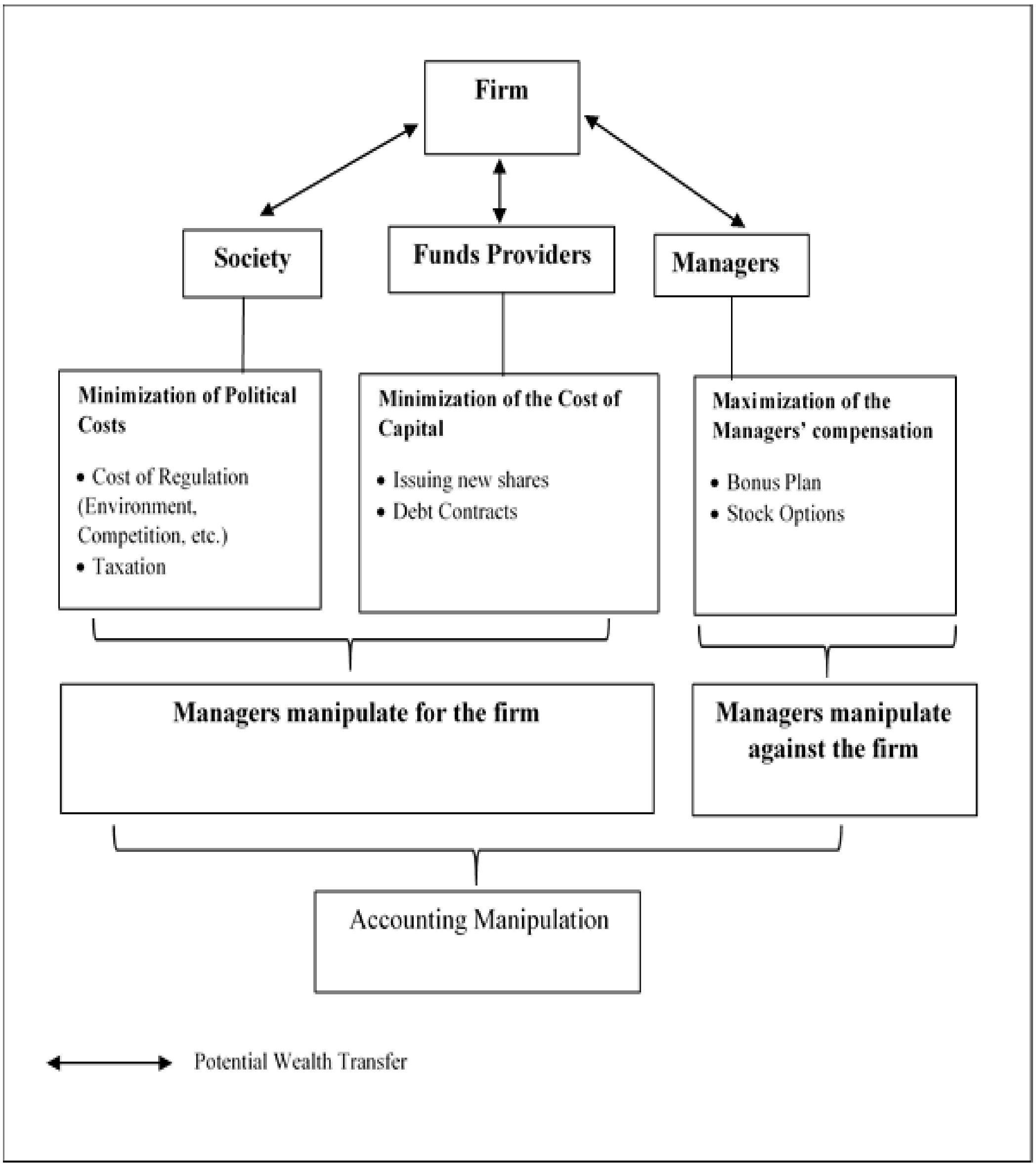
The demands of regulations have also been mentioned in the extant literature as a potential influence over earnings management (Brown, Pott and Wömpener, 2014; Hermanson, 2000). Regulations might be deemed as external requirements that can influence financial reporting within the firm. The sanction systems are designed by regulatory bodies to control and mitigate undesirable behaviour. However, Libby, Rennekamp and Seybert (2015) are critical of most accounting regulations and standards, arguing that loopholes remain for management discretion. In the circumstance that management confronts pressure from related regulations, managers might engage in earnings management so as not to violate such requirements (Christensen, Hoyt and Paterson, 1999). In addition, Bátiz- Lazo and Billings (2012) discuss how in some situations, managers manipulate earnings because they would like to evade a negative regulation outcome which would increases the firm's costs.

These three perspectives of incentives view earnings management as opportunistic behaviour. In fact, accounting phenomena, including earnings management, are carried out by individuals (Watts and Zimmerman, 1990). Thus, the individuals' incentives must be linked with the outcome of accounting procedures (Watts and Zimmerman, 1990). Another stream of research that deliberates the incentive of earnings management is proposed by Stolowy and Breton (2004) who point out that the manipulation of accounts through management discretion is intentionally performed to alter the wealth shifting between the firm's stakeholders. There are three such stakeholder groups: capital providers, society, and management.

Figure 2.2 demonstrates how wealth is possibly transferred from one group of stakeholders to another. There are two primary categories of wealth transfer from conducting accounts management according to Figure 2.2. First, firms will benefit from minimising political and capital costs by conducting accounts manipulation. On the other hand, managers can also make a private gain from engaging in accounts manipulation due to their compensation plan (Stolowy and Breton, 2004). Despite having accounts management for firm wealth, management somehow also share some benefits in doing so because the wealth of the firm also reflects management competency and hence their reputations (Nieken and Sliwka, 2015). Graham, Harvey and Rajgopal (2005) also reveal the evidence from surveys and interviews, indicating that management engages in earnings manipulation because they care more about their career rather than a short-term compensation plan. Accordingly, the economic self-interest concept under agency theory is predominantly applied to explain the incentive of earnings management (Libby, Rennekamp and Seybert, 2015; Rahman,Yammeesri and Perera, 2010a; Walker, 2013). More detail of such theory is discussed in the theoretical section of Chapter 3.

Overall, the proposed principles of accounts manipulation by Stolowy and Breton (2004) are comparable with incentives summarised by Healy and Wahlen (1999). The purpose of minimising the cost of capital between the firm and capital providers (Equity and Debt contracts) is consistent with market enforcement and debt contracting. Compensation contract is also mentioned as a management incentive in both papers (Healy and Wahlen, 1999; Stolowy and Breton, 2004). In addition, the political costs mentioned by Stolowy and Breton (2004) correspond to the regulatory incentive concluded by Healy and Wahlen (1999).

**Figure 2.2 Principles of Accounts Manipulation**


Firm
Society
Funds Providers
Managers
Minimization of Political Costs
• Cost of Regulation (Environment, Competition, etc.)
• Taxation
Minimization of the Cost of Capital
• Issuing new shares
• Debt Contracts
Maximization of the Managers' compensation
• Bonus Plan
• Stock Options
Managers manipulate for the firm
Managers manipulate against the firm
Accounting Manipulation
Potential Wealth Transfer

**Source:** Stolowy and Breton (2004, p.7)

### 2.3.3 The Scope of Earnings Management

Prior research discusses the distinction between earnings management and fraud by considering accounting regulations. Perols and Lougee (2011) define accounting fraud as the accounting practices chosen by managers that do not comply with accounting regulations. In addition, such practices are normally illegal (Stolowy and Breton, 2004). On the other hand, the manipulation practices that still comply with GAAP are not considered to be fraudulent circumstances (Dechow and Dichev, 2002; Stolowy and Breton, 2004). According to Dechow and Skinner (2000), the distinctions between fraud and earnings management are illustrated in Table 2.2.

**Table 2.2 The Difference between Earnings Management and Accounting Fraud**

| **Fraud** | **Within GAAP** | | | **Fraud** |
|---|---|---|---|---|
| **Violate GAAP** | **Earnings Management** | **Fair Presentation** | **Earnings Management** | **Violate GAAP** |
| | **Conservative** | **Neutral** | **Aggressive** | |
| An illegal transaction such as overstating inventory to reduce the cost of goods sold | Employing conservative accounting choices such as overstatement of assets write-off | Earnings that results from a neutral operation of the process | Employing aggressive accounting choices such as understatement of bad debt | An illegal transaction such as fiction sales |
| **ACCOUNTING PRACTICES** | | | | |

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

This research focuses on the phenomenon of earnings management occurring within the GAAP boundary.

## 2.4 The Natures of Accruals and Real Earnings Management

This section briefly reviews two earnings management strategies, accruals and real earnings management, which may be used to alter a reported earnings number (Kothari, Mizik and Roychowdhury, 2016). According to Figure 2.1, management discretion over firm policies, both accounting and operating policies, may lead to earnings management (Dechow, Sloan and Sweeney, 1995; Healy and Wahlen, 1999).

The manifest nature of accruals earning management, the primary focus of most research in earnings management literature, is that managers distort a reported earnings number by exercising the flexibilities in accounting choices and estimations allowed under GAAP (Gunny, 2010; Kothari, Mizik and Roychowdhury, 2016). Cohen, Dey and Lys (2008) explain that many factors can influence managerial accounting choices such as the compensation system, market pressures, and the rigor of governance and scrutiny. This has nothing to do with the real economic transactions or real activities in case of accruals earnings management. Hence, managers can use accounting choices allowed by GAAP to manipulate reported earnings, as shown in Figure 2.1.

Researchers, however, have documented that there are some downsides of employing accruals earnings management. For example, it is risky for managers to engage in such earnings management because financial statements must later be scrutinised by external auditors or the Securities and Exchange Commission (SEC) in a generic manner (Gunny, 2010). Accruals earnings management is typically easier to detect because there is an acceptable framework such as GAAP to govern how managers should exercise their discretion over accounting choices, despite having flexibility (Kothari, Mizik and Roychowdhury, 2016). Additionally, accruals earnings management is generally performed at year-end. Thus, it has a limitation regarding the timing (Gunny, 2010; Zang, 2012). Barton and Simko (2002) also raise a concern of accruals to reverse in the following period as a nature of accruals accounting principles. Therefore, it may limit managers to manipulate earnings by using accruals in a certain period.

Real earnings management, on the other hand, focuses on real activities derived from operating policies. However, such policies are still designed by managers, as presented in Figure 2.1. It is obvious that management not only has the power to exercise their discretion over accounting policies but can also influence operating policies to manage real economic transactions. As mentioned earlier, Roychowdhury (2006) defines real earnings management as the deviation from regular practices, such as giving an abnormal discount, producing more inventories, or deterring capital investment during a specific period. Accordingly, this technique needs to be performed during the accounting period (Zang, 2012). Kothari, Mizik, and Roychowdhury (2016) discuss how real earnings management is more challenging in terms of detection since there are no such external regulations to govern real earnings management. Moreover, real earnings management conducted through operating policies must influence cash flow from operations, which normally will not be affected by accruals management. From this perspective, researchers argue that real earnings management is more costly in terms of operational performance (Cohen and Zarowin, 2010; Vorst, 2016).

To summarise, accruals earnings management is prone to detection, whereas real earnings management is more difficult to detect. On the other hand, real earnings management alters cash flow from operations while accruals earnings management does not. Real earnings management is riskier due to the cash flow volatility. Finally, the timing to engage in these two earnings management techniques is also different. Real earnings management is conducted during the accounting period. In contrast, accruals earnings management is usually applied at the end of the accounting period.

## 2.5 Conclusion

To conclude, this research perceives the high quality of earnings when a reported earnings number is faithfully prepared and reported without earnings management in order to capture the actual firm’s financial performance. Earnings management, in terms of accruals and real earnings management, is to be studied to reflect the quality of reported earnings and its definition in this research lies within the opportunistic perspective. Following prior research, it is obvious that earnings quality and earnings management are referred to interchangeably, although the concept of earnings quality is broader.

Earnings quality and earnings management become more essential and controversial issues in accounting after accounting misconducts occur. It also receives significant concern from researchers, regulators, and practitioners (Dechow and Skinner, 2000), because earnings management practices may reduce the reliability, one of the primary qualitative characteristics of accounting information. As a result, unreliable financial information may cause a financial crisis, as discussed by Barnes (2011). Accordingly, researchers have attempted to identify what determinants can constrain earnings management or promote a higher quality of accounting earnings on the other hand. Dechow, Ge, and Schrand (2010) summarise that there are six primary groups of earnings quality determinants: firm attributes, accounting and reporting practices, governance and control mechanisms, capital market motivations, external auditors, and external relevant factors.

This research aims to study the effect of governance mechanisms as the determinants of earnings quality. The theoretical framework and empirical evidence underpinning a link between governance mechanisms and earnings quality are reviewed and discussed in Chapter 3.

# CHAPTER 3

# The Link between Governance Mechanisms and Earnings Quality: Theoretical Perspective and Empirical Evidence

## 3.1 Introduction

The previous chapter reviewed the concepts of earnings quality and earnings management in order to provide a fundamental understanding of the accounting phenomenon, which this research aims to study. This chapter, reviews and discusses the applicable theories, along with relevant empirical findings from literature to underpin the association between governance mechanisms and earnings quality. The literature review demonstrates the current state of knowledge that prior research has provided to date. It should also enable one to evaluate the adequacy of theoretical beliefs and its verification with empirical evidence. This chapter begins with an overview of governance concepts (Section 3.2), followed by a theoretical discussion (Section 3.3). Finally, the extant empirical findings are reviewed and discussed in Section 3.4 and 3.5 in order to complement the theoretical discussion.

The critical review technique is applied in this study in order to critically evaluate the current state of knowledge. Paré *et al.* (2015) explain that this literature review technique does not simply incorporate all relevant studies together. In contrast, the critical appraisal is required in a critical literature review so that inconsistency, weakness, and contradictions in the existing knowledge can be identified. Apart from Paré *et al.* (2015), Grant and Booth (2009) further describe that the various materials from relevant sources will be critically analysed and synthesised under a critical review technique. Therefore, it allows researchers to explore and discuss the adequacy of current knowledge extensively and critically. Turner (2018) provides more comments regarding the effective literature review in which it should present the critical research idea by synthesising all relevant data instead of only summarising what prior research has been done so far. Critical synthesis is necessary for writing an effective literature review in this sense (Maier, 2013).

Accordingly, a critical review enables researchers to address the void where further research is needed to fulfil or to expand existing knowledge (Grant and Booth, 2009; Paré *et al.*, 2015; Saunders, Lewis and Thornhill, 2016). The merit of a critical review is mainly said to strengthen the current state of knowledge. This notion is supported by Grant and Booth (2009), who point out that knowledge typically evolves throughout an accretion process by adding a new part to its forerunners. Therefore, the value of prior research must be a vital foundation for knowledge development.

## 3.2 Overview of Governance Mechanism

In short, corporate governance is mentioned by Shleifer and Vishny (1997) as the mechanisms introduced by financial suppliers of the firm in order to ensure that they will obtain a return from their investments. Such mechanisms might be used to solve a conflict of interest between principals and agents in modern corporations (Jensen and Meckling, 1976; Morck, Shleifer and Vishny, 1988; Shleifer and Vishny, 1997). Similarly, Renders and Gaeremynck (2012) agree that most corporate governance mechanisms are introduced to constrain the principal-agent agency conflict. In this respect, governance mechanisms are employed to control agency problems and other potential risks within firms. In fact, Chen and Lin (2016) further discuss that there are two main mechanisms; motivation and control, for which corporate governance at the firm level has been utilised. The compensation system is considered as a motivated mechanism, while the concepts of ownership and board of directors fall into the control system. All of these mechanisms aim to increase efficiency in the firm (Brown, Beekes and Verhoeven, 2011).

There is also much evidence affirming that the three aforementioned sets of governance influence firm outcomes, including earnings management practices (e.g. Bilal, Chen and Komal, 2018; García-Meca and Sánchez-Ballesta, 2009; Oehmichen, 2018; Schiehll and Martins, 2016)[5]. Among the three prevalent internal governance mechanisms at the firm level, ownership characteristics are studied in this research as a determinant of earnings management. The following sections will discuss the significance of ownership under the governance perspective.

### 3.2.1 The Role of Ownership under Governance Mechanism

Ownership is one of the core factors in governance research because it has been referred to as a root of agency conflict according to agency theory (Aguilera and Crespi-Cladera, 2016). It also demonstrates a control mechanism at the firm level since owners have the monitoring power over the management team (Donnelly and Lynch, 2002; García-Meca and Sánchez-Ballesta, 2009). Researchers argue that differences in ownership characteristics are likely to influence governance consequences in the sense that owners direct the firm’s strategies and nominate a board of directors (Aguilera and Crespi-Cladera, 2016; Bao and Lewellyn, 2017; Sugathan and George, 2015).

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[5] These papers provide a review of literature concerning firm-level governance mechanisms and their outcomes. Some also review the effect of governance mechanisms at the country level on firm outcomes.

A systematic review conducted by Schiehll and Martins (2016) revealed that ownership characteristics have often been integrated with country-level governance variable(s) to investigate the effect of multilevel governance. Aguilera and Crespi-Cladera (2016) also note that it is easier for researchers to compare ownership characteristics across countries instead of comparing other aspects of governance, such as a board of directors, which is more subjective and dependent on the national framework or requirements. Accordingly, this research aims to investigate the effect of ownership, an internal governance mechanism at the firm level, on earnings quality; one of the governance outcomes. Applicable theories to underpin such a link and the empirical evidence to prove such theoretical claims are critically discussed in the following sections.

## 3.3 Theoretical Framework and Theoretical Justification

There are pivotal theories that prior research has discussed and applied to underpin research hypotheses due to the effect of governance mechanisms on the quality of reported earnings. It is crucial to discuss each of these before the justification is finalised. The theoretical framework enables researchers to link research findings with research assumptions. In addition, the theoretical foundation would raise the concern of research design (Saunders, Lewis and Thornhill, 2016). Despite many theories discussed in literature, the applicable theory is the theory that fits well with the specific research contexts (Alghamdi, 2012).

Consideration of the extant literature should help one to justify what theoretical assumptions should link governance practice and the quality of accounting earnings. Mallin (2016) discusses several theories in relation to governance mechanisms, some of which are in line with the alternative theories discussed in accounting research (Hoque, 2006). Alternative theories are discussed below.

### 3.3.1 Stewardship Theory

The concept of "Stewardship Theory" is one of the alternative theories used to underpin governance research (Mallin, 2016). The underlying concept of such a theory is contradictory to the idea of agency theory (Donaldson and Davis, 1991). Agency theory views the separation of ownership and control as a potential cause of management opportunism and governance mechanisms must be in place to solve such a problem. Stewardship theory, on the other hand, takes a psychological perspective and its assumption is a goal-convergence between principals and agents (Joslin and Müller, 2016). Consequently, the conflict of interest will not appear under this theoretical perspective. Managers are believed to maximise profit for the organisation rather than seek private profit for themselves. Therefore, the core concept of this theory relies on trust and profit alignment (Kluvers and Tippett, 2011), which may possibly appear in some research contexts. For example, some researchers implement stewardship theory in the context of not-for profit organisations (Kluvers and Tippett, 2011). This research, however, focuses on the earnings management phenomenon that is perceived as opportunistic behaviour. In this respect, the assumptions of stewardship theory are unlikely to work within this research context.

### 3.3.2 Stakeholder Theory

Alternatively, "Stakeholder Theory" has also been discussed in governance and accounting literature (Hoque, 2006; Mallin, 2016). Mallin (2016) explains that the core concept of stakeholder theory is closely associated with agency theory. However, stakeholder theory takes a broader view by focusing on the concept of maximising stakeholders' interests rather than only focusing on shareholders. Specifically, such a concept is derived from the sociological perspective instead of the economic perspective of agency theory (Jensen, 2010). The study conducted by Mattingly, Harrast and Olsen (2009) is one example that implements stakeholder theory to underpin their theoretical framework. In this case, they investigate the effect of stakeholder management on the quality of earnings. In contrast, the focus of this study is on the effect of shareholders rather than all the firm's stakeholders. Thus, economic agency theory, which mainly focuses on the conflicts of interest between principals and agents, is likely to be more applicable in this research context.

### 3.3.3 Agency Theory

It is of no surprise that agency theory has been mentioned as a predominant theory that researchers have relied on in the field of governance and earnings management (Dinh and Calabrò, 2018; Filatotchev, Nakajima and Jackson, 2012; Rahman,Yammeesri and Perera, 2010a). The reason for this is that the essential purpose of governance mechanisms is to solve or mitigate the agency problem, which occurs when the benefits of principals and agents are non-aligned (Mallin, 2016). The elemental concept of this theory was introduced by Berle and Means (1932), who underline the divorce concept between the power of control and ownership in modern organisations. The concept of ownership dispersion is also mentioned as a basic assumption along with the notion of separation between control and ownership. Owners are recognised as principals and professional managers are agents. Managers are typically nominated by owners and respond to day-to-day business activities. Thus, the premise of agency theory essentially focuses on the conflict of interest between owners and managers (Mallin, 2016).

According to such a concept, Jensen and Meckling (1976) argue that the firm is a nexus of contracts among its stakeholders and the separation between principals and agents may cause agency problems due to a conflict of interest between them. Management opportunistic behaviour should be one of the agency problems when managers pursue their own benefits over their principals' (Fama and Jensen, 1983; Jensen and Meckling, 1976). Opportunistic behaviour could be even worse under the circumstance of information asymmetry, where individual market participants do not have symmetric information of the firm. Specifically, the agents have a superior ability to access the private information of the firm compared to their principals (Bartov and Bodnar, 1996). Hoque (2006) mentions two particular agency problems; moral hazard and adverse selection, which may also arise under the circumstance of information asymmetry. Obtaining more information about the firm may facilitate management to manage reported earnings easily (Richardson, 2000). These concerns raise the critical question of how principals can ensure that their agents would act in their interests and how they can ensure an investment return (Shleifer and Vishny, 1997). Given such questions, it encourages the firm to set up the governance mechanisms in order to reduce potential agency conflicts.

Accordingly, agency theory has been applied in much research to explain management's incentives regarding the selection of accounting choices, which eventually affect the financial reports quality (Bilal, Chen and Komal, 2018; Kosonboon, 2004). Such a claim is consistent with the review conducted by Oehmichen (2018) and Schiehll and Martins (2016). They reveal that agency theory is a commonly used theory for underpinning the link between governance mechanisms and its outcomes at the firm level (e.g. firm performance, firm value, financial report quality, financial disclosure, and financial risk). Altogether, the underlying concepts in agency theory reflect how governance mechanisms would link with the quality of reported earnings as a theoretical lens. Hence, it is selected as one theoretical framework to underpin the hypotheses proposed in this research (see Chapter 4 Section 4.4).

#### 3.3.3.1 Critical Evaluation of Agency Theory

Agency theory, however, has been criticised due to its inability to explain the conflict of interest occurred in different contexts. Researchers have argued that the traditional view of this theory might not be applicable in explaining the conflict of interest in every single organisation around the globe. La Porta, Lopez-De-Silanes and Shleifer (1999), propose and commend that the agency problem in most modern organisations does not stem only from managers and shareholders, as the traditional agency theory articulates. Agency conflict is also raised by majority shareholders who dominate corporate policies, including accounting choices. These shareholders might compel managers to implement accounting treatments that enable them to exploit the benefits of minority shareholders. Young *et al.* (2008) also agree that the agency problem does not appear in a single form for all corporations around the world. Similarly, Rahman, Yammeesri and Perera (2010a) argue that agency theory is likely to explain organisational conflict in specific settings.

The study by La Porta, Lopez-De-Silanes and Shleifer (1999) also confirms that the concentrated ownership characteristic appears widely around the globe when compared to the dispersed ownership characteristic. Thus, researchers contend that the traditional agency conflict (Manager-Shareholder) seems to exist in the US or the UK where the separation of ownership and control is obvious (e.g. Bao and Lewellyn, 2017; Ernstberger and Grüning, 2013; Fan and Wong, 2002; Oehmichen, 2018; Rahman,Yammeesri and Perera, 2010a; Renders and Gaeremynck, 2012). According to the literature, there are two forms of conflict of interest under agency theory: Principal-Agent conflict (Shareholders-Managers conflict or Type 1) and Principal-Principal conflict (Majority-Minority Shareholders conflict or Type 2). These two forms are in relation to ownership characteristics and are discussed below.

#### 3.3.3.1.1 Type 1 Agency Problem: Shareholders and Managers

This type illustrates the traditional agency conflict, introduced by Berle and Means (1932) and Jensen and Meckling (1976), based on their theory of the firm. The separation between ownership and control is likely to induce management opportunistic behaviour because of the divergence of interest between owners and managers, especially when managers are not the owners of firms. Opportunistic behaviour, including engaging in earnings management, which eventually reduces the quality of reported earnings and damages the principals' interests, is likely to be induced by management.

The dispersed ownership characteristic is mentioned to emerge Principals-Agents conflict (Type 1) (Aguilera and Crespi-Cladera, 2016; Fan and Wong, 2002). Specifically, individual outside shareholders may not have enough power to discipline the managers in such diffused ownership firms. However, La Porta, Lopez-De-Silanes and Shleifer (1999) argue that even in US corporations, most companies do not have the diffused ownership, except for a few corporations. Thus, the concern of conflict of interest, which normally stems from managers and shareholders, is likely to exist only in some regions or even corporations.

#### 3.3.3.1.2 Type 2 Agency Problem: Majority Shareholders and Minority Shareholders

According to Gomes (2000), most recent literature in governance has focused on the agency problem which occurs between majority and minority shareholders instead of managers and owners. This is known as type 2 agency problem, which occurs in many countries around the world (Gomes, 2000; La Porta, Lopez- De- Silanes and Shleifer, 1999; Shleifer and Vishny, 1986). The expropriation is potentially raised by controlling shareholders who have power over the firm through voting rights. In this case, earnings are probably managed to deceive minority shareholders who may not have enough power to monitor the firm. Controlling shareholders might control accounting policies by governing management discretion in their own favour. This type of agency problem might become more hazardous in countries where legal systems to protect the minority right are not in place or enforced (La Porta, Lopez- De- Silanes and Shleifer, 1999).

Due to the uniqueness of ownership characteristics, agency conflicts might vary among countries or even among firms. This raises the critical concern of whether the perspective from agency theory is sufficient for explaining the opportunistic behaviour induced by managers or majority shareholders. Accordingly, this research argues that agency theory, which has been applied in previous studies, might not be able to explain the phenomena of governance and earnings management profoundly. The universal principle of the traditional agency theory has been critiqued and thus may cause the ambiguous interpretations of empirical findings conducted in different contexts. The inconclusive findings in empirical papers are discussed later in this chapter under the empirical part (see Section 3.4). Additionally, this research suggests that in order to better explain why the evidence of corporate governance to support the quality of reported earnings is mixed in the extant literature, the theoretical extension should be required to broaden the theoretical perspective.

The extension of theory is also suggested in earlier research. Dinh and Calabrò (2018), for example, conduct a meta-analysis with respect to the effect of corporate governance in family firms and 148 academic papers published between 1980 and 2015. Dinh and Calabrò (2018) criticise existing research papers which rely on the underlying assumptions of traditional agency theory that focus on the conflict between shareholders and managers. This reveals a gap in the literature because such a conflict is not likely to appear in every single organisation. In western organisations this conflict may be clearly seen. The authors also suggest that the insufficiency of theoretical assumptions to explain organisational behaviour should encourage researchers to consider a multi-theoretical view for underpinning their conceptual framework. The holistic theoretical perspective might be necessary for some research contexts. Corporate governance is one of the organisational practices that may differ among countries depending on the institutional surrounding (Dinh and Calabrò, 2018). Boyd and Solarino (2016) provide a similar suggestion with Dinh and Calabrò (2018). They mention that agency theory should be incorporated with other applicable theories in order to expand the theoretical perspective.

Davis-Friday (2010) also notes that institutional settings among countries are likely to moderate the extent to which agency conflict appears in a particular context. In particular, institutional settings are perceived as country-level governance (Ernstberger and Grüning, 2013; Martins, Schiehll and Terra, 2017; Rahman,Yammeesri and Perera, 2010a). Thus, it is reasonable to propose that the institutional lens can also be applied to explain the effect of governance mechanisms on the quality of reported earnings. Recently, researchers have suggested applying the institutional theory as one applicable theory for underpinning the link between governance mechanisms and their outcomes. Oehmichen (2018), for example, suggests that future research with respect to the effect of governance mechanism should broaden the theoretical view by going beyond (but not disregarding) the traditional agency theory. The institutional theory is recommended as the theoretical assumption by Oehmichen (2018) and other scholars (e.g. Bao and Lewellyn, 2017; Boyd and Solarino, 2016; Rahman, Yammeesri and Perera, 2010a) to explain why governance outcomes vary in different contexts.

To date, researchers have applied the institutional theory for explaining the effect of the governance mechanisms. However, most research papers focus on firm performance (e.g. Lozano, Martínez and Pindado, 2016; Nguyen, Locke and Reddy, 2015), debt maturity (e.g. Martins, Schiehll and Terra, 2017), or firm disclosure (e.g. Ernstberger and Grüning, 2013) as the governance outcomes. According to Bilal, Chen and Komal (2018), earnings quality should also be one of the governance outcomes. However, the effect of governance on earnings quality is an under-researched topic that is hardly underpinned by the holistic theoretical view.

This research, therefore, proposes that institutional settings are also crucial factors because such national governance might conceivably influence the effect of firm-level governance. Hence, institutional theory that explains the social framework of behaviour (Barley and Tolbert, 1997) should be considered together with agency theory as the selected theories in this research. The integration between institutional and agency theories are expected to better explain the analysis of corporate governance and earnings management because such behaviour is potentially influenced by external factors (Bao and Lewellyn, 2017). The improvement of theoretical understanding is also expected to be a better guide for empirical development in respect of governance practice, which in turn may advance the quality of financial information. Institutional theory is discussed in detail below.

### 3.3.4 Overview of Institutional Theory

Institutional theory was brought to researchers' attention when the study of exogenous factors embedded in the macro contexts where traditional agency theory alone may not be able to explain (Juric, Rankin and Birt, 2018). As referred to by Rahman, Yammeesri and Perera (2010a) and Davis-Friday (2010) state that institutional settings could explain the variation of earnings quality across countries. In essence, institutional theory helps to explain how external environment drives organisational behaviour (Tuttle and Dillard, 2007). Accordingly, the backbone of this theory relies on the sociological perspective (Barley and Tolbert, 1997) and a firm is viewed as an "adaptive vehicle" that can be shaped and can accommodate itself to respond to external environments (Scott, 1987, p.494). In this respect, firms within a similar environment are likely to behave in a similar manner. Consequently, researchers mention that national institutions play a significant role in forming social patterns and organisational behaviour (Meyer and Rowan, 1977; Wendt, 2016).

Scott (2014) explains the definition of institution as the mechanism comprised of regulative, normative, and cognitive aspects. These aspects also become three pillars of the institutional theory. In short, the regulative aspect is dealing with regulations setting, monitoring systems, and a reward-punishment system, known as a sanction. This aspect normally supports social order and, in turn, governs individual behaviour. Legitimacy is created by the regulative aspect (Kury, 2007). The second pillar, namely the normative dimension, includes values and norms. Both complement each other to determine the desired behaviour in society. The last pillar, cultural-cognitive, informally constructs the common form of belief in society as the way people do things.

#### 3.3.4.1 Institutional Theory in Organisational Studies

Although institutional theory is a predominant theory in political science (Wendt, 2016), it has recently been incorporated into the studies of organisations because national institutions can influence organisational functions and behaviour (Heugens and Lander, 2009; Dimaggio and Powell, 1983; Scott, 2014; Siegel, Agrawal and Rigsby, 1997; Zucker, 1987). To survive, organisations need to adapt to the external environment, which is perceived as the legitimacy of external control (Zucker, 1987). Moll, Burns and Major (2006) discuss the development of institutional theory derived from “Old Institutional Theory” that originally emerged from sociology, politics, and law. The central focus of the old view is the examination of institutions at the macro-level contexts in social and economic systems. Another dimension of this theory is called “New Institutional Theory”. DiMaggio and Powell (2012) point out that there are several standpoints from scholars on the contemporary institutionalism debated in the literature. However, “New Institutional Economics (NIE)” and “New Institutional

Sociology (NIS)” are prominent perspectives which can be applied in organisational and accounting studies (Moll, Burns and Major, 2006, p.183).

Briefly, new institutional economics focuses on a transaction as a unit of analysis and institutions are constructed to economise transaction costs which may occur in the circumstances of incomplete information (DiMaggio and Powell, 2012). From that point of view, there are other theories that are derived from new institutional economics and the best known is the “Transaction Cost Economics Theory” (Mallin, 2016). On the other hand, the key assumption of the new institutional sociology, another lens of the new institutional theory, is the adaptation of organisational behaviour to the institutional factors (Moll, Burns and Major, 2006). As mentioned earlier, the aspects of institutions under the institutional theory are regulative, normative, and cognitive (Moll, Burns and Major, 2006; Scott, 2014). Therefore, institutions are represented in both formal and informal manners through social structures and cultures. These institutions are influential factors in shaping organisational behaviour. Firms that are embraced in similar institutions become more homogeneous, known as “Institutional Isomorphism” (Dimaggio and Powell, 1983, p.149). There are three key factors that drive isomorphism in organisations, which is modelled by DiMaggio and Powell (1983) and summarised by Moll, Burns and Major (2006). This is presented in Table 3.1.

**Table 3.1 Mechanisms of Institutional Isomorphism**

| Mechanisms | Effect |
|---|---|
| Coercive Isomorphism | "Whereby impinging external factors, (e.g., government policies, regulation, supplier relationships) exert force on organisations to adopt specific internal structures and procedures". |
| Mimetic Isomorphism | "Whereby organisations emulate the internal structures and procedures adopted by other organisations". |
| Normative Isomorphism | "Whereby organisations adopt the structures and procedures advocated by dominant professions, professional bodies and/or consultants". |

**Source:** Moll, Burns and Major (2006, p.183)

To summarise, the institutional perspective strongly advocates the interaction between internal behaviour of an organisation and its external environment. It emphasises the matter of context as the micro-explanation in organisational study. The following section discusses the implementation of such a theory in governance and accounting studies.

### 3.3.4.2 Institutional Theory in Governance and Accounting Studies

Accounting, organisations, and institutions are intertwined in nature. The investigations of the interplay roles between accounting and organisations or between accounting and institutions exist in the literature to ensure their association. For example, Chapman, Cooper and Miller (2009) recommend that institutions, organisations, and accounting should be regarded as interdependent systems. Hence, these individual mechanisms should not be exclusively studied. This argument may shed light on the important question as to why accounting behaviour in different contexts varies (Rahman, Yammeesri and Perera, 2010a). In order to broaden the interpretation of such phenomenon, national institutions, which are also deemed as the financial reporting environment, should be considered. From this perspective, institutional theory is a potential theory for explaining the variation in accounting behaviour.

This theory not only explains the divergence of accounting practices in different contexts, but is also likely to explain the effectiveness of governance systems (Young *et al.*, 2008). Institutional settings are perceived as country-level governance, which usually fluctuates between countries, and researchers believe such factors may influence governance mechanisms at the firm level (Dinh and Calabrò, 2018; Ernstberger and Grüning, 2013; Martins, Schiehll and Terra, 2017; Nguyen, Locke and Reddy, 2015; Sugathan and George, 2015). Kumar and Zattoni (2013) also argue that there are theoretical and empirical voids in the literature regarding the interaction roles of governance mechanisms between the firm and country levels. Such a deficit requires further research.

The insufficiency of theoretical perspective induced by disregarding the external contexts, where the firm is embedded, in governance research may mislead researchers in explaining the inconclusive findings derived from different contexts (Aguilera *et al.*, 2008). Likewise, the studies of earnings management or earnings quality in accounting research have also been criticised. The reason is that the motivation of earnings management does not solely rely on the self-interest of the agency concept. Conversely, it may also be influenced by institutional aspects, which are regulative, normative, or cognitive (Kury, 2007). External factors are also likely to pressure management into committing (or not) to earnings misrepresentation. Similarly, Ball, Robin and Wu (2003) argue that the incentive of financial preparers is a significant factor for improving the quality of financial reports and it is normally influenced by institutional factors such as accounting standards enforcement, market enforcement, and regulations. Accordingly, the effect of institutional settings may moderate the link between governance mechanisms and earnings quality across countries.

The institutional perspective, therefore, induces a new research stream focused on examining how institutions shape agency conflict (Davis-Friday, 2010; Filatotchev, Nakajima and Jackson, 2012; Oehmichen, 2018). More specifically, Kury (2007) argues that institutional theory would complement agency theory in order to better explain the earnings management phenomenon in two respects. First, institutional theory would take all environmental factors surrounding the earnings management phenomenon into consideration rather than depending on the self-interested motive, which is the centre of agency problem. Thus, the theoretical lens is widened. Additionally, the institutional lens may contribute a better explanation for the inconclusive empirical evidence conducted in different contexts.

This research also contends that the institutional contexts, such as the efficacy of legal environment, the degree of minority shareholders protection, and the enforcement of accounting standards as mentioned in the literature (La Porta *et al.*, 1998) are likely to influence the behaviour of managers and shareholders over earnings management practices. In this respect, institutional theory is applicable as one of the selected theories, together with agency theory, for underpinning the moderating effect of institutional settings in this research propositions. Although agency theory, the dominant theory in governance and earnings management studies, has received more and more criticism, Oehmichen (2018) continues to suggest that agency theory should not be ignored in governance research. On the contrary, it in fact needs to be extended. This statement is also consistent with the argument proposed by Davis-Friday (2010) who discusses that the notion of agency conflict does exist in every single organisation but the differences in institutional settings would influence the appearance of such conflict. Therefore, considering those theories together is necessary for this research study. Filatotchev, Nakajima and Jackson (2012) compare the key assumptions of agency theory and institutional theory and this is presented in Table 3.2.

According to Table 3.2, principal-agent is the focus in agency theory, whereas the institutional lens considers organisational actors and external environment as an intertwined system. In other words, the agency perspective sets the “Context-free” for agency conflicts, and thus introduces a universal set of corporate governance to mitigate such problems. In contrast, the institutional framework proposes that agency conflicts vary depending on the context. Implicitly, the nature of conflicts between principals and agents is likely to be shaped by a specific context and fluctuates depending on the environment. Accordingly, the same set of governance might not yield the same outcomes. The effectiveness of corporate governance is likely to be contingent on its institutions (Filatotchev, Nakajima and Jackson, 2012).

**Table 3.2 The Key Assumptions between Agency and Institutional Perspectives of Governance**

| | **Principal-Agent Model** | **Institutional Corporate Governance Framework** |
|---|---|---|
| Research Focus | Mainly focusing on managers and shareholders | Mainly focusing on managers, shareholders, stakeholders, and institutional contexts |
| Organisational Context | Focusing on the conflict of interest between managers and shareholders as a universal conflict | Recognition of differences between the extent and nature of agency conflicts in various institutional environments |
| Organisational Solutions | A set of universal corporate governance remedies, including:<br>- board monitoring<br>- concentrated ownership<br>- executive incentives<br>- market for corporate control | Recognition that national institutions may impact upon the effectiveness of corporate governance solutions; some of them may have unintended consequences |
| Account for National Institutions | “Context-free” approach which does not consider the differences of institutional contexts into account. Mostly focusing on the US/UK environment | “Contextualisation” of agency conflicts and focus on moderating effect of national institutions |
| Policy Implications | - Convergence of institutional frameworks<br>- Universal effectiveness<br>- Law and codes shape markets | - Diversity of institutional frameworks<br>- Functional equivalence, unintended consequences<br>- Law and codes shape networks, associations, and professional orientations |

**Source:** Filatotchev, Nakajima and Jackson (2012, p.969)

## 3.4 The Link between Ownership and Earnings Quality from Empirical Perspective

Following a theoretical perspective, there are two main research streams that have been empirically conducted to prove the effect of governance mechanisms on the quality of reported earnings. In the first stream, researchers have investigated the effect of ownership characteristics and their identities as governance mechanisms, at the firm level, on earnings quality. Most studies in this stream employ agency theory to underpin the link between ownership characteristics and earnings quality. On the other hand, the second research stream focuses on the effect of institutional settings as country-level governance to influence earnings quality by applying the institutional lens. The empirical evidence regarding the effect of ownership characteristics and institutional settings on earnings management or earnings quality are reviewed in the following sections.

### 3.4.1 Ownership Characteristics and Earnings Quality: Agency Theory Perspective

Researchers have proposed that ownership characteristics should influence the quality of reported earnings by referring to the convergence of interest and entrenchment effect derived from agency theory. The convergence of interest proposes that when agents (managers) become owners, their interest should be aligned with the principal's interest. Accordingly, the conflict of interest is conceivably decreased (Jensen and Meckling, 1976). In addition, the incentive for opportunistic behaviour would be reduced and earnings management is unlikely due to the presence of interest convergence. This effect has also been applied to explain the relationship between ownership characteristics and earnings quality in Type 2 agency conflict (Majority-

Minority shareholders). When the ownership structure becomes more concentrated, the interests of majority shareholders are likely to align with the firm value. In this regard, such shareholders would avoid engaging in earnings management that may eventually harm the value of the firm in the future. In contrast, majority shareholders are likely to act as an active monitoring mechanism.

The entrenchment effect, on the other hand, provides a contradictory perspective to describe the effect of ownership characteristics on earnings quality. In firms with concentrated ownership, majority shareholders can control the essential policies including accounting treatments. If majority shareholders have more power, it may encourage them to act in their own interest and the expropriation is likely in such a circumstance (Morck, Shleifer and Vishny, 1988). Earnings management might be performed in order to mask the wealth transfer. To complement a generic point of view, the empirical evidence in the debate of convergence and entrenchment effect is reviewed below.

#### 3.4.1.1 Ownership Concentration and Earnings Management

The empirical findings regarding the effect of ownership concentration is mainly proposed in countries outside the US, for example, China (Guo and Ma, 2015), Malasia (Hussein and Hasnah, 2016), Taiwan (Chi *et al.*, 2015), East Asia (Fan and Wong, 2002), Western European and East Asian countries (Lyu,Yuen and Zhang, 2017), or Bazil (Sousa and Galdi, 2016). Although these studies apply agency theory as a fundamental concept in their research, the theoretical viewpoint of agency conflict differs from the traditional viewpoint in the sense that the conflict occurs between majority-minority shareholders (Type2) (Clacher, Hillier and McColgan, 2010; Fan and Wong, 2002; Oehmichen, 2018; Young *et al*., 2008). Ojo (2013) argues that concentrated ownership could be viewed from two angles. The active monitoring hypothesis (convergence of interest) could reflect a positive side, whereas the empirical findings regarding the transparency issue in firms with concentrated ownership is reminiscent of its moral hazard (entrenchments effect). These arguments prompt the competing hypotheses for the effect of ownership concentration on earnings quality or earnings management in the literature. The majority findings from much research reveal that earnings quality is likely to be lower when ownership becomes more concentrated (Fan and Wong, 2002; Guo and Ma, 2015; Lyu, Yuen and Zhang, 2017; Qaiser Rafique, Abdullah Al and Margurite, 2017; Sousa and Galdi, 2016).

Among those studies, Fan and Wong (2002) provide comprehensive evidence from seven East Asian countries where ownership is more concentrated. The authors discuss how the legal system and its enforcement might not be able to protect property rights of the owners effectively. The majority shareholders are deemed to act as a disciplinary tool for monitoring other stakeholders. However, their findings support the entrenchment effect rather than the active monitoring effect. Majority shareholders are likely to manipulate report earnings in order to cover their expropriation. The empirical evidence shows that the presence of controlling shareholders reduces the informativeness of reported earnings. Further to this finding, Fan and Wong (2002) discuss how ownership characteristics are significant factors which influence how firms prepare financial reports. Fan and Wong (2002) consider ownership concentration as the representation of the institutional pattern in East Asia, although it varies at the firm level. They emphasise that the context matter is a concern for accounting practices. The remarkable discussion in their paper articulates that policymakers need to consider institutional settings in order to dictate the proper set of regulations.

In contrast, Wang (2006) introduces contradictory evidence from a US context, in which the institutional settings are considerably different from East Asia. The evidence reveals that concentrated ownership in terms of family shareholders significantly reduces the abnormal discretionary accruals. More precisely, the convergence of interest appears in that region when the firm has majority shareholders. More recently, Dou *et al.* (2018) revealed a similar finding to Wang (2006) through data from a US context; S&P 1,500 firms from 1996-2009. The finding shows that the presence of blockholders, who normally held at least 5% in the firm, exert a threatening effect on management, and thus decreases the incentive of earnings management. A large shareholder should be able to obtain private information and might leave the firm immediately due to poor financial performance. Given such threats, it encourages managers to think about long-term value instead of short-term performance. In this regard, Dou *et al.* (2018) state that the existence of a blockholder aligns management behaviour with the interest of shareholders as a governance mechanism.

In addition, Lyu, Yuen and Zhang (2017) provide an in-depth analysis using samples from East Asian and Western European countries. Their findings illustrate that concentrated ownership induces lower quality of earnings. Interestingly, its effect is exacerbated in a collective culture, making lower earnings quality more pronounced in East Asian countries. Considering such findings could support the argument that institutional contexts do matter to moderate the relationship between ownership characteristics and the quality of reported earnings.

Most aforementioned research applies the accruals-based or market-based perspectives to measure earnings management or earnings quality. The following part will discuss prior research which investigates how ownership concentration influences real earnings management, one strategy of conducting earnings management.

#### 3.4.1.2 Ownership Concentration and Real Earnings Management

Goh, Lee and Lee (2013) investigate the role of majority shareholders on real earnings management (REM) by using data from South Korea. The convergence and entrenchment effects are applied to generate the hypotheses. The authors comment that real earnings management, which influences cash flow from operations, likely reflects the true agency problem between majority and minority shareholders. The consequences of such an earnings management strategy are likely to harm long-term performance of the firm and eventually affect the interest of majority shareholders. Therefore, the authors propose that there is less motivation for majority shareholders to engage in REM during the current period. REM is expected to decrease when the ownership stake of majority shareholders increases.

The authors contend majority shareholders should be more sensitive to upward REM since its results will destroy the value of the firm in the future. The result of a pooled regression from a pooled sample shows there is no systematic association regarding majority shareholders and REM. However, the result from additional testing through three clusters; upward, downward, and ambiguous earnings manipulation, as a subsample illustrates that when the proportion of shares held by majority shareholders increases, REM is decreased exclusively in the upward earnings management group. The authors discuss how the result is consistent with the proposed hypothesis. Specifically, majority shareholders are likely to curb the upward REM in order to avoid facing poor performance in the future.

Razzaque, Ali and Mather (2016) offer more evidence of REM in family firms from Bangladesh, where investor protection regimes are weak. The expropriation is expected in such family firms, which are usually held by controlling shareholders, due to the institutional environments in this country. Their hypothesis contrasts with Goh, Lee and Lee (2013), however, the authors expect the curvilinear relationship between family firms and REM. The findings reveal that family firms engage more in REM when compared with non-family firms. Additionally, the relationship is curvilinear; REM decreased once the family owns more than 30% of shares. The authors also conclude that the research findings seem to support the new rule introduced by the Bangladesh Securities Exchange Commission, which requires sponsors, promoters and directors hold their companies' shares, with at least 30% of the total paid-up capital in aggregate.

In addition, Achleitner *et al*. (2014) introduce comparative evidence by investigating two earnings management strategies, accruals-based and real earnings management, in German family firms. Interestingly, the authors applied the socioemotional wealth theory as their theoretical framework to propose the relationship between variables of interest and earnings quality. This theory is typically applied in research to explain common goals in the family business (Deephouse and Jaskiewicz, 2013). In order to transfer the business to descendants, family firms are likely to avoid risks such as earnings management, because such a practice may damage the value of the firm in the future. In this regard, earnings management is unlikely in family firms. The results show that earning management through real transactions is less likely in family firms. In conclusion, the long-term value is much more concerned with family firms even though the ownership characteristic is concentrated.

#### 3.4.1.3 Managerial Ownership and Earnings Management

In line with traditional agency theory, the separation of ownership and control possibly induces the conflict of interest between shareholders and managers, which is Type 1 agency conflict (Berle and Means, 1932; Fama and Jensen, 1983; Jensen and Meckling, 1976). In order to reduce such a conflict, prior literature has proposed to align shareholders' benefits and managers' benefits by increasing managerial ownership (Jensen and Meckling, 1976; Morck, Shleifer and Vishny, 1988). Accordingly, managerial ownership can be recognised as one aspect of corporate governance (Oei, Ramsay and Mather, 2008). However, to predict the behaviour of managers when they are also owners, the convergence and entrenchment effect should be considered (Morck, Shleifer and Vishny, 1988). Being shareholders might enable managers to behave opportunistically in the sense that they obtain more power and endure reduced pressure from external shareholders. The effectiveness of the monitoring system is a concern in such circumstances (Sánchez-Ballesta and García-Meca, 2007).

The empirical findings documented in prior research has supported the competing hypotheses of the convergence and entrenchment effect regarding the effect of managerial ownership on earnings quality. Generally, managers are responsible for adopting accounting choices and management discretion is allowed by GAAP (García-

Meca and Sánchez-Ballesta, 2009; Sawicki and Shrestha, 2014). In that regard, researchers believe that managerial ownership could possibly influence their discretion over accounting choices, which in turn determine the quality of financial information.

Among others, the study conducted by Warfield, Wild and Wild (1995) is a well-known paper that investigates managerial ownership and earnings quality. Agency perspective is applied to underpin their hypotheses. The fundamental argument is that managerial ownership would relax some contract restrictions, and thus reduces management incentives to manipulate earnings. In addition, the authors also argue that dispersed ownership might exacerbate information asymmetry because individual shareholders might lack the power (or incentive) to monitor managers. The results show that managerial ownership supports the stronger correlation between earnings and return. More specifically, earnings become more informative when managers own more shares. In addition to earnings informativeness, discretionary accruals are inversely related to the percentage of shares held by managers. This means when managers have reduced ownership, they are likely to exercise their discretion over accruals principles to alleviate the restriction of contract. Following the findings of Warfield, Wild and Wild (1995), managerial ownership falls into the convergence of interest hypothesis and it helps to improve earnings quality.

Likewise, Di Meo, García Lara and Surroca (2017) argue that managerial ownership could benefit external shareholders instead of exacerbating agency problems. They prove their premise by investigating the effect of managerial entrenchment on both accruals and real earnings management. Managerial ownership is examined as one of the entrenchment dimensions, along with CEO tenure and entrenchment index. They propose that the level of entrenchment would lead to a variation in earnings management incentive. The findings support their premise that accruals and real earnings management are less likely when managerial ownership is more entrenched. However, the optimistic effect of management entrenchment appears only in firms domiciled in the state of Delaware. Here, corporate regulations protect the firms from hostile takeover threats, which in turn reduces pressure on managers and support the optimistic effect of management entrenchment. According to such empirical findings, the external environment may modify management behaviour.

However, Gabrielsen, Gramlich and Plenborg (2002) introduce the dissimilar empirical evidence drawn from Danish firms. In general, the authors mention that the institutional settings in such a market are significantly different from the US. Their findings differ from Warfield, Wild and Wild (1995). Specifically, earnings informativeness is lower when the degree of managerial ownership is higher, whereas discretionary accruals are insignificantly associated with managerial ownership. Gabrielsen, Gramlich and Plenborg (2002) attributed the dissimilar results to the differences in institutional settings among countries as one factor to consider, along with sample size differences. The debate is important for future research to delve deeper. The study by Huang, Wang and Zhou (2013) also supports the negative effect of managerial shareholders, who are considered as insiders, on the quality of reported earnings. Overall, they mention that when managerial ownership is higher, the entrenchment effect appears, and it enervates the disciplinary power of external shareholders to control undesirable behaviour from management. Being an owner could insulate managers from shareholder monitoring.

#### 3.4.1.4 Managerial Ownership and Real earnings management

Unlike accruals-based earnings management, there are few papers which examine the impact of managerial ownership on real earnings management. Further research is needed to fulfil the lack of literature in this stream. Shayan-Nia *et al*. (2017) introduce evidence from an emerging market, Malaysia, in the period before “financially distressed rules” were enacted by stock market regulators. Real earnings management (REM) is investigated in terms of income manipulations and it is measured by the abnormal cash flow from operations and discretionary expenses. The authors contend that the level of REM should be positively associated with the degree of managerial ownership due to the entrenchment effect. However, their findings do not support that hypothesis because there is an insignificantly statistical link between managerial ownership and REM. The authors explain that the separation between ownership and management in that context is not obvious. Therefore, managers may have a lower incentive to carry out opportunistic earnings management.

In addition to Shayan-Nia *et al*. (2017) and Di Meo, García Lara and Surroca (2017) investigate the managerial entrenchment effect on both accrual and real earnings management, as mentioned earlier in the previous section. Their results reveal that managerial entrenchment can constrain both accruals and real earnings management. Sawicki and Shrestha (2014) add more evidence regarding the impact of insider trading, which is indirectly linked to managerial ownership, on both accruals and earnings management. The result indicates that insider trading is not related to REM after the Sarbanes–Oxley Act was enacted in 2002. It implies that management is much more concerned about the costs of REM. Such costs may be higher than management’s private benefits obtained from insider trading.

#### 3.4.1.5 Institutional Ownership and Earnings Management

The proportion of institutional investors has continually increased over time. Institutional investors, then, become one of the key factors in governance mechanisms (Koh, 2007). Their monitoring roles have been heavily researched over the past decade. From a theoretical viewpoint, the roles of institutional shareholders in improving the monitoring system is still debatable. Although they are perceived as significant investors who have crucial roles in corporate governance mechanisms (Mehrani, Moradi and Eskandar, 2017), they still need both an incentive and knowledge to act actively. It implies that not all of them can be active investors due to the differences in incentives and knowledge (Borochin and Yang, 2017). Given such an argument, it might lead to mixed findings in existing literature and two opposing perspectives are proposed in prior studies.

Empirically, researchers have provided evidence to support the active monitoring hypothesis of institutional shareholders. From this view, institutions are sophisticated investors who obtain better knowledge and experience to manage investment portfolios when compared to individual investors. They are also skilful investors who can analyse financial reports proficiently and thoroughly. Their ownership should allow them to discipline managers in order to improve the quality of financial reports (Velury and Jenkins, 2006). However, the entrenchment effect also exists in the literature when institutional investors become more concentrated.

In contrast with the active monitoring hypothesis, entrenchment effect or private benefit school of thought proposes that large institutional investors who can access the private information may act in their own interest in the circumstance of information asymmetries (Mehrani, Moradi and Eskandar, 2017). The study by Velury and Jenkins

(2006) empirically confirms the presence of those two schools of thought. The authors posit the notion of active monitoring and the private benefit hypothesis as their conceptual framework. The active monitoring hypothesis believes that the presence of institutional investors may reduce managerial opportunism. On the one hand, the private benefit hypothesis is comparable to the entrenchment effect, in which institutional investors are more likely to take advantage of accessing private information for their own benefits. The results of their study, by using the sample from the US context, show that in general institutional ownership, measured by the percentage of shares held by institutions, is likely to induce a high quality of earnings. However, when the level of institutional ownership is more concentrated, measured by the total percentage of shareholdings by the top five largest institutional shareholders, the quality of earnings is reduced.

The active monitoring effect of institutional investors to constrain earnings management is also supported by the study by Ajay and Madhumathi (2015a), Hashim and Devi (2012) and Jung and Kwon (2002). In addition, Chung *et al.* (2015) explain that typically institutional investors have ultimate goals to incentivise managers to increase firm performance and, in turn, increase the investment return. Institutional investors are likely to sell off their shares easily when the performance is unsatisfied. Therefore, the management of portfolio firms would take them seriously (Chang, Kang and Li, 2016). Institutional investors also demand a high quality of financial information for evaluating their portfolios. Given that, it should encourage managers to provide useful financial information in order to approach and maintain institutional investors (Hashim and Devi, 2012). Furthermore, institutional investors are assumed to obtain greater expertise and they are capable of monitoring management at a lower cost when compared to individual investors (Lin *et al.*, 2014). Lower cost of monitoring should also motivate them to oversee managers.

Recently, Mehrani, Moradi and Eskandar (2017) added more evidence from Iran. Two schools of thought, the incentive of monitoring and private benefit, are considered as the theoretical underpinning, which is similar to those of other studies in this area. The findings are similar to the study of Velury and Jenkins (2006) in which the presence of institutional ownership (in general) reduces both accruals and real earnings management. The evidence supports the active monitoring roles of institutional investors in this sense. However, the detailed analysis shows that only active institutional investors who are classified as long-term investors have a negative effect on earnings management. Conversely, there is no relationship between passive institutional investors and earnings quality. Passive institutional investors are classified as institutions with no representative joining the board of directors. The authors explain that passive investors may not have enough power to monitor firms and they may also lack the incentive to monitor financial reports.

The in-depth analysis conducted by Mehrani, Moradi and Eskandar (2017) emphasises that the behaviour of institutional investors is diverse. It is consistent with Bushee (1998), Koh (2007) and Boone and White (2015) who support the view that the preference of institutional shareholders is different depending on the incentive and it influences their behaviour for monitoring the firm. Due to the differences in incentive and knowledge among institutional investors, Lin and Manowan (2012), examine the relationship between institutional investors' composition and earnings management. Two competing hypotheses, active monitoring and private benefit, are considered to underpin their suppositions. The result indicates that short-term, or transient, institutional investors, who invest in diverse portfolios with high turnover, aggravate the higher of discretionary accruals. It reflects the fact that short-term institutional investors value higher income and they might put pressure on managers to report high earnings in the current period. Management myopia seems to appear. On the other hand, dedicated institutional investors, who invest in concentrated portfolios with low turnover, and quasi-indexing institutional investors, who invest in diversified portfolios with low turnover, do not have a significant statistical relationship to discretionary accruals. Lin and Manowan (2012) attribute the differences in the investment horizon which reflect institutional investors' behaviour and their goals.

More evidence provided by Koh (2007) supports such a claim. Koh (2007) examines the effect of different institutional investor types on accruals earnings management. The transient institutional investors are predicted to motivate management myopia because their preference relies on the current performance of the firm, which ultimately relates to stock price. When firm performance performs below expectations, institutional shareholders will dispose of their investment portfolios. On the other hand, long-term institutional investors are more concerned about performance in the long run rather than focusing on short-period return. Accordingly, they are deemed to increase good governance in the firm and earnings manipulation should rarely emerge in such a firm. The results show that long-term institutional investors constrain earnings management. On the other hand, transient investors positively relate to accruals earnings management.

#### 3.4.1.6 Institutional Ownership and Real Earnings Management

Few past papers have investigated the direct link between institutional ownership and real earnings management. There remains a dearth and future research is needed to address this. According to the definition of real earnings management, which primarily focuses on the distortion of economic underlying transactions through operational policies (Roychowdhury, 2006), the study by Bushee (1998) is the first notable paper to examine the influence of institutional ownership on investment policies, research and development investment in particular. The paper's motivation is based on the competing viewpoints of institutional investors in influencing management discretions. More specifically, institutional investors may put more pressure on managers to engage in myopic behaviour in order to achieve expected earnings. On the other hand, sophisticated institutional investors are believed to serve active monitoring and to mitigate earnings management myopia.

Bushee (1998) investigates the ongoing debate of institutional investors' roles in research and development (R&D hereafter) policies. Cutting R&D expenditure has been mentioned in existing literature as an earnings management technique. Overall, the result indicates that the higher institutional shareholders resulted in lower earnings management by cutting R&D. Active monitoring is supported in that case. However, when the sample is partitioned into subsamples, short-term institutional investors, who invest in diversified portfolios and have a high turnover rate, are likely to increase the probability of cutting R&D expenditures. It supports that such investors may pressure managers to boost current earnings. In contrast, Roychowdhury (2006) also examines the effect of institutional investors on REM. The result indicates that institutional ownership is negatively associated with REM. The active monitoring hypothesis is also supported by a study by Sakaki, Jackson and Jory (2017), who report that REM decreases when stable and long-term institutional owners increase.

#### 3.4.1.7 Foreign Ownership and Earnings Management

One research stream under ownership has focused on the effect of foreign ownership. Alzoubi (2016) points out that there are still two competing perspectives for explaining the roles of this type of ownership. First, the assumption of knowledge spill over supports the view that higher level of foreign ownership would reduce or curb earnings management. Foreign investors are believed to transfer superior knowledge, as well as better governance arrangements, from their home countries to the invested countries. Thus, they may act as an active monitoring system. The asymmetric information perspective, on the other hand, might be convinced to argue against knowledge spill over due to the distant disadvantage. Distance may cause some difficulties for foreign shareholders to monitor the firm actively. Likewise, Batten and Vo (2015) support these two views by explaining that foreign investors are considered to have more skills and more expertise in investment, and they are likely to better analyse portfolios in international contexts. However, they still face information asymmetry when compared to domestic investors.

Competing perspectives due to the presence of foreign ownership have been empirically confirmed in the extant literature. For example, Ben-Nasr, Boubakri and Cosset (2015) examine the effect of ownership identities in terms of state and foreign owners on the quality of earnings in privatised firms around the globe (45 countries). The authors argue that the characteristics of ownership may cause threats raised by shareholders. The findings show that a higher level of foreign ownership increases the quality of reported earnings. Intriguingly, the link between foreign ownership and earnings quality varies between countries. The link is stronger in countries where the government is stable and the risk from expropriation is low. Given such findings, it emphasises that national institutions do matter on the variation of how foreign ownership governs the quality of financial reports.

Likewise, the study by Yohan (2015) also supports the active monitoring effect in which foreign shareholders increase the conservative nature of the financial report in South Korea. Additionally, Fang, Maffett and Zhang (2015) add more evidence due to the roles of foreign investors on the comparability of financial reports. The evidence shows that US-institutional investors can encourage investee firms in other countries to increase financial report comparability. Similarly, Beuselinck, Blanco and García Lara (2017) learn that the home countries of foreign ownership are also important. The results from their study show that the presence of foreign ownership can lead to higher quality financial reporting. However, the link appears only if foreign shareholders' home countries have strong legal protections for investors.

#### 3.4.1.8 Foreign Ownership and Real Earnings Management

As mentioned in the previous chapter (see Section 1.1), the natures of accruals and real earnings management are different. Thus, the empirical evidence from accruals earnings management is unlikely to draw the inference in case of real activities manipulation. To date, there are a few papers investigating the relationship between foreign ownership and real earnings management. One existing paper conducted by Guo *et al.* (2015) to examine how foreign investors govern real earnings management in the Japanese market. The authors mention that REM would harm capital markets and less REM would result in high earnings quality. The difficulties of REM detecting, even by external monitoring mechanisms such as auditors or regulators, are likely to motivate management to implement this earnings management strategy rather than accruals earnings management. Active monitoring of foreign investors is posited in the sense that foreign investors could hamper REM practice. However, information asymmetry could be an additional concern because the distance and difference in organisation's norm may reduce the monitoring ability of foreign investors. The findings show that REM is negatively related to the level of foreign ownership. Firms with less foreign ownership are likely to manipulate earnings by implementing REM. Active monitoring of foreign ownership is supportive. Shayan-Nia *et al.* (2017) add more empirical evidence on the link between foreign ownership and REM. The authors argue that foreign shareholders should constrain the level of REM because they are likely to monitor firms rigorously. The results show that the level of foreign ownership is negatively associated with abnormal discretionary expenses.

### 3.4.2 Critical Evaluation of Empirical Findings and Research Gap: Agency Perspective

According to the empirical findings reported in the aforementioned research, the effect of ownership characteristics on earnings quality captured by earnings management is inconsistent across countries. In this regard, the general conclusion is dubious. The Meta-Analysis conducted by García-Meca and Sánchez-Ballesta (2009) discloses the substantial factors which are likely to influence the diversity in empirical findings regarding the link between ownership characteristics and earnings management. The differences in country-level governance in relation to institutional settings among countries are mentioned as a crucial factor in moderating the effect of firm-level governance[6] on discretionary accruals.

For that reason, García-Meca and Sánchez-Ballesta (2009) recommend that further studies should explicitly account for the effect of institutional settings. The recommendation given by those authors was recently underlined again by Bilal, Chen and Komal (2018) who conduct a meta-analysis of governance mechanism by considering the effect of the audit committees and earnings quality. The authors mention institutional arrangements as one of the potential moderators to temper the mixed findings in literature and it should be empirically addressed in future research. The moderating effect of institutional settings, which are perceived as external governance to moderate the link of ownership and its outcomes, are also discussed by Boyd and Solarino (2016).

Those recommendations echo the argument of Ball, Kothari and Robin (2000), who state that the effect of institutional settings at the country level should be accounted for in the research design in order to help researchers obtain a better understanding of how governance mechanisms work across countries. Institutional settings are likely to influence organisational behaviour in general and it may direct how firm-level governance is placed (Aguilera *et al.*, 2017; Bao and Lewellyn, 2017). Therefore, it is perceived as the “Rules of the game” (North, 1990, p.4).

Considering those arguments, this research argues that the diversity of institutional settings is likely to alter the link between ownership characteristics and earnings quality. The empirical results documented in prior studies need to be extended.

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[6] Board of directors and ownership are referred to in their analysis as firm-level governance.

Researchers might have a better understanding of how a conflict of interest underpinned by agency theory is empirically inconsistent among those of similar studies conducted in different contexts. Institutional theory would perhaps broaden the explanation of such inconclusive findings by considering the matter of context. Thus, institutional uniqueness will be considered as moderators in this research to incrementally explain such inconsistent results, which in turn strengthens the body of knowledge in governance literature (Boyd and Solarino, 2016; Dinh and Calabrò, 2018; Oehmichen, 2018). Contingency design by incorporating moderating effect of national governance is also recommended by Boyd and Solarino (2016).

In addition to the differences in institutional settings, the variation in empirical design is also said to induce mixed results (García-Meca and Sánchez-Ballesta, 2009; Golder, Loke and Bland, 2013). The measures of variables, both governance and earnings management variables, are diverse in the literature. Specifically, García-Meca and Sánchez-Ballesta (2009) are more concerned about discretionary accruals models which may influence research findings. Consistent with Bilal, Chen and Komal (2018), who also point out that the different proxies used to capture governance mechanisms and earnings quality in individual research may also moderate its result.

In fact, the lack of standardisation in the measurement of variables diminishes a comparative view of research findings. However, one would argue that it is inevitable to implement a different research design in different research contexts because the research design must respond to the research question(s) or research objective(s). In general, the research question(s) or research objective(s) may be unique to the research (Saunders, Lewis and Thornhill, 2016). Therefore, the standardisation of proxies used in empirical design might be idealistic in real research practice. For example, earnings quality is a dynamic word and it is defined from different perspectives (Dechow, Ge and Schrand, 2010). Accordingly, researchers might apply different empirical proxies to capture earnings quality in their research design.

## 3.5 The Effect of Institutional Settings from Empirical Perspective

Most empirical studies regarding the effect of institutional settings on the firm outcomes apply institutional theory as a theoretical lens to explain such links. This is reviewed below.

### 3.5.1 The Link between Institutional Settings and Earnings Management

One of the best-known papers that investigates the effect of institutional settings on earnings management is the study by Leuz, Nanda and Wysocki (2003). The authors argue that the well-designed and well-enforced system at the country level to protect outside shareholders would limit earnings manipulation. The degrees of investor protection and legal enforcement are proxies for institutional settings. The empirical results correspond with their premise in which the protection of outsider rights and legal enforcement are negatively associated with earnings management. Haw *et al.* (2004) document similar findings to Leuz, Nanda and Wysocki (2003), revealing strong institutional settings attenuate income manipulation induced by the control divergence of controlling shareholders. In addition, Houqe *et al*. (2012) also document that strong investor protection would enable the adoption of IFRS to improve earnings quality. Likewise, strong investor protection supports the active monitoring of strategic (long-term) institutional shareholders to improve the quality of reported earnings (Zhong, Chourou and Ni, 2017). Such findings are consistent with Bao and

Lewellyn (2017), who find that the negative link between institutional shareholders and accruals earnings management is more pronounced when regulatory quality is stronger.

Furthermore, legal systems and enforcement are also examined as one dimension of institutional settings. Anagnostopoulou (2017) argues that the extent to which written laws can be practically enforced reflects the degree to which contracts can be obeyed. The cost of breaking the contract is typically higher in countries where the legal enforcement is strict, which in turn reduces the incentive of doing so. Such an argument is consistent with the premise proposed by Bushman and Piotroski (2006), who state that the strictness of judicial enforcement influences management behaviour and shapes their manner of how they exercise their discretion over financial reports preparation. The negative link between the legal enforcement and accruals earnings management is empirically documented in the literature (Enomoto, Kimura and Yamaguchi, 2015; Leuz, Nanda and Wysocki, 2003). Besides the general set of institutional settings, the effect of accounting institutions such as accounting standards and its enforcement have been empirically examined. For example, Wijayana and Grey (2019) disclose that earnings management is reduced in countries where accounting enforcement is strong. Similarly, Bonetti, Magnan and Parbonetti (2016) document that the strong enforcement of accounting regulations complements the active roles of the board of directors.

According to the previously cited findings from academic research, the effectiveness of institutional settings is likely to facilitate the quality of reported earnings or limit accruals earnings management. The empirical evidence for real earnings management, however, significantly contrasts with those of accruals earnings management.

Enomoto, Kimura and Yamaguchi (2015) point out that accruals earnings management decreases in countries where investor protection is effectively enforced, whereas real earnings management is increased in such countries. Likewise, Francis, Hasan and Li (2016) also underline the positive link between strong institutional settings and real earnings management. They generally conclude that earnings management strategies are influenced by institutional setting within the country. Francis, Hasan and Li (2016) explain that strong institutional settings should raise the costs of penalties if managers violate the regulations, including accounting regulations. In that regard, managers are likely to consider the costs of penalties as one of the factors that influence earnings management strategies. Therefore, real earnings management, which might be more difficult to detect than accruals management, is likely to be the preference for managers in the contexts where institutional settings are well designed and enforced. Their conclusion corresponds to the argument in prior research in terms of accruals and real earnings management is substituted (Cohen, Dey and Lys, 2008; Evans *et al.*, 2015; Zang, 2012). In addition, such an argument implicitly reflects that management behaviour towards accruals and real earnings management is likely to be shaped by institutional settings.

### 3.5.2 Critical Evaluation of Empirical Findings and Research Gap: Institutional Perspective

The empirical findings regarding the effect of institutional settings on the quality of reported earnings are generally convergent. Specifically, the strong institutional settings decrease management incentive to implement accruals earnings management, but it may encourage the use of real activities manipulation. Despite the convergent view, much research disregards the interplay roles of governance mechanisms between the firm and country levels. In other words, many studies examine the direct effect of institutional settings on earnings quality or earnings management, excluding Bao and Lewellyn (2017), Houqe *et al.* (2012) and Haw *et al.* (2004). The interplay roles of governance on earnings quality is therefore limited in the literature.

According to an editorial written by Kumar and Zattoni (2013), there are two main dichotomies of governance research which exist in literature. First division, researchers have sacrificed their effort to investigate the direct effect of national governance on the firm outcomes. The second research stream, on the other hand, has examined the determinants or the consequences of governance mechanisms at the firm level. However, Kumar and Zattoni (2013, p.199) remark that those two research streams either face the “over-contextualised or under-contextualised view”. The studies that only focus on the direct effect of national governance on the firm outcomes encounter the “over-contextualised view” because it ignores the effect of firm-level mechanisms. On the other hand, another research stream that only focuses on firm governance and its outcomes still confront the “under-contextualised view” due to the disregarding of national governance. Kumar and Zattoni (2013) further explain that, in practice, these two levels of governance mechanisms work together as the interplay system. From this perspective, Kumar and Zattoni (2013) encourage researchers to theoretically and empirically bridge those two levels of governance in their research design in order to gain a better understanding of how governance mechanisms work. The interaction effect between firm- and country-level governance is said to be a new research stream and it could contribute significant new knowledge to global governance phenomena (Kumar and Zattoni, 2013).

In addition to the editorial provided by Kumar and Zattoni (2013), Boyd and Solarino (2016) also review and synthesise the literature of ownership over a three-decade period. Essentially, they point out several opportunities for future research, some of which are implementing holistic theories and refining a research design. Specifically, they mention that researchers might merge agency theory with another applicable theory, such as institutional theory, in order to introduce a holistic theoretical lens instead of relying on a single theoretical perspective. Additionally, they also mention many techniques to improve research design, one of which is applying a contingency design through moderators. Such a design would allow researchers to better explain the main effect (Boyd and Solarino, 2016).

The main argument in this research, therefore, is built to respond to those knowledge gaps in the literature (e.g. Bilal, Chen and Komal, 2018; Boyd and Solarino, 2016; Dinh and Calabrò, 2018; Kumar and Zattoni, 2013; Oehmichen, 2018). Essentially, this research aims to investigate the moderating effect of institutional settings on the link between ownership characteristics, firm-level governance, and earnings quality. The moderating model will be applied in this context and it will be explained later (see Chapter 5 Section 5.8). Such an empirical model is underpinned by holistic theoretical concepts; Agency Theory and Institutional Theory. The agency lens is typically used to explain the direct effect of firm-level governance, which is ownership characteristics in this research, and earnings quality. In addition to the direct effect of ownership, the impact of the national environment is exerted by implementing the assumption of institutional theory to moderate the effect of firm-level governance and earnings quality. As a result, the theoretical extension and contingency research design should bridge the gap in governance literature.

However, this research is aware of the recently published papers that implement similar concepts. Bao and Lewellyn (2017), among others, investigate interaction effect between ownership structures and national institutions on earnings management in 24 emerging countries. The findings show that the association between ownership and accruals earnings management are altered by national governance mechanisms. Their empirical evidence echoes the implementation of holistic theories to explain the incentive of owners. In particular, the incentive of managers or owners for earnings management does not exclusively rely on self-interest rationale proposed in traditional agency theory but is also influenced by the external environment.

In comparison to this study, Bao and Lewellyn (2017) do not include real earnings management into their framework. Moreover, ownership characteristics in this research are broader and a sample is selected from both developed and developing markets, while Bao and Lewellyn (2017) focus on the emerging markets only. Apart from Bao and Lewellyn (2017), the study of Bonetti, Magnan and Parbonetti (2016) is relatively similar to this current study but their firm-level governance is a board of directors and audit committee. Due to these different research aspects, this research enlarges and complements such prior research.

Finally, some research implements the interaction effect between firm-level and country-level governance in their research designs. However, the governance outcomes, which are the firm-level variables, are not earnings quality. For example, prior studies which examine the interaction effect of governance mechanisms on firm performance (Nguyen, Locke and Reddy, 2015), firm disclosure (Ernstberger and Grüning, 2013), Profit Shifting (Sugathan and George, 2015), debt maturity (Martins, Schiehll and Terra, 2017), or capital structure (An, Li and Yu, 2016). The interplay roles of firm-level and country-level governance on earnings management, especially real earnings management, are still limited in the literature.

## 3.6 Conclusion

To conclude, this chapter reviews and discusses the relevant literature in terms of theoretical and empirical perspectives. Consequently, the research gap is addressed. This research echoes the gap in the literature regarding the effect of governance on the quality of reported earnings. The gap is induced by the "over- and under-contextualised views" in the theoretical framework and research design (Kumar and Zattoni, 2013, p.199). Prior research studies the effect of ownership on earnings quality or earnings management through agency lens without considering the effect of external contexts. However, the empirical findings are still inconclusive, and researchers have attributed the mixed findings to the differences in national institutions. This reflects the "under-contextualised view" as mentioned by Kumar and Zattoni (2013, p.199). In contrast, some studies investigate the effect of national institutions on earnings quality. The effect of firm-level governance is overlooked in such studies and such research designs confront the "over-contextualised view" (Kumar and Zattoni, 2013, p.199). As a result, the interplay roles between firm-level and country-level governance are not obvious in the literature. Further research is necessary to bridge such a gap.

This research, therefore, responds to this gap mentioned in the literature by investigating the moderating effect of institutional settings on the link between ownership characteristics and earnings quality. The findings should enlarge and complement extant knowledge. The following chapter, Chapter 4, will discuss the philosophy and methodology applied in this study.

# CHAPTER 4

# Research Methodology

## 4.1 Introduction

In Chapter 3, the research gap was addressed. Additionally, a review of relevant theories and empirical findings regarding the effect of firm-level governance and country-level governance on earnings management was conducted. This chapter provides a discussion on research methodology in order to respond to the research gap mentioned in the previous chapter. Research philosophy is first discussed and justified in Section 4.2 to direct and underpin the research method. The relevant research method, which is the philosophy tool, is then reviewed and discussed in Section 4.3. Specifically, alternative techniques are compared and contrasted in such a section to help the researcher justify the most suitable technique. In addition, Section 4.4 draws testable hypotheses from applicable theories and relevant empirical findings. The conceptual framework for this research is then constructed in Section 4.5. In order to test research hypotheses empirically, the procedures of identifying the sample and data collection are explained in Section 4.6. Finally, Section 4.7 illustrates how variables of interest in this research are quantified, which will be applied later in the analysis (Chapters 5 and 6).

## 4.2 Research Philosophy

Philosophy is essential for conducting research because it denotes how knowledge is developed based on the beliefs and assumptions of researchers (Saunders, Lewis and Thornhill, 2016). Saunders, Lewis and Thornhill (2016) discuss how philosophy consists of three main assumptions: ontology, epistemology, and axiology.

Ontological assumptions, in which the word “Ontology” itself is the philosophical word and refers to the belief of reality, influences researchers in the way of how they see the world and how they recognise the nature of reality (Bisman, 2010). Ontology also links researchers to their epistemological assumptions, which refer to how knowledge is generated. In addition, axiology applies to values and ethics (Saunders, Lewis and Thornhill, 2016). Specifically, it deals with how researchers view the role of their own value and other participants in research procedures. Ontological, epistemological, and axiological assumptions will shape research methodologies and the way research is conducted. Finally, methodologies will form method (or methods) as a research tool. These link together to form a coherence of philosophy (Slevitch, 2011).

Generally, accounting information reported in financial reports is perceived as the language of business (Bloomfield, 2008). Accounting is implemented to identify, present, and communicate the economic performance of the firm, in the form of financial reports, to stakeholders (Parker, 2014; Regan, 2016). Financial reports can be simply divided into external reports, known as financial accounting, and internal reports, known as managerial accounting (Weetman, 2013). However, both concepts of the financial reports rely on the main role of accounting; to provide useful financial information for different groups of users. According to the role of accounting in a business system, it has been typically perceived as a scientific measurement to capture economic phenomena by using the numeric system. Thus, mainstream research studies in this discipline are strongly dominated by positivism, which is defined below. (Bisman, 2010; Broadbent and Unerman, 2011; Fraser, 2014; Kaidonis, Moerman and Rudkin, 2009; Major, 2017; Ryan, Scapens and Theobald, 2002).

Positivism, one philosophical paradigm among interpretivism, critical realism, postmodernism, and pragmatism (Saunders, Lewis and Thornhill, 2016), is underpinned by the objective-ontology viewpoint. It proposes that reality is objective, universal, and external from the researchers. Researchers believe that the phenomena or facts operate under the rule of cause and effect. Thus, researchers will look for causality and fundamental laws in order to explain the world but not to understand it (Major, 2017). Positivists apply scientific approaches to conduct research and obtain knowledge (Walliman, 2006). The role of researchers is independent and isolated from what they are researching, known as value-free (Fraser, 2014; Saunders, Lewis and Thornhill, 2016). In this regard, positivist research is rigorous regarding its methodological approach that is supported by empirical validation, also known as empiricism (Bisman, 2010).

In order to identify the proper philosophical paradigm, the reflexive view of researchers toward their research question(s) would help them to justify the research paradigm. In this case, the main research question is “do institutional settings, deemed as country-level governance, modify the link between ownership characteristics, perceived as firm-level governance, and earnings quality?” Governing and accounting phenomena are believed to be an objective reality and independently exist from the researcher’s perceptions. Accordingly, objective-ontology and positivist-epistemology support the philosophical assumptions in this research. In line with philosophical assumptions, the scientific methodology, namely the deductive approach, is exerted to conduct this research as a tool of philosophy.

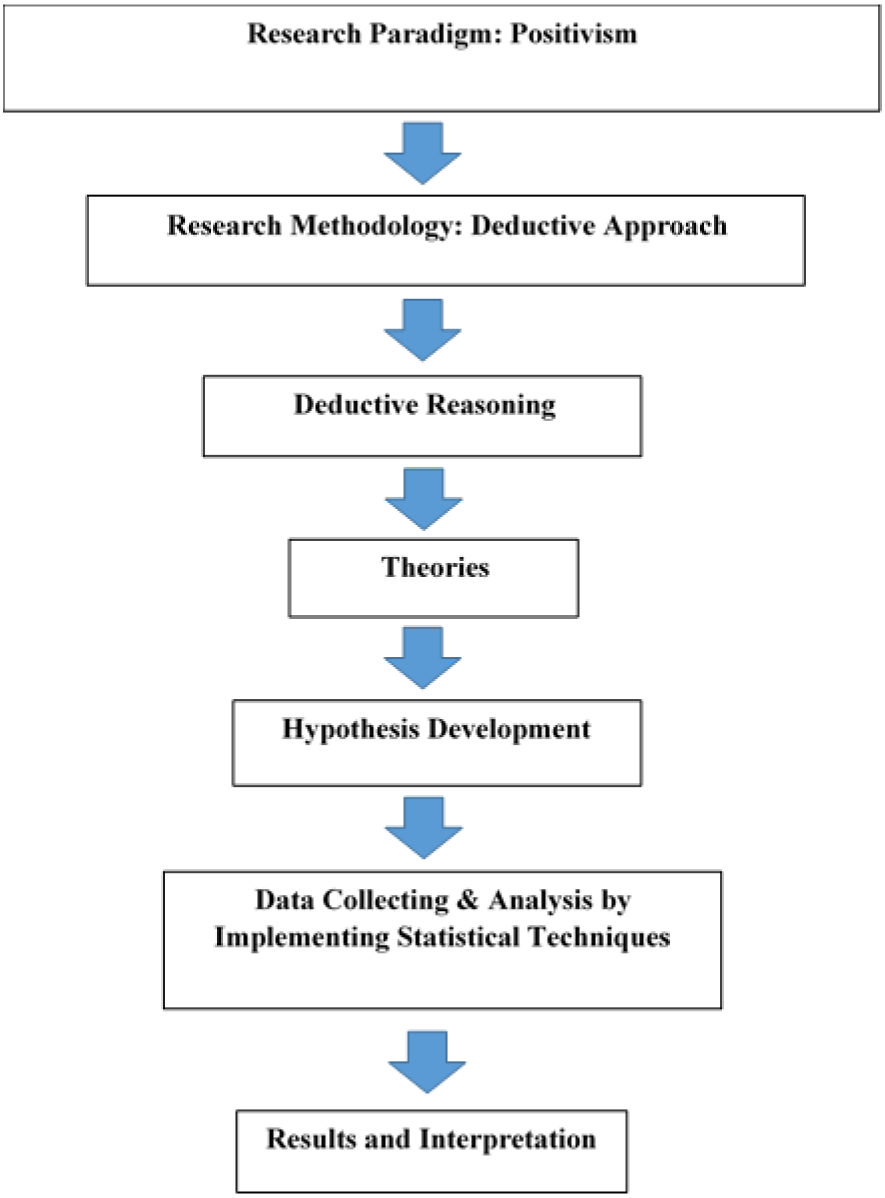
By applying deductive reasoning, which is one of scientific reasoning, the logical conclusion about the particular phenomenon is referred to as the general laws

(Mantere, 2013). In other words, the deduction approach takes general laws as a basis of explanation for a particular fact (Mackenzie, 1978; Mantere, 2013; Saunders, Lewis and Thornhill, 2016;). Thus, the set of testable hypotheses or propositions is generated from the general laws or existing theories, known as hypothetico-deductive. The observations are derived in the form of variables within the relevant theories and implemented in the empirical test (Mantere, 2013). For this reason, Saunders, Lewis and Thornhill (2016) mention that there are four essential characteristics of deductive reasoning: structured methodology, operationalised, reductionism, and generalisation.

Structured methodology refers to the reliability of research design by applying a scientific methodology, such as statistical techniques, whereas operationalised holds the concept in which the fact can be measured in a quantitative form. In addition, reductionism is the concept of reducing complexity into simpler elements in order to gain a better understanding. Finally, generalisation, the key feature of deductive reasoning, requires enough observations and it should be carefully selected to enable the generalisation (Saunders, Lewis and Thornhill, 2016). Accordingly, Wai Fong (1986) states that there are two main consequences of the deductive approach which are universal generalisation and prediction. The explanation of a particular occurrence is a process of discovering a general law that covers such a particular instance to be explained, and thus it may allow a prediction (Ryan, Scapens and Theobald, 2002; Wai Fong, 1986). In this research, the set of hypotheses are deduced from "Agency Theory" and "Institutional Theory", which are perceived as general principles. The statistical testing will be implemented as a research method to analyse the quantitative data collected from well-known secondary sources. These logical research procedures are presented in Figure 4.1.

The deductive approach yields the most consistent characteristic of extant research in accounting (Wai Fong, 1986). For this reason, the deductive approach is a rigorous approach to support the transparency and validity of research results. However, it has also been criticised due to the falsifiability. The logic of falsifiability is mentioned by Popper (1968) in the book “The Logic of Scientific Discovery”, which invokes the concern of empiricism bias. Ryan, Scapens and Theobald (2002) briefly summarise the idea of falsifiability. It is the premise deducted from the general laws or theories that should be refuted by better theories, which typically provide better descriptions. In addition, if there are theories that can be verified by a variety of sources, they should be perceived as “well-corroborated theories” by the facts (Ryan, Scapens and Theobald, 2002). Accordingly, it should be noted that all statements proposed in this research are also subject to the concept of falsifiability. This is, the statements can be refuted later by better theories, new data, or new techniques. The following sections will be dedicated to the statistical technique, including a research method, hypothesis setting, data collecting, and variable measurement respectively.

**Figure 4.1 The Structure of Research Philosophy and Research Methodology**


Research Paradigm: Positivism
Research Methodology: Deductive Approach
Deductive Reasoning
Theories
Hypothesis Development
Data Collecting & Analysis by Implementing Statistical Techniques
Results and Interpretation

**Source:** Adapted from Saunders, Lewis and Thornhill (2016, p.145)

## 4.3 Research Method

### 4.3.1 Quantitative Approach

In accordance with research philosophy, a statistical technique followed by quantitative analysis is applied in this research. Quantitative analysis is a research technique for examining existing theories by investigating the link between variables (Creswell and Creswell, 2018). In this case, quantitative analysis, namely Regression, is the central method used to investigate the association between governance mechanisms and the quality of reported earnings in this research context. As mentioned by Wooldridge (2016), the regression technique can be applied to study the association between variables.

The studies of firm-level governance or country-level governance and its outcomes have implemented the Ordinary Least Squares (OLS henceforth) as the regression estimation (see Achleitner *et al.*, 2014; Chakrabarty and Bass, 2014; Ernstberger and Grüning, 2013; Haw *et al.*, 2004; Peng and Jiang, 2010; Wijayana and Grey, 2019). Building on prior studies, panel data analysis with fixed effects is implemented (see Chapters 5, 6), to estimate the empirical model in the main analysis of this study. This estimation is deemed as the best unbiased linear estimation when the required assumptions are met (Gujarati, 2003). These basic assumptions are normality, linearity, no high collinearity between independent variables (known as multicollinearity) and no heteroskedasticity and autocorrelation (Gujarati, 2003).

Normality, which refers to the normal distribution of residuals in the regression model, is verified by relying on the extension of the “Central Limit Theorem”. This is, the distribution of residuals is likely to be normal when the sample is large (Gujarati, 2003). Typically, the sample size should be equal to or higher than 30 (Jolliffe, 1995). The linear assumption, meaning the variables in regression model are linear correlated, is assumed in accordance with the literature (Bao and Lewellyn, 2017; Francis, Hasan and Li, 2016; Haw *et al.*, 2004; Houqe *et al.*, 2012; Leuz, Nanda and Wysocki, 2003; Wijayana and Grey, 2019). Multicollinearity will be checked before and after the regression analysis is conducted (see Chapter 5 Section 5.5). In addition, the potential concern of heteroskedasticity[7] and autocorrelation[8] will be further explained together with the model specification in Chapters 5 and 6.

Besides OLS, there are alternative estimations, namely "Fixed Effect[9] and Random Effect[10]", both of which are typically applied in panel data analysis (Bollen and Brand, 2010). Clark and Linzer (2015) explain that these two techniques have their own merits and drawbacks. Random-effect model can minimise the variance of parameter estimates, however, its estimate might be biased. While the fixed-effect model used here is deemed to be unbiased, it might be confronted with high variance (Clark and Linzer, 2015; Treiman, 2009).

The Hausman Test is suggested in order to identify whether fixed effect or random effect fit within the given dataset (Wooldridge, 2016). These two techniques are

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[7] Heteroskedasticity is the word used against one of the linear model assumptions, namely "Homoscedasticity". Homoscedasticity refers to the equal error variance or variance of error is constant over different values of independent variable (Gujarati, 2003).

[8] According to Gujarati (2003), autocorrelation is defined as "the correlation between members of series of observations in time-series or cross-sectional data". In other words, linear models including OLS estimator assume that the error term of one observation should not be correlated with or influenced by the error term of another observation, known as zero autocorrelation. The linear estimate might be biased without such zero autocorrelation.

[9] This estimator is also called "Within estimator" which refers to an estimation method used to control for the unobserved heterogeneity (Individual effect) in observations (See Wooldridge, 2002). Such unobserved heterogeneity is assumed to be correlated with explanatory variables.

[10] The primary concept of this estimator is that the unobserved heterogeneity is assumed to be uncorrelated with explanatory variables (Treiman, 2009).

considered in this research as alternative estimations for performing a robustness check, if applicable. It is important to note that variables of interest in this current research are ownership characteristics and institutional settings that change little over time but essentially differ between firms and countries (Houqe *et al.*, 2012; Zhou, 2001). Due to little variations in the data, some researchers argue that such variables would lose their explanatory power in a fixed-effect model (An, Li and Yu, 2016; Zhou, 2001).

## 4.4 Hypothesis Development

The gap in the extant literature was detailed in the previous chapter (Chapter 3) and directed the research question about how institutional settings (country-level governance) influence the link between ownership characteristics (firm-level governance) and earnings quality, proxied by accruals and real earnings management. The main objective of this research is to bridge and reveal the interplay roles between firm-level and country-level governance on its outcome, which are rarely investigated in the former research (Kumar and Zattoni, 2013). To test such a research question empirically, this research follows the editorial suggestions given by Andersson, Cuervo-Cazurra and Nielsen (2014). In essence, they comment that the studies of interaction, which typically focus on the moderating effect, should not ignore the direct effect of main explanatory variables on the dependent variable. Researchers are recommended to first explain the direct effect(s) of the independent variable(s) under the theoretical lens and empirical view and then describe how the moderator modifies that mechanism.

Accordingly, a set of testable hypotheses is first developed at the firm level in order to postulate the effect of the firm-level governance (ownership) on its outcome (earnings management) by applying agency theory as a theoretical underpinning (see Chapter 3 Section 3.3). Despite much research in accruals earnings management, the international evidence is still limited. In addition, empirical evidence from single-country studies is also inconclusive. International research is specifically essential in this sense to complement the generalisability of single-country studies (Breuer *et al.*, 2018). Moreover, there is a lack of empirical evidence regarding the effect of ownership characteristics on real earnings management, especially a cross-country study. Hence, constructing hypotheses at a firm level should contribute knowledge to the firm-level governance literature. It also facilitates the logical flow regarding how the baseline effect between the independent variable(s) and dependent variable should be, as suggested by Andersson, Cuervo-Cazurra and Nielsen (2014). The set of firm-level hypotheses is presented in the following sections.

## 4.4.1 Ownership Characteristics and Earnings Management Hypotheses

### 4.4.1.1 Concentrated Ownership and Earnings Management

As discussed earlier under a theoretical framework (see Chapter 3 Section 3.4), agency theory offers two views to predict and explain the effect of majority shareholders and the quality of financial information. First, the convergence or alignment effect supports the view that majority shareholders have a great incentive to actively monitor preparation of the financial report since their interests are aligned with firm value (Fan and Wong, 2002). The alignment of interest encourages majority shareholders to focus on long-term value rather than short-term orientation (Dou *et al.*, 2018). La Porta, Lopez- De- Silanes and Shleifer (1999), therefore, mention that majority shareholders could be deemed as a monitoring mechanism, especially in the countries where legal protection of shareholders is weak.

The entrenchment assumption, on the other hand, proposes a contradictory viewpoint on the convergence concept. When majority shareholders own larger stakes of the firm, it can also be hazardous for minority shareholders for several reasons. For example, Bar-Yosef and Prencipe (2013) discuss the information asymmetry issue, when majority shareholders can access superior information. Given better information, it might motivate majority shareholders to use it for their own private interest. In such a case, higher ownership concentration is likely to increase the probability of earnings management. Apart from information asymmetry concerns, researchers have also raised concerns regarding the independence and efficacy of the board of directors in firms with high ownership concentration (Bao and Lewellyn, 2017). The active monitoring role of such internal governance is questionable due to the influence of majority shareholders. Powerful shareholders might dominate the board of directors, audit committee or even auditors. As a result, the quality of the financial report is attenuated.

Recently, an international study by Kim, Kim and Zhou (2017) presented the empirically convergent effect of concentrated ownership, one of the control variables in their model, on the absolute value of discretionary accruals. It implies that the presence of majority shareholders is likely to improve the monitoring system, which in turn increases the quality of reported earnings. However, ownership concentration does not have any statistically significant association with real earnings management proxied by the absolute value of abnormal cash flow from operations (Kim, Kim and

Zhou, 2017). More evidence to support the fruitful effect of having concentrated ownership is introduced by Dou *et al.* (2018). Their empirical results demonstrate that the existence of blockholders, whose ownership is equal to or higher than 5%, is likely to reduce management's incentive for manipulating accounting information and, in turn, it increases the quality of the financial report measured by both discretionary accruals and real earnings management. They conclude that managers are more concerned with the leaving of blockholders and then they try to align their interest with majority shareholders' interests rather than persuading their own benefits. Given that, concentrated ownership seems to be a governance mechanism at the firm level.

Contrarily, there is also empirical evidence that reports the negative effect of having concentrated ownership, which supports the entrenchment effect. The study by Fan and Wong (2002), among others, is the well-known study in which the entrenchment effect of concentrated ownership is reinforced, with evidence from East Asia. Specifically, they report the negative link between concentrated ownership and earnings informativeness. Besides, Fan and Wong (2002) mention the effect of having a weak institutional setting which is likely to strengthen the entrenchment behaviour of majority shareholders in such a region. In addition to Fan and Wong (2002), there are several empirical findings that support the entrenchment effect (see Bao and Lewellyn, 2017; Guthrie and Sokolowsky, 2010; Lyu,Yuen and Zhang, 2017; Sousa and Galdi, 2016). Following the two potential theoretical assumptions and the mixed results of empirical findings, this research proposes that there is an association between ownership concentration and earnings management but no specific sign of an association to expect and it is hypothesised as follows:

**H 1.1:** Accruals earnings management varies with the degree of concentrated ownership.

**H 2.1:** Aggregate real earnings management varies with the degree of concentrated ownership.

#### 4.4.1.2 Managerial Ownership and Earnings Management

Agency theory advocates that managerial ownership can be implemented as a governance mechanism in order to align shareholders-managers interests (Berle and Means, 1932; Jensen and Meckling, 1976). Accordingly, higher managerial ownership is believed to reduce Type 1 of agency conflict where the interests of managers and owners are not aligned. As a result, opportunistic behaviour is likely to be committed less often by managers because higher managerial ownership induces a longer time horizon (Lafond and Roychowdhury, 2008). An alternative theoretical viewpoint, however, argues that the entrenchment effect can be more pronounced when managers own more firm’s stakes because of reduced pressure from external shareholders as market discipline. In such a circumstance, the higher managerial ownership might empower managers to behave in favour of their own benefits.

The empirical findings reflect both convergence and entrenchment effect of managerial ownership. For example, the contradictory results from similar studies reported by Warfield, Wild and Wild (1995) and Gabrielsen, Gramlich, and Plenborg (2002) can confirm the competing hypotheses. Warfield, Wild and Wild (1995) report a negative association between the degree of managerial ownership and discretionary accruals. In contrast, Gabrielsen, Gramlich, and Plenborg (2002) present the opposite, in which earnings are less informative when managerial ownership is higher. They describe such different findings by attributing them to the differences in national settings where the studies were conducted.

On the other hand, evidence on the effect of managerial ownership on real earnings management is limited when compared to accruals earnings management. Recently, Haga (2018) revealed that firms are likely to be less engaging in real earnings management when managerial ownership is higher, consistent with Di Meo, García Lara and Surroca (2017). Sawicki and Shrestha (2014) argue that the high cost of real earnings management due to its consequences on long-term value are likely to threaten the owners. Thus, higher managerial ownership should limit such an earnings management approach. This research, therefore, posits that there is an association between managerial ownership and accruals earnings management, but no definite sign is predicted. The negative sign, however, is proposed for real earnings management. The empirical hypotheses are:

**H 1.2:** Accruals earnings management varies with the degree of managerial ownership.

**H 2.2:** Aggregate real earnings management varies negatively with the degree of managerial ownership.

#### 4.4.1.3 Domestic Institutional Ownership and Earnings Management

Institutional ownership is one of ownership identities that researchers have studied in the context of governance (Lel, 2018; Lemma *et al.*, 2018; Liu *et al.*, 2018). This research separates institutional ownership into domestic and foreign ownership following prior studies such as Liu *et al.* (2018), who argue that it is important for researchers to differentiate domestic and foreign institutional owners since their behaviour and incentive to govern the financial reporting are likely to be dissimilar. Accordingly, this part proposes the hypotheses in respect of domestic institutional ownership's effect.

There are also two competing arguments, active monitoring or entrenchment effect, regarding the roles of domestic institutional investors on earnings quality (Lemma *et al.*, 2018; Velury and Jenkins, 2006). The first view, active monitoring hypothesis, argues that institutional investors are deemed as sophisticated investors who presumably have more expertise to evaluate financial information, compared to individual investors (Velury and Jenkins, 2006). Having more expertise and a larger portfolio of investment should motivate institutional investors to monitor the firm closely (Lemma *et al.,* 2018). Consequently, earnings management should be unlikely when the degree of institutional ownership is higher. Moreover, Choe, Kho and Stulz (2005) add further comment on the roles of institutional investors due to their domiciles. They argue that domestic institutional investors have gained advantages over foreign investors, such as supportive policies from the local government. Dvořák (2005) further explains that domestic institutional investors take more advantage of the information on a real-time basis since there are no geographical, linguistic, or cultural obstacles. In addition to Dvořák (2005) and Choe, Kho and Stulz (2005), Agarwal *et al.* (2009) mention that domestic and foreign investors' behaviour is also different. Foreign investors are likely to be more aggressive in their trading strategies (Agarwal *et al.*, 2009).

The study by Liu *et al.* (2018) empirically supports that the presence of domestic institutional blockholders restraint accruals earnings management. On the other hand, Roychowdhury (2006) reports the monitoring effect of institutional ownership on real earnings management. However, some empirical findings documented by Lemma *et al.* (2018) do not find a link between institutional ownership and real earnings management. This study argues that institutional investors in which it is accounted as a homogeneous group in the study by Lemma *et al.* (2018), or even in other studies, might cause some ambiguities. Consequently, it may be difficult to make an inference based on the homogeneous assumption. Decomposing domestic and foreign institutional ownership should make the inference more comprehensive. Considering the hometown advantages of domestic institutional investors together with their expertise, this research hypothesises the presumptions due to the effect of domestic institutional shareholders as follows:

**H 1.3:** Accruals earnings management varies negatively with the degree of domestic institutional ownership.

**H 2.3:** Aggregate real earnings management varies negatively with the degree of domestic institutional ownership.

#### 4.4.1.4 Foreign Ownership and Earnings Management

Aggarwal *et al.* (2011) mention that foreign investors are one of the key factors to promote governance at a firm level, especially where the protection of investors by law is weak. That statement corresponds to Aguilera *et al.* (2017), who posit that foreign investors are likely to influence the local governance mechanisms in countries where they invest by inducing their home countries' governance practices. These types of investor are also believed to have more skill and expertise (Batten and Vo, 2015). Accordingly, there is knowledge spillover and active monitoring hypotheses proposed in the extant literature to support that the quality of reported earnings is improved when foreign ownership is higher. Their roles to discipline managers is also supported by empirical studies. Bena *et al.* (2017), for example, report that the higher degree of foreign ownership encourages the firm's long-term investment and improves innovation. In line with the active monitoring hypothesis, the study by Ben-Nasr, Boubakri and Cosset (2015) finds that earnings quality is positively correlated with foreign ownership in countries where the expropriation by the government is lower and the stability of government is higher. Recently, Lel (2018) empirically showed that foreign institutional investors act as a governance system to discipline managers. As a result, earnings management is less in firms with higher foreign ownership, especially where the investor protection within the country is low. The active monitoring role of this type of shareholder to obstruct real earnings management is also reported by Guo *et al.* (2015), which is similar to Shayan-Nia *et al.* (2017).

In contrast to the active monitoring hypothesis, Agarwal *et al.* (2009) mention that foreign investors are likely to act aggressively toward their investment decision. Moreover, difficulties with distance, cultures, languages, or regulations may cause the information asymmetry, which in turn obstruct their active governance. In this regard, foreign investors may prefer to make a profit from short-term selling and then they may exert pressure on managers to beat their earnings target. Liu *et al.* (2018) empirically address that in South Korea the absolute value of discretionary accruals is positively associated with foreign ownership, especially short-term foreign investors.

According to the divergent view of foreign ownership on the monitoring role, this research proposes the competing hypotheses for this variable. However, the link between foreign ownership and real earnings management presented in the literature is mostly negative. Nonetheless, there is limited research investigating this link. This research expects to see the negative sign of foreign ownership's coefficient as well for real earnings management. The foreign ownership's hypotheses are as follows:

**H 1.4:** Accruals earnings management varies with the degree of foreign ownership.

**H 2.4:** Aggregate real earnings management varies negatively with the degree of foreign ownership.

#### 4.4.1.5 Control Variables at the Firm Level

There are three control variables; financial leverage, profitability, and size, at firm-level analysis. These three variables are included in the regression models and predicted to have significant effect on accruals and real earnings management following the findings in prior research (for example, Anagnostopoulou and Tsekrekos, 2017; Bao and Lewellyn, 2017; Chen *et al.*, 2018; Francis, Hasan and Li, 2016; Kim, Kim and Zhou, 2017; Lewellyn and Bao, 2017). The following section will explain its effect and prediction.

##### 4.4.1.5.1 Firm Leverage and Earnings Management

Financial health is one of the firm characteristics discussed in extant literature that could significantly influence earnings management behaviour (DeFond and Jiambalvo, 1994). The likelihood of a debt-covenant violation may encourage managers to accelerate future earnings and report it in the current period. Thus, in line with a debt-covenant hypothesis, firms with a high level of leverage are likely to engage in earnings management in order to report the desired earnings amount and alleviate debt covenant strictness (Franz, HassabElnaby and Lobo, 2014). Accordingly, the debt-covenant hypothesis articulates that the firm's leverage is expected to be positively linked with earnings management. However, the study introduced by Fields, Lys and Vincent (2001) argues that the conclusion of debt-contract motivation in earnings manipulation through accounting choices is inconclusive. That is, the effect of leverage could be positive or negative on managerial opportunism, including earnings management.

The positive outcome is underpinned by the active monitoring assumption where a firm with high debt financing is subject to rigorous monitoring from outside creditors or even auditors (Anagnostopoulou and Tsekrekos, 2017; Rodriguez-Perez and Van Hemmen, 2010). In this respect, Gaio (2010) states that the effect of leverage, one of the firm’s characteristics, is still arguable. Empirically, the evidence regarding the effect of a firm’s leverage is mixed. For instance, a study by Haw *et al.* (2004) finds a significantly positive link between firm leverage and abnormal discretionary accruals, which is similar to later research (for example, Bao and Lewellyn, 2017; Lewellyn and Bao, 2017). On the other hand, the negative link between a firm’s leverage and accruals earnings management is also supported by previous research (Gaio, 2010; Han *et al.*, 2010). In addition to accruals evidence, empirical evidence from real earnings management is also mixed. Anagnostopoulou and Tsekrekos (2017) indicate that the higher level of leverage persuades the strictness of outside monitoring and, in turn, it encourages firms to implement real earnings management (REM). Thus, REM is higher when leverage increases.  Kim, Kim and Zhou (2017) also present a positive link between a firm’s leverage and accruals and real earnings management. Considering empirical evidence with theoretical underpinning, this research will include this variable in the regression analysis as a control variable.

#### 4.4.1.5.2 Profitability and Earnings Management

Apart from financial leverage, prior researchers suggest that a firm’s profitability should be one of the possible factors that influence managers’ willingness to engage in earnings manipulation. Firms with a certain level of profitability may have less pressure to modify reported earnings (Kapoor and Goel, 2017). There is empirical evidence to show that profitability has a negative link with discretionary accruals. Existing empirical evidence has been shown in the literature to suggest that earnings manipulation is reduced with better performance. Thus, much research supports the negative link between a firm’s profitability and earnings management for both accruals and real earnings management. The findings of Kim, Kim and Zhou (2017) present the negative association between return on assets and the absolute value of discretionary accruals and the absolute value of cash flow from operations. Their findings correspond to the preceding evidence (Anagnostopoulou and Tsekrekos, 2017; Doukakis, 2014; Haw *et al.*, 2004).

On the other hand, an earnings-based compensation plan may lead to higher incentive for managers to increase their reported earnings amount where profitability is stable (Healy, 1985). There is also empirical evidence to support the positive link between profitability and earnings management. Chen *et al.* (2018), for example, present the evidence that the absolute value of abnormal discretionary accruals is positively varied on the level of ROA. The positive link is also presented in the study by Hessayri and Saihi (2015).

Despite a competing argument in the literature, this research contends that managers, or even shareholders, appear to have a lower incentive for manipulating reported earnings when performance is good. Engagement in earnings management might arouse the firm's risk somehow. Therefore, if there is no need to do so or no incremental benefits, there is no plausible incentive to do so. Accordingly, profitability should be controlled in an empirical model.

#### 4.4.1.5.3 Firm Size and Earnings Management

Watts and Zimmerman (1978) mention that there are several factors that can influence how managers implement accounting choices and they also suggest that firms confront the political costs depending on their size. Larger firms are subject to heavy scrutiny from investors and stock analysts in this regard, which in turn may deteriorate management's incentive for window dressing (Doukakis, 2014; Lobo and Zhou, 2006). Therefore, most studies propose and present the negative association between a firm's size and accruals earnings management (see Achleitner *et al.*, 2014; Doukakis, 2014; Kim, Kim and Zhou, 2017). In addition to accruals earnings management, some former findings confirm the negative link between firm's size and real earnings management (for example, Doukakis, 2014; Francis, Hasan and Li, 2016; Kim, Kim and Zhou, 2017; Lemma *et al.*, 2018).

Although the political cost hypothesis may be true, another research stream argues that business complexity in large operations may enable larger firms to manipulate reported earnings easily because the complex operation will cause some difficulties for auditors or regulators to detect anomalies (Lobo and Zhou, 2006). Such an argument has also been supported by empirical studies, such as the study by Lemma *et al.* (2018), which reports a positive link between a firm size and accruals earnings management. Moreover, the positive link between a firm's size and real earnings management is present in the empirical study conducted by Anagnostopoulou and

Tsekrekos (2017). Considering theoretical assumptions together with existing empirical evidence, this research predicts that earnings management strategies should be influenced by the firm's size and it needs to be controlled in the regression model.

### 4.4.2 The Effect of Country-Level Governance on the Link between Ownership Characteristics and Earnings Management

Having proposed that context does matter from the perspective of institutional theory, this research introduces a set of conditional hypotheses for examining the moderating effect of institutional settings (country-level governance) on the link between ownership characteristics (firm-level governance) and earnings management. Preiato, Brown and Tarca (2015) describe the extensive definition of institutional settings as a set of mechanisms, including political, economic, and social structures that influence the business. Similarly, institutions are defined as regulative, normative, and cognitive aspects in the sociological perspective (Scott, 2014). However, those institutions are created to provide "the rules of the game" in society in order to govern the interaction between social actors, such as organisations and individuals (North, 1990, p.4). Accordingly, Wysocki (2011) summarises that institutional settings are both formal and informal tools that shape the interaction and exchange of activities in societies and economies.

From a general point of view, researchers have acknowledged that country institutional contexts, such as legal environment, the strength of minority investor protection, and the strength of auditing and accounting regulations influence variations in financial reporting (Francis, Hasan and Li, 2016; Haw *et al.*, 2004; Leuz, Nanda and Wysocki, 2003; Wijayana and Grey, 2019). This notion corresponds to the fundamental argument in institutional theory that context does matter to alter the social actors' behaviour including the organisational behaviour (Tuttle and Dillard, 2007). Institutional contexts can impose or guide acceptable activities in a particular society (Zhou and Guillen, 2019). In this respect, insider incentives, which are managers and shareholders, for manipulating reported earnings might be subject to institutional settings within the country (Bao and Lewellyn, 2017).

Sugathan and George (2015) further explain that institutional settings should lay the foundations of governance mechanisms to underpin the good manner of economic practices and limit undesired economic behaviour. Researchers, therefore, theoretically draw an argument regarding the effect of external contexts on the financial reporting incentives (Ball, Robin and Wu, 2003; Bushman and Piotroski, 2006). Specifically, one believes that in contexts where institutional settings are properly designed and enforced, earnings management should be lower (Bao and Lewellyn, 2017; Enomoto, Kimura and Yamaguchi, 2015). This is because it is not easy to cover such manipulations.

In fear of being detected and penalised, otherwise known as litigation risk, managers or majority shareholders might limit opportunistic behaviour (Choi, Choi and Sohn, 2018). The effectiveness of institutional settings should bring social legitimacy. In this sense, Peng and Jiang (2010) mention that the effectiveness of institutional settings exists if institutional settings, governance mechanisms within the country, can mitigate or alleviate agency problems such as information asymmetry and opportunistic behaviour. In contrast, in countries where institutional settings are not in place or weak, agency problems are likely to be rampant because external mechanisms to protect and detect such problems are dysfunctional (Peng and Jiang, 2010).

Leuz, Nanda and Wysocki (2003), however, propose competing arguments in regard to the effect of institutional settings on earnings management behaviour. In fear of being interrupted by external governance mechanisms such as regulators and government policymakers, earnings management might be needed in order to keep the financial report in a good position (Leuz, Nanda and Wysocki, 2003). According to this view, strong institutional settings may raise pressure on managers or shareholders to maintain a firm in good financial health by engaging in earnings management.

In addition to these competing arguments, the study by Cohen, Dey and Lys (2008) highlights that the severity of regulations might not be able to influence all types of earnings management in a similar way. Their empirical findings show that managers replace real earnings management (REM) for accruals earnings management (AEM) since The Sarbanes–Oxley Act (SOX) has been enacted. The reason is that AEM is more aggressive in terms of being detected by external inspections such as from auditors, while REM is more difficult to notice. Such a finding is similar to those introduced by Zang (2012) in which AEM declines after SOX was enacted in 2002. Therefore, the trade-off between those two earnings management approaches is likely to be influenced by the reporting environment (Evans *et al.*, 2015).

Theoretically, such empirical evidence echoes the principle concept of institutional theory in which organisations adapt their behaviour to their own environment (Scott, 1987). More specifically, the external contexts may impose organisational practices and preferences. Accordingly, Filatotchev, Nakajima and Jackson (2012) argue that the effectiveness of firm-level governance may vary conditionally depending on the institutional settings at the country level. Consequently, the extent to which agency conflicts appear in organisations might be altered by institutional settings (Davis-Friday, 2010; Filatotchev, Nakajima and Jackson, 2012).

Together with the abovementioned arguments, it is plausible to believe that the behaviour of managers and shareholders toward different earnings management techniques is likely to be contingent on the institutional settings within the country, which are also deemed as a financial reporting environment (Bao and Lewellyn, 2017; Bushman and Piotroski, 2006). Therefore, institutional settings can be theoretically viewed within the concept of moderation[11]. However, such mechanisms are ambiguous, and more research is needed to shed light on the interplay roles of governance arrangement (Schiehll and Martins, 2016; Bonetti, Magnan and Parbonetti, 2016). Following the notion that different dimensions of national institutions may play different roles (Li *et al.*, 2019), this research proposes three sets of conditional hypotheses to test the moderating effect of formal institutional settings.

#### 4.4.2.1 The Largest Shareholder, Minority Investor Protection, and Earnings Management

The protection of investors, by granting them power through the legal system, is mentioned as the crucial governance mechanism at country level to reduce agency problems such as expropriation and managerial opportunism (Shleifer and Vishny, 1997). The strong protection of small investors challenges majority shareholders to obtain private benefits (La Porta *et al.*, 2000). For this reason, researchers posit that the behaviour of majority shareholders is modified by the degree of minority investor protection within the country (Bao and Lewellyn, 2017).

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[11] The terms “Moderation, Moderating, Interaction, and Interacting” are used interchangeably in literature (Aguinis, Edwards and Bradley, 2017).

Bao and Lewellyn (2017), among others, empirically examine the moderating effect of national governance in terms of the efficacy of law and minority shareholders protection in emerging markets. Their empirical evidence shows that the accruals earnings management induced by the largest shareholder would be less pronounced when the level of minority shareholders protection is higher. In contrast, the largest shareholder has more power over the firm where the law cannot be in place to safeguard the rights of outsiders or minority shareholders. Consequently, accruals earnings management is likely to be higher in such contexts.

Such a finding is also consistent with Lozano, Martínez and Pindado (2016) and Haw *et al.* (2004), who support that the expropriation taken by majority shareholders can be reduced by an increase of minority shareholders protection. According to these studies, the substitutive role of governance mechanisms implicitly appears between concentrated ownership and the degree of minority shareholder protection. Agency conflicts between majority-minority shareholders seems to be alleviated by the degree of minority shareholders protection granted by law. Therefore, strong minority shareholders protection at the country level may compensate for weak governance at the firm level due to the entrenchment effect induced by majority shareholders.

The degree of minority shareholders protection reflects the strength of external monitoring by outside shareholders. For example, allowing shareholders to vote by mail would enable minority shareholders to exercise their rights easily. Similarly, if the law permits cumulative voting for nominating board of directors, the power of majority shareholders over the board of directors should be limited (Djankov *et al.*, 2008). Such mechanisms are some of the aspects of minority shareholders protection and the higher value of minority shareholders protection is likely to reduce the incentive of majority shareholders to engage in accruals earnings management.

Despite limited evidence of real earnings management, this research draws an argument for a moderating effect of minority shareholders protection on the study by Evans *et al.* (2015), who propose that the financial reporting environment is a crucial factor to motivate managers implementing accruals earnings management over real earnings management and vice versa. Their findings point out that the strength of regulation enforcement at the country level encourages managers to choose real earnings management for increasing the bottom line. Accordingly, the effect of majority shareholders on real earnings management is also likely to be modified by the degree of minority shareholders protection. Hence, this research proposes:

**H 1.5:** The degree of minority shareholders protection significantly modifies the link between concentrated ownership and accruals earnings management.

**H 2.5:** The degree of minority shareholders protection significantly modifies the link between concentrated ownership and real earnings management.

#### 4.4.2.2 Domestic Institutional Shareholders, Foreign Shareholders, Legal Environment, and Earnings Management

The existing argument in literature states that country-level governance in terms of the efficacy of the legal environment is likely to influence the monitoring roles of institutional shareholders (Bao and Lewellyn, 2017; Li *et al.*, 2006). Li *et al.* (2006) argue that country-level governance is the crucial infrastructure required to empower institutional shareholders to exert their voice, implement their rights, and access necessary information. Bao and Lewellyn (2017) further explain that the quality of regulatory mechanisms within the country would reinforce the active monitoring roles of institutional shareholders in improving the quality of accounting information. Specifically, information asymmetry and cost of monitoring are attenuated in countries where regulatory quality is in place, thus it encourages institutional shareholders, both domestic and foreign institutions, to exercise their monitoring roles (Bao and Lewellyn, 2017).

On the other hand, the incentive for monitoring may be obstructed by the weakness of the legal environment because the pay-off from monitoring, in the end, may be trivial (Bonetti, Magnan and Parbonetti, 2016). Therefore, Li *et al.* (2006) argue that the effectiveness of the legal environment has a significant effect on the behaviour of institutional shareholders. Likewise, the local legal environment should also enable foreign shareholders, who have encountered difficulties due to the physical distance, cultures, languages, and information asymmetry, to exercise their monitoring role over the financial report. Most research studies view the monitoring and advising abilities of foreign shareholders by considering the advantage of their home countries (Aggarwal *et al.*, 2011; Beuselinck, Blanco and García Lara, 2017). Specifically, if their home countries' institutional efficacy is better than in the host country, the monitoring power of foreign shareholders is more pronounced (Aggarwal *et al.*, 2011).

However, Kim *et al*. (2019), among others, argue that there can be other mechanisms that perhaps push the effect the other way around. Specifically, the monitoring role of foreign shareholders may be reinforced or attenuated by local institutional arrangements. Their empirical evidence also supports such an argument in which foreign investors can be able to exert a better monitoring rule in reducing the risk of a stock price crash if the local institutional arrangement is more efficient. Such findings are consistent with Fang, Maffett and Zhang (2015), who also mentions that the efficacy of regulatory infrastructure within the country where the firm is located may alter the effectiveness of external monitoring tempted by foreign shareholders. The benefits of monitoring should be higher than its costs in the contexts where the efficacy of the legal environment is in place to ensure property rights. Hence, the complementarity between foreign shareholders and the effectiveness of the legal environment in shaping earnings management could possibly exist. In this regard, the moderating effect of the legal environment are proposed as follows:

**H 1.6:** The degree of legal environment efficacy significantly modifies the link between domestic institutional ownership and accruals earnings management.

**H 1.7:** The degree of legal environment efficacy significantly modifies the link between foreign ownership and accruals earnings management.

**H 2.6:** The degree of legal environment efficacy significantly modifies the link between domestic institutional ownership and real earnings management.

**H 2.7:** The degree of legal environment efficacy significantly modifies the link between foreign ownership and real earnings management.

#### 4.4.2.3 Managerial Shareholders, Accounting Enforcement, and Earnings Management

The degree of accounting enforcement, accounting institutions in other words (Wysocki, 2011), is mentioned as an influence on the behaviours of managers, directors, and auditors, whose responsibilities are directed towards the financial report (Libby, Rennekamp and Seybert, 2015). Libby, Rennekamp and Seybert (2015) explain that managers directly respond to compliance with financial reporting regulations. In addition, they are also responsible for the accuracy and fairness of information reported in the financial reports. Similarly, Preiato, Brown and Tarca (2015) also mention that accounting regulations can also be enforced through managers, directors, and the audit committee as the set of corporate enforcement. Accordingly, the strength of auditing and accounting regulations should closely influence shareholder behaviour, who are also managers, when compared to other types of shareholders. This is because such shareholders are also responsible for compliance with accounting regulation.

As discussed earlier, agency theory offers two views, alignment and entrenchment effect, for explaining the effect of managerial ownership on earnings management. In addition to the firm-level argument, the external context in terms of the strength of auditing and reporting within the country may alter such a firm-level argument. The study by Evans *et al.* (2015) reveals that managers of firms in the US that use rule-based accounting regulations prefer real earnings management to accruals earnings management in order to avoid the risk of detection.

Accruals earnings management is prone to detection in the context where the strength of auditing and reporting regulations are high. Such strength, however, may also influence the incentive of managers to commit in alternative earnings management such as real earnings management. For this reason, the moderating effect of accounting enforcement on the link between managerial ownership and accruals or real earnings management is proposed in this research below.

**H 1.8:** The degree of accounting enforcement significantly modifies the link between managerial ownership and accruals earnings management.

**H 2.8:** The degree of accounting enforcement significantly modifies the link between managerial ownership and real earnings management.

#### 4.4.2.4 Control Variables at the Country Level

Accruals and real earnings management are likely to be influenced by the informal institutional setting and other macroeconomic factors at the country level. Therefore, a cultural characteristic, gross domestic product growth rate (GDP) and inflation will be included in the country-level analysis as control variables.

##### 4.4.2.4.1 Culture and Earnings Management

Besides formal institutional settings, cultural aspects have been documented to have an impact on the variation of earnings in cross-country studies (Chen *et al.* 2018; Han *et al.*, 2010; Kanagaretnam, Lim and Lobo, 2011; Kim, Kim and Zhou, 2017; Nabar and Boonlert-U-Thai, 2007). Masculinity, one aspect of cultural dimensions, is referred to as the intensity in which people in society prefer high achievement and material success (Hofstede, 2001). Assertive behaviour is also desired in high-masculinity contexts (Hofstede, 2001; Nabar and Boonlert-U-Thai, 2007). Accordingly, owners or managers in such contexts are likely to act more aggressively toward accounting choices in order to achieve earnings targets (Nabar and Boonlert-U-Thai, 2007). In this sense, earnings management seems to be positively linked with masculinity.

There is empirical evidence supporting such conjecture, such as Chen *et al.* (2018), Kim, Kim and Zhou (2017), Kanagaretnam, Lim and Lobo (2011) and Han *et al.* (2010). These studies reveal the positive link between the degree of masculinity and AEM. The evidence of a cultural effect on REM, however, is limited. Although Kim,

Kim and Zhou (2017) do not find a statistically significant effect of masculinity on REM, it is worth conducting further investigation to complement prior evidence.

#### 4.4.2.4.2 GDP and Earnings Management

In addition to the cultural dimension, this research study adds "Gross Domestic Product Growth Rate" (GDP henceforth) to control for the extent of economic development. Gaio (2010) explains that the development of the economic system, or economic growth, captured by GDP, is likely to underpin the effectiveness of business operations at the firm level as a suitable infrastructure. Firms may have a high incentive to manage reported earnings in during a recession, which is reflected by GDP dropping (Dimitras, Kyriakou and Iatridis, 2015). In contrast, firms may have low incentives to disguise the true financial performance when the whole economic system suffers because the poor performance can be attributed to economic downturn (Francis, Hasan and Li, 2016).

Accordingly, this macroeconomic proxy is likely to determine firms' incentives for manipulating reported earnings (Kim, Kim and Zhou, 2017). However, there is mixed evidence from previous studies regarding the effect of GDP. For example, Chen *et al.* (2018) report the positive link between GDP growth rate and the absolute value of discretionary accruals. Contrarily, Gaio (2010) shows that the earnings quality range is high in countries where GDP increases. In accordance with prior practice, this research will control the degree of economic growth in the empirical model.

#### 4.4.2.4.3 Inflation and Earnings Management

Besides GDP, the inflation rate will also be controlled to account for fluctuations in the economic system. Inflation across countries can potentially influence the economic system, and hence organisational behaviour (Basu, Markov and Shivakumar, 2010). Therefore, earnings management, which is organisational behaviour, might also be influenced by the country's inflation. The study by Chen *et al.* (2018) documents that higher inflation leads to higher absolute value of discretionary accruals. Furthermore, the empirical evidence introduced by Braam *et al.* (2015) shows that aggregate REM is negatively linked with the level of inflation. Following these studies, the inflation rate at the country level will also be controlled for in this research study.

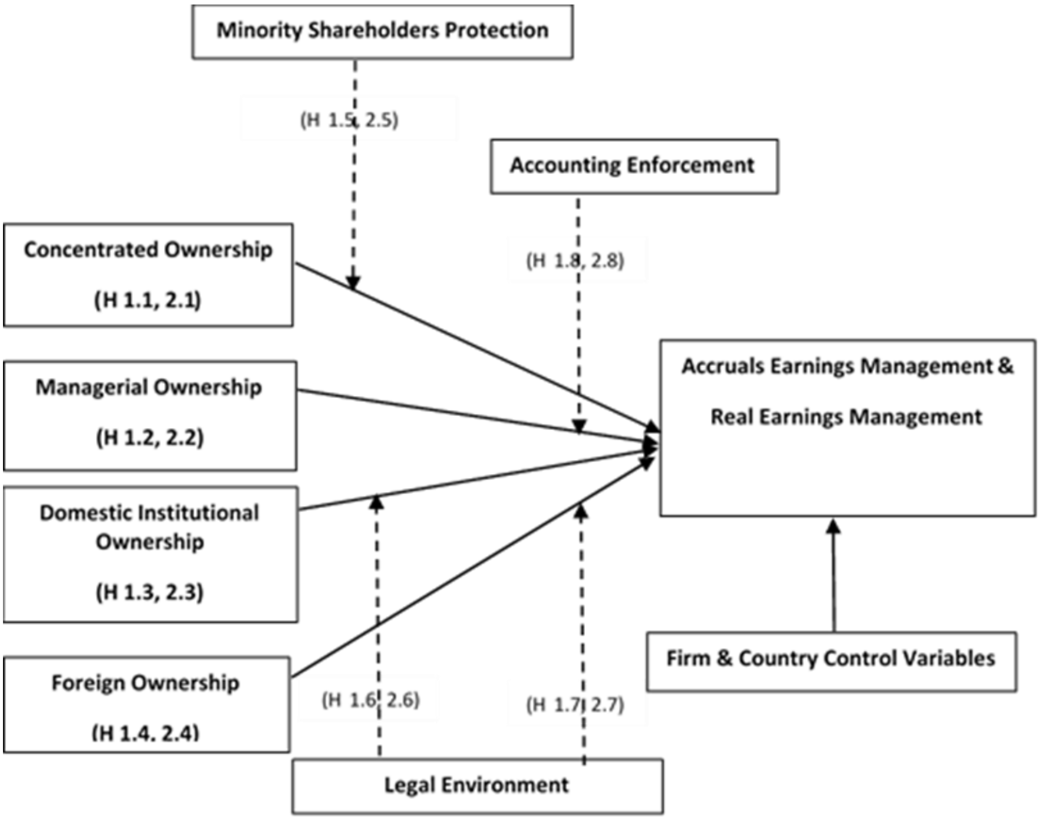
## 4.5 Conceptual Framework

The sets of testable hypotheses drawn from applicable theories and relevant empirical research can enable the researcher to generate the conceptual framework. This is presented in Figure 4.2. The accounting phenomenon that this study aims to study is earnings management, a proxy of earnings quality. There are two primary techniques: accruals and real earnings management, which firms may employ to manipulate reported earnings. There are four independent variables: ownership concentration, managerial ownership, domestic institutional ownership, and foreign ownership, which reflect ownership characteristics. This set of variables is also deemed as firm-level governance. The solid lines in Figure 4.2 illustrate the effect of ownership characteristics on accruals or real earnings management and the testable hypotheses, H 1.1 – H 1.4 and H 2.1 – H 2.4, are responding to such effect. According to literature, such hypotheses are underpinned by agency theory.

In addition, this research extends the theoretical argument and empirical analysis by considering the effect of institutional settings, country-level governance as suggested by institutional theory. Accordingly, there are three manifest institutional settings:

minority shareholders protection, legal environment efficacy, and accounting enforcement, incorporated into the conceptual framework as moderators. Moderating effect of such moderators are shown by the dashed lines in Figure 4.2 and the corresponding testable hypotheses are H 1.5 – H 1.8 and H 2.5 – H 2.8.

**Figure 4.2 The Conceptual Framework**



## 4.6 Sample and Data Collection

### 4.6.1 Sample

The sample for this research consists of 10 countries, which are Hong Kong, Indonesia, Malaysia, Singapore, South Korea, Taiwan, Thailand, Philippines, the United Kingdom and the United States. Asian countries are most frequently cited in prior research for having concentrated ownership (see e.g., Bao and Lewellyn, 2017;

Fan and Wong, 2002; Lyu,Yuen and Zhang, 2017). This research follows the study by Claessens *et al.* (2002) who selected 8 countries from East Asia; South Korea, Hong Kong, Singapore, Thailand, Malaysia, Taiwan, Indonesia, and The Philippines, as part of the research sample. This set of East Asian countries, excluding The Philippines, is also selected by Fan and Wong (2002) for their study, which mainly focuses on the effect of ownership and earnings informativeness.

The study by Carney and Child (2013) also mention that corporate ownership and institutional reform in Asian countries after the financial crisis are very important to study. On the other hand, ownership characteristics of the United Kingdom and the United States are mentioned as having widely held or dispersed ownership, which are substantively different from ownership structure in Asian countries (Aguilera and Crespi-Cladera, 2016; Fan and Wong, 2002; Rahman,Yammeesri and Perera, 2010a). Accordingly, ten countries in this research's sample should represent the variety of ownership characteristics.

In addition, these ten countries also highlight the diversity of institutional settings. Young *et al.* (2008) explain that in developed markets such as the US, investor rights can be properly protected by the judicial system, unlike developing markets such as some Asian countries. In such circumstances, the institutional settings at the country level are believed to be effective for controlling agency conflict, induced at the firm level. In addition, the weakness of institutional settings in terms of low investor protection and poor property rights at the country level has been mentioned as the potential factors that caused the financial crisis in Asia. This is because it obstructs the efficacies of other governance mechanisms, such as a board of directors and the takeover mechanism (Claessens and Fan, 2002). In contexts where investor protection is embedded in the law or regulation is not in place, the application of agency contracts between principals and agents becomes more costly and challenging (Young *et al.*, 2008). Consequently, the agency problem might become more severe. The extent to which investors, especially minority investors, are protected by the formal legal system is the key feature reflecting the effectiveness of institutional setting within the country (Peng and Jiang, 2010).

However, the institutional-setting evolution in Asia after the financial crisis period has prompted rich and diverse institutional contexts in this region (Dinh and Calabrò, 2018). In this respect, Oehmichen (2018) concludes that there are three main features of institutional settings in Asia; dynamic, ineffective formal, and various informal institutions. Concerning the research questions, eight countries in East Asia together with two developed countries, the US and UK, should reflect the comprehensive view of institutional and ownership distinctions for hypothesis testing. Sample selection procedures are summarised in Table 4.1. This research follows the study by Haw *et al.* (2004) in using the individual firm as the unit of analysis rather than the country-level unit. The fundamental argument is that earnings management phenomena are the firm’s practices.

## Table 4.1 Sample Selection

| | Number of Observations Drop | Firm-Year Observation |
|---|---:|---:|
| Initial observations from OSIRIS Database for 2013 - 2017 | | 91,177 |
| After cutting observations with total percentage of shares held by shareholders is over 100% | (3,904) | 87,273 |
| After cutting observations with no percentage of shares held by the largest shareholder | (273) | 87,000 |
| After cutting observations with the accounting period does not end at the calendar year | (15,593) | 71,407 |
| After cutting Banking companies | (3,975) | 67,432 |
| After cutting Insurance companies | (800) | 66,632 |
| After cutting financial service companies | (9,250) | 57,382 |
| After cutting observations with no industry information | (2,510) | 54,872 |
| After cutting observations with no key financial data for computing earnings quality proxies | (7,410) | 47,462 |
| **Number of initial observations used in the analysis** | | **47,462** |

## Table 4.2 Sample Summarising by Country

| Country | Firm-Year Observation | Percent (%) | Cum. |
|---|---:|---:|---:|
| United Kingdom | 2,858 | 6.02 | 6.02 |
| Hong Kong | 708 | 1.49 | 7.51 |
| Indonesia | 2,264 | 4.77 | 12.28 |
| South Korea | 8,970 | 18.90 | 31.18 |
| Malaysia | 2,253 | 4.75 | 35.93 |
| Philippines | 958 | 2.02 | 37.95 |
| Singapore | 1,862 | 3.92 | 41.87 |
| Thailand | 2,830 | 5.96 | 47.83 |
| Taiwan | 8,770 | 18.48 | 66.31 |
| United States | 15,989 | 33.69 | 100 |
| **Total** | **47,462** | **100** | |

According to Table 4.1, the International Securities Identification Number (ISIN)[12] and ownership information for all companies listed in ten countries are pulled out from the OSIRIS Database, which offers a wide range of data types for all listed companies around the globe (Miletkov, Poulsen and Wintoki, 2017). There are 91,177 observations over a five-year period (2013-2017). This period of study should be able to reflect the earnings management phenomena, if any, at any stage of the business cycle. A five-year period is referred to as the short-trade cycle and is the shortest timeframe that could demonstrate movements of decision-making practice in commercial enterprises (Kitchin, 1923; Legrand and Hagemann, 2017). Thus, the effects of the business cycle are covered by this duration. An, Li and Yu (2016) also compute the accruals earning management by using a moving average for the five-year period. The panel covers from 2013 up until 2017 in order to utilise the most up-to-date data which is available for collection.

Ownership data is reviewed and observations where the total percentage of shares held by shareholders exceeds 100% or ownership information is not available is dropped. The reasons for why some observations have a total ownership percentage higher than 100% will be explained later (see Section 4.6.2). After that, ISIN numbers for 87,000 observations are used to match ownership data with financial data from Datastream (Thompson Reuters, 2019). Once financial data is collected the observations are trimmed again by dropping observations in which the accounting period end is not or does not closely align to the calendar year-end. Such data trimming attempts to avoid

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[12] ISIN is a unique 12-character alpha-numerical code used in the universal identification system for securities. For more information see https://www.isin.org/

the effects of timing in which data is collected since ownership data is dynamic in nature.

In addition, banking, insurance and financial service companies are excluded from the sample because the specific regulations required in such companies may complicate the analysis. Excluding such companies is normal practice in literature (Francis, Hasan and Li, 2016; Houqe *et al.*, 2012; Kim, Kim and Zhou, 2017; Oz and Yelkenci, 2018). Finally, the observations without key financial data to compute earnings quality proxies are also dropped. The final observation count is 47,462 after the trimming procedures. However, the number of observations might vary from model to model depending on the data available for a model specification.

Table 4.2 decomposes the pooled sample into the individual country samples. Overall, the US and UK account for approximately 40% of the observations, with East Asian countries accounting for the remainder. The advantage of this dataset is that it provides comprehensive data by combining data from both developed and developing economies. As mentioned earlier, the characteristics of ownership and institutional settings among those markets are presumably diverse, according to literature. Thus, to reflect the comprehensive view of the interplay roles between these governance mechanisms, the sample should be acquired from both developing and developed markets (Lewellyn and Bao, 2017).

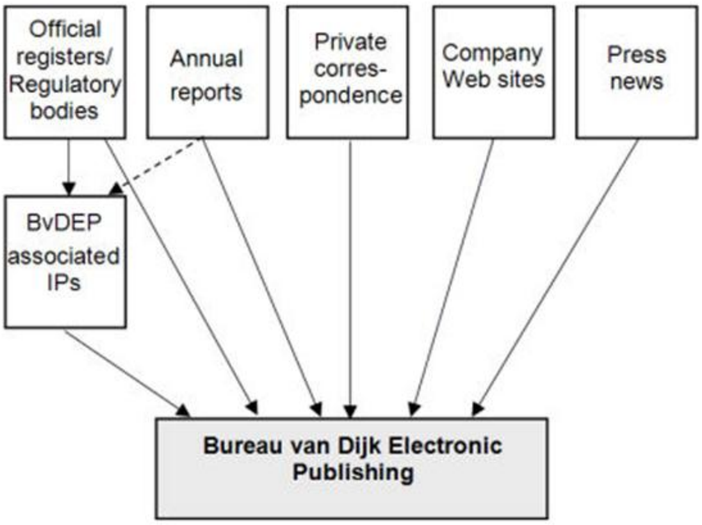
### 4.6.2 Data Collection

There are few international studies regarding ownership characteristics existing in the literature due to data limitations. Most studies focus on a single country and use hand-collected data. In this research, however, collecting data manually is not possible due to the time requirements. This research, therefore, relies on secondary data from published databases. Ownership data is extracted from OSIRIS and all financial data is collected from Datastream. Ownership data in OSIRIS, provided by Bureau van Dijk (BvD hereafter), is the best fit with this study's objectives. It has been widely used in prior studies, including Lemma *et al.* (2018), Lins, Volpin and Wagner (2013), Carney and Child (2013) and Paligorova and Xu (2012).

Ownership data in OSIRIS provides the control relationship that reports the voting rights from the voting shares. The types, percentages of voting rights, and countries of shareholders are annually retrieved. Retrieving data at a certain date, however, causes the total percentage of ownership for some companies in a certain year to be higher than 100%. According to the user guide provided by BvD, different validity dates may cause such a problem. More specifically, BvD is collecting ownership data from various sources and Information Providers (IP), as presented in Figure 4.3. According to Figure 4.3, BvD will collect data directly from the company website, its annual report, regulatory bodies such as SEC filings for the US-listed companies and the Stock Exchanges for others, information providers, press news, and additional sources such as annual periodicals. BvD also sends private letters to some companies and might make a phone call, when necessary (Bureau van Dijk , 2019). Different sources or different IP may have different validity dates for reporting ownership data to BvD.

To report the up-to-date data, BvD needs to merge the information from different sources and different IP together. In addition, the individual shareholders are tracked by BvD instead of the company itself. Thus, the different validity dates to update the percentage of shares held by the individual shareholders given by different Information Providers lead to duplication in the archival database. When ownership information is acquired at a specific date, the most update ownership data will be pulled out. The online ownership guide provided by BvD indicates that it is inevitable to avoid such a problem since individual shareholders are tracked, rather than the company itself, and BvD needs to keep the most up to date data until the new information is available[13].

**Figure 4.3 The Collection of Ownership Information by Bureau Van Dijk (BvD)**



**Source:** Osiris – User Guide, accessed via https://help.bvdinfo.com/mergedProjects /65_EN/ Home.htm (Bureau van Dijk, 2019)

To alleviate such duplicated data, this research dropped the observations where total percentage of ownership is higher than 100. Additionally, financial data is retrieved from Datastream, a global macroeconomic and financial data platform. Typically, Datastream provides financial information in local currencies. Thus, data must be converted into the same currency, which is the US Dollar in this case. However,

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[13] For more explanation regarding ownership data, please see the “Ownership-User Guide” by searching for “Archived Data” and “Rules to display shareholder information as available on a specific date” available at: https://help.bvdinfo.com/mergedProjects/65_EN/Home.htm.

currency converting might not always be necessary if financial data will be used in the ratio format. Apart from different currencies being presented for financial information, the outlier value is also a concern of researchers because it might bias the estimation of the regression estimator (Pérez, Molina and Peña, 2014).

To mitigate such concern, the preceding studies employ the winsorizing technique[14] for 1% at the top and bottom of the financial data (Choi, Choi and Sohn, 2018; Duru *et al.*, 2018; Francis and Wang, 2008; Nguyen, Locke and Reddy, 2015; Zhong, Chourou and Ni, 2017). Winsorizing will also be applied in this research for all financial variables following prior practice. The advantage of winsorizing, instead of trimming, is the sample size does not drop (Lusk, Halperin and Heilig, 2011). In addition to ownership and financial data which are firm-level variables, the country-level data such as the legal environment, minority shareholders protection, the strength of auditing and accounting, culture, and macroeconomic data are primarily collected from the World Bank website, World Economic Forum reports and website, Economic Freedom of the World: Annual Report, and other available sources. This will be further discussed in the section on variable measures.

## 4.7 Variable Measures

According to the conceptual framework, there are two hierarchies of governance: firm-level governance and country-level governance. This research aims to investigate their direct and interaction effect on earnings quality. This section is dedicated to the discussion of variable measures at the firm level, followed by the country-level

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[14] Under the winsorizing technique, the outliers (extreme observations) will be replaced by the closer value so that the effect of outliers is minimised, and the statistical estimate bias is reduced.

moderators. A measure of variables is implemented in quantitative research in order to measure the relevant concepts drawn from theories (Bryman, 2016).

## 4.7.1 Dependent Variable at Firm Level

Earnings quality is the predicted variable in this research. Due to the definition used in this research (see Chapter 2), earnings management, namely accruals and real earnings manipulation, will be applied as earnings quality proxies.

### 4.7.1.1 Accruals Earnings Management

Researchers have introduced several models to measure abnormal discretionary accruals. The notable and outstanding models over time are the Jones's family models (Defond, 2010) (see below). In addition, the comparison test to evaluate the power of accruals model for detecting earnings management conducted by Dechow, Sloan and Sweeney (1995) indicates that the Modified Jones model is the most powerful model for detecting earnings management. Bartov, Gul and Tsui (2000) also highlight that the cross-sectional Modified Jones model and the Jones model perform better than its time-series in identifying earnings manipulation. Accordingly, the Modified Jones model is believed to be the powerful predictor of accruals earnings manipulation (Martin, Wiseman and Gomez-Mejia, 2019). Therefore, this research employs the Modified Jones model in the main analysis for capturing the magnitude of accruals earnings management. In addition to the main test, the abnormal discretionary accruals computed from the Jones Model (Jones, 1991) and the Performance-Matched model (Kothari, Leone and Wasley, 2005) will be employed as alternative proxies for the robustness check. All three models are discussed below.

#### 4.7.1.1.1 Jones Model (1991)

This model is designed to deconstruct the components of total accruals into nondiscretionary accruals (normal) and discretionary accruals (abnormal) by implementing the regression technique. Nondiscretionary accruals reflect the normal level of accruals arising from the fundamental economic circumstances of the firm. Normal or nondiscretionary accruals are the function of changes in working capital items such as accounts receivable, accounts payable, and inventory. These accounts ultimately rely on a change in revenues. Thus, the change in revenues is included in the model in order to account for the normal level of accruals occurring from economic performance before managers manipulate earnings. Gross property, plant, and equipment (PPE) is also included in the model to account for the normal accruals from its depreciation expense. The model is as follows:

$$TA_{it}/A_{it-1} = \alpha_1 (1/A_{it-1}) + \beta_1 \Delta REV_{it} / A_{it-1} + \beta_2 PPE_{it} / A_{it-1} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots \quad (4.1)$$

(Jones, 1991)

**Where:**

TA = Total accruals [Computed by (Δ Current Assets$_{it}$ – Δ Cash$_{it}$) – (Δ Current Liabilities$_{it}$ -Depreciation and Amortization Expense$_{it}$) or (Net income before extraordinary and abnormal items – Cash flow from operating)]

$A_{t-1}$ = Lagged Total Assets

ΔREV = Change in revenues

PPE = Gross Properties Plants and Equipment

All variables in the Jones Model are deflated by lagged total assets to mitigate heteroscedasticity. Lagged total assets are used as a deflator because the error term of the unscaled model is highly correlated with this value. Jackson (2018) further explains that lagged total assets are preferred as a deflator when compared to total assets because the current total assets might influence or be influenced by total accruals. Thus, using a lagged variable also reduces the potential of autocorrelation. The ordinary least squares estimation (OLS) is run in order to obtain the coefficients, $\alpha_1$, $\beta_1$, and $\beta_2$. The residual from model 4.1 captures the abnormal discretionary accruals, which reflect accruals earnings management.

#### 4.7.1.1.2 Modified Jones Model (1995)

Dechow, Sloan and Sweeney (1995) propose a modified version of the Jones Model, known as the Modified Jones Model, by subtracting the change in accounts receivable from the change in revenues before running the model. The original accruals model of Jones (1991) implicitly assumes that discretion is not exercised over revenue. The original Jones Model treats revenues as a nondiscretionary account. However, the modified version assumes that earnings should be more easily managed by using discretion over credit sales at the end of the period because the firm has not yet received any cash, and managers have to estimate whether the firm will be able to collect cash from account receivables. Therefore, in the modified version, the change in account receivables is deducted from the nondiscretionary or normal accruals part. The modified model is expressed as follows:

$$TA_{it}/A_{it-1} = \alpha_1 (1/A_{it-1}) + \beta_1 (\Delta REV_{it} - \Delta REC_{it})/ A_{it-1} + \beta_2 PPE_{it} / A_{it-1} + \varepsilon_{it} \ldots \quad (4.2)$$

(Dechow, Sloan and Sweeney, 1995)

**Where:**

$\Delta$REC = Change in Accounts Receivable

The coefficients, $\alpha_1$, $\beta_1$, and $\beta_2$ are still gained from linear regression using OLS estimation and the residual ($\varepsilon_{it}$) from model 4.2 still captures the discretionary or abnormal accruals. Moreover, Dechow, Sloan and Sweeney (1995) compare the power of five accruals models: The Healy Model, The DeAngelo Model, Jones Model, Modified Jones Model and The Industry model. They conclude that the Modified Jones Model is the most powerful model for capturing earnings management. Therefore, it has become the best-known accruals model in earnings management literature (Defond, 2010).

#### 4.7.1.1.3 The Performance-Matched Model

The study by Dechow, Sloan and Sweeney (1995) also notes that firms with extreme financial performance may impact the power of the accruals model. Accordingly, Kothari, Leone and Wasley (2005) introduce a modified version of the accruals model to adjust for financial performance, namely the Performance-matched Model. Initially, the model is similar to the Jones Model or Modified Jones version but financial performance, Return on Assets (ROA) or lagged ROA, is included in the model (Kothari, Leone and Wasley, 2005) as shown in model 4.3 and 4.4.

$$TA_{it}/A_{it-1} = \alpha_1 (1/A_{it-1}) + \beta_1 \Delta REV_{it} / A_{it-1} + \beta_2 PPE_{it} / A_{it-1} + \beta_3 ROA_{t \text{ or } t-1} + \varepsilon_{it} \ldots (4.3)$$

$$TA_{it}/A_{it-1} = \alpha_1 (1/A_{it-1}) + \beta_1 (\Delta REV_{it} - \Delta REC_{it}) / A_{it-1} + \beta_2 PPE_{it} / A_{it-1} + \beta_3 ROA_{t \text{ or } t-1} + \varepsilon_{it} \ldots\ldots (4.4)$$

(Kothari, Leone and Wasley, 2005)

**Where:**

ROA = Return on Assets

The Jones, Modified Jones, and Performance-matched Models are known as the Jones-type or Jones-family models (Defond, 2010; Keung and Shih, 2014). There are a number of cross-country research papers that have applied Jones-types models for capturing earnings quality or earnings management (Bao and Lewellyn, 2017; Chen *et al.*, 2018; Francis, Hasan and Li, 2016; Kim, Kim and Zhou, 2017; Lewellyn and Bao, 2017; Oz and Yelkenci, 2018).

#### 4.7.1.2 Real Earnings Management

Real earnings management (REM) is defined as the deviation from ordinary business operations in order to structure the financial report to beat earnings goals or to deceive stakeholders (Roychowdhury, 2006). To capture such phenomena, this research follows the empirical models introduced by Roychowdhury (2006). Three operational activities: sales, discretionary expenses, and inventory producing, are investigated. Managers through their operating policies can manipulate these activities to boost reported earnings.

Roychowdhury (2006) explains that sales transactions can be managed by offering abnormal discounts or by approving credit sales more easily than usual. As a result, such operating policies would increase sales volume in the current period but it might also induce lower cash flows from operations. Meanwhile, policies to reduce discretionary expenditure such as research and development (R&D), advertising, or training expenses, should generate a higher amount of reported earnings. It should also save some cash flow in the current year. However, such policies might cause a lower cash flow in the future since managers try to defer such expenditure to boost today's earnings. Moreover, it might also harm the long-term competitiveness of the firm.

On the other hand, overproduction could lead to a lower cost of goods sold, in turn increasing operating margin. Excessive amounts of inventories in which the firm produces more than normal would absorb the fixed manufacturing overhead. Consequently, inventory cost per unit will be deflated and firms would be able to report a lower cost of goods sold and a higher operating margin in the current period (Cohen, Dey and Lys, 2008; Roychowdhury, 2006). Excessive inventories on hand, however, may create higher risk due to obsolescence and holding costs. Roychowdhury (2006) proxies those three abnormal operating activities by using the abnormally lower cash flow from operations (ABCFO) for sales manipulation, the abnormally higher production cost for overproduction manipulation (ABPROD), and the abnormally lower discretionary expenses for discretionary expenses manipulation (ABDISEX). The models are as follows:

$$CFO / A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \beta_1(S_t/A_{t-1}) + \beta_2(\Delta S_t/A_{t-1}) + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (4.5)$$

$$PROD_t / A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \beta_1(S_t/A_{t-1}) + \beta_2(\Delta S_t/A_{t-1}) + \beta_3(\Delta S_{t-1}/A_{t-1}) + \varepsilon_t \ldots \quad (4.6)$$

$$DISEXP_t / A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \beta(S_{t-1} / A_{t-1}) + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (4.7)$$

**Where:**

CFO = Cash flow from operation

S = Sales/Revenues

ΔS = Change in Sales/Revenues

PROD = Cost of Goods Sold + change in inventories

DISEXP = Discretionary expenses [Selling, General, and Administrative expenses (SG&A) retrieved from Datastream][15]

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[15] Francis, Hasan and Li (2016) discuss how SG&A in Datastream already consists of advertising and R&D expenses. Thus, using SG&A from such database should be similar to all discretionary expenses mentioned in the study by Roychowdhury (2006) where the data is pulled out from COMPUSTAT.

#### 4.7.1.3 The Discussion of Accruals and Real Earnings Management Estimation

In cross-country studies, cross-sectional accruals and real earnings management models will be run on a country-industry-year-basis. However, some industries in small economies in this research sample such as The Philippines and Hong Kong do not have enough observations to perform linear regression. Instead of removing such industries from the sample, this research partitions the countries into clusters by relying on World Bank classifications (World Bank, 2018). Accordingly, countries under the same cluster share a similar macroeconomic environment and are perceived as an individual economic entity. The estimations of accruals and real earnings management by the cluster are also implemented in prior research, some of which are the studies by Doukakis (2014) and Chen *et al.* (2010) where countries in the European Union are considered as a single economy. The clustering is also applied as an alternative procedure in the cross-country study conducted by Francis, Hasan and Li (2016). There are four clusters, as presented in Table 4.3, in this research. Despite being classified as a high-income country, the US is individually separated because each industry in such a country has enough observations to generate model parameters. Overall, the parameters are still unique to the industry-year-country group. Therefore, the effect of industry, year and the macroeconomic environment on accruals and real earnings management practices are still accounted for by running the models in this way.

**Table 4.3 Country Clustering for Accruals and Real Earnings Management Estimates**

| Income Classification Groups | Country |
|---|---|
| High income | The US |
| High income | The UK, South Korea, Singapore, Taiwan, Hong Kong |
| Upper middle income | Malaysia, Thailand |
| Lower middle income | Indonesia and the Philippines |

**Source:** World Bank Website (https://datahelpdesk.worldbank.org)

Industry classification in this research follows the Supersector of the Industry Classification Benchmark (ICB), an international classification standard provided by FTSE Russell, similar to prior studies such as Francis, Hasan and Li (2016), Nguyen, Locke and Reddy (2015), and Achleitner *et al*. (2014). There are four hierarchies of classification presented by ICB; Industries, Supersectors, Sectors, and Subsectors. The supersector-classification level is applied in this case due to the concern of small economies in the sample. The Philippines, for example, will not have enough observations to generate regression parameters if the sectors or subsectors classification is applied. Therefore, supersector level is the best classification for this study's dataset. Supersector level is also better than the industry level to represent the nature of the firm's business. There are 19 supersectors in which Banking, Insurance and Financial Services sectors are dropped, leaving 16 supersectors[16] remaining.

As discussed earlier, the predicted residual value from accruals linear models captures accruals earnings management. In particular, the unsigned value, or so-called absolute value of discretionary accruals, will be used in this research. Thus, such a value

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[16] The supersector classification consists of (1) Oil & Gas (2) Chemicals (3) Basic Resources (4) Construction & Materials (5) Industrial Good & Services (6) Automobiles & Parts (7) Food & Beverage (8) Personal & Household Goods (9) Health Care (10) Retail (11) Media (12) Travel & Leisure (13) Telecommunications (14) Utilities (15) Bank (16) Insurance (17) Real Estate (18) Financial Services (19) Technology. For more information see https://www.ftserussell.com/data/industry-classification-benchmark-icb

captures the intention of firms to manage earnings throughout management discretion, regardless of the specific direction. Most researchers also use the residual value from accrual models by considering absolute value (Hribar and Craig Nichols, 2007). The magnitude of discretionary accruals from the accruals models would inversely represent earnings quality. Reynolds and Francis (2000) justify the use of absolute values when researchers are not specifically focusing on or predicting the specific direction of earnings manipulation. Then, the magnitude, regardless of the sign of discretionary accruals, should be applied. In this research context, there is no specific focus on income upward or downward through accruals manipulation. Therefore, the magnitudes of discretionary accruals are used as proxies for accruals earnings management, which is in line with most prior research. Using such values also allows this research to compare and discuss the findings within the context of similar studies in literature (Cohen, Dey and Lys, 2008).

As discussed before, required financial data is retrieved from Datastream (see Section 4.6.2) and total accruals (TA) are calculated by applying the cash flow method (computed by net income before extraordinary and abnormal items – cash flow from operations) rather than implementing the balance sheet approach. Hribar and Collins (2002) point out that calculating total accruals in accruals model by implementing a balance sheet approach is likely to be problematic when balance sheet accounts are influenced by disposals' discontinued sectors or mergers and acquisitions. Implicitly, the cash flow approach appears more constant over any circumstances and it also includes all current and non-current accruals; the latter is excluded in the balance sheet approach. In conclusion, accruals earnings management will be captured by the absolute value of abnormal discretionary accruals, the unexpected discretionary accruals (residual) from accruals models.

In addition to accruals models, real earnings management models will be run in the same manner. The residuals from models 4.5, 4.6, and 4.7 will capture individual real activity manipulations. The signed value of residuals will be used for real earnings management proxies because managers typically implement real earnings management techniques to inflate the bottom line rather than decrease it (Roychowdhury, 2006; Zang, 2012), unlike accruals earnings management which can be used to increase or decrease reported earnings (Hribar and Craig Nichols, 2007). This research will capture real activity manipulations by using both aggregate and three individual proxies (ABCFO, ABPROD, ABDISEX). The aggregate of those three individual real earnings manipulations is typically implemented in many studies to capture the total effect of real earnings management (Braam *et al.*, 2015; Choi, Choi and Sohn, 2018; Cohen, Dey and Lys, 2008; Di Meo, García Lara and Surroca, 2017; Garg, 2018; Kim and Sohn, 2013). The argument for using the aggregate proxy is that managers can utilise single or multiple real earnings management approaches in real practice (Braam *et al.*, 2015; Cohen, Dey and Lys, 2008; Cohen and Zarowin, 2010). Therefore, the aggregate measure is necessary as a comprehensive proxy in order to capture several earnings management approaches (Wysocki, 2004)[17].

However, prior researchers also argue that the individual real earnings management approach might have different implications and the preference for using one technique over another might vary. Consequently, any findings using only an aggregate proxy

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[17] The author discusses the use of aggregate discretionary accruals in accounting research as a useful proxy for capturing several earnings manipulation techniques.

might be weakened (Cohen, Dey and Lys, 2008; Cohen and Zarowin, 2010; Zang, 2012). Therefore, it is recommended that both aggregate and individual real earnings management proxies are used (Cohen, Dey and Lys, 2008; Cohen and Zarowin, 2010). To calculate the aggregate proxy, prior studies either combine all three individual values of real earnings management (Braam *et al.*, 2015; Choi, Choi and Sohn, 2018; Di Meo, García Lara and Surroca, 2017; Garg, 2018; Kim and Sohn, 2013; Park, 2017) or combine only two individual values.

For example, the study by Zang (2012) proxies the total of real earnings management activities by aggregating abnormal production costs and abnormal discretionary expenses (ABPROD + ABDISEX). Zang (2012) excludes abnormal cash flows from operations from the aggregate proxy because it can be influenced by both sales and discretionary expenses manipulation. Thus, any inference might be problematic, as noted in the study by Roychowdhury (2006). Such an aggregate proxy has been used in subsequent studies, some of which are Anagnostopoulou and Tsekrekos (2017), Brown, Chen and Kennedy (2017) and Sakaki, Jackson and Jory (2017).

Apart from the aggregate of those two components, Cohen and Zarowin (2010) also add abnormal cash flows from operations to abnormal discretionary expenses (ABCFO + ABDISEX) as one proxy of aggregate real earnings management. They argue that aggregate proxy should not be summed up by adding abnormal cash flow from operation together with abnormal production costs because those two activities reduce cash flow from operations. Thus, adding them together may lead to double counting. The aggregate proxy of combining abnormal cash flow from operations with abnormal discretionary expenses is later implemented in other studies (Braam *et al.*, 2015; Chan *et al.*, 2015; Ipino and Parbonetti, 2017).

Taking these arguments together, the implementation of aggregate proxies for real earnings management is mixed. This research, therefore, will use the aggregate of three individual real earnings management in the main analysis since it is likely to capture all possible real earnings management techniques which the firm may use. The comprehensive view of real earnings management cannot be completely captured by individual proxies. However, the other two aggregate proxies: ABCFO + ABDISEX and ABPROD + ABDISEX, and three individual real earnings management (ABCFO, ABPROD, ABDISEX) will also be applied in the robustness test as alternative proxies.

### 4.7.2 Independent Variables at Firm Level

Two key features of corporate ownership, ownership concentration and ownership identity, are focused on in this research, following the literature (Ben-Nasr, Boubakri and Cosset, 2015; Boyd and Solarino, 2016). Accordingly, there are four independent variables at the firm level for capturing ownership characteristics. Ownership concentration is the first variable of interest, measured by the percentage of shares held by the largest shareholder (Bao and Lewellyn, 2017). Managerial ownership is the second independent variable and it is proxied by the percentage of shares held by current managers (Warfield, Wild and Wild, 1995). In addition, domestic institutional and foreign ownership are incorporated as independent variables. Domestic institutional shareholders are measured by the percentage of shares held by domestic institutional shareholders[18]. Banks, financial companies, hedge funds, insurance companies, mutual and pension funds, and venture capital are considered as

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[18] Institutional shareholders are also classified as short-term or long-term investors in the literature by considering their investment horizon (Cremers and Pareek, 2015). However, the duration of ownership is not explicitly reported in the given database, which this research's author can access. Therefore, such proxy of institutional shareholders will be recommended for future research, where data is available.

institutional shareholders. Such classification is in respect of prior practice (Bao and Lewellyn, 2017; Bena *et al.*, 2017; Koh, 2007; Koh, 2005).

The percentage of shares held by foreign institutions is included as part of foreign ownership. Having distinguished domestic and foreign institutions, it reduces the potential for high collinearity from the overlap between these two independent variables. This is because Choe, Kho and Stulz (2005) mention that most of the foreign investors are institutions. Recently, the study by Liu *et al.* (2018) also classified institutional investors into two dichotomous; domestic and foreign institutional investors. Liu *et al.* (2018) argue that the incentive of domestic and foreign institutions to monitor firms as the owners might be dissimilar. Overall, these four variables should capture the salient characteristics of corporate ownership mentioned in the literature (Boyd and Solarino, 2016).

### 4.7.3 Moderator Variables at Country Level

Institutional settings are the variables of interest as moderators at the country level. There are two divisions of institutional proxy: formal and informal forms (Casson, Della Giusta and Kambhampati, 2010). Government regulations that shape individual and organisational behaviour are referred to as formal institutions while the culturally and socially constructed institutions such as culture and norms, which implicitly appear, are denoted as informal institutions (Stephan, Uhlaner and Stride, 2015). The formal institutional settings are studied in this research and informal proxies, such as culture dimension, will be controlled. According to institutional theory, regulatory features capture the formal institutional settings (Scott, 2014). Therefore, the regulatory quality or legal environment are widely applied in many previous studies to capture the efficacy of formal institutions which in turn reflects governance at country level (Bao and Lewellyn, 2017; Bonetti, Magnan and Parbonetti, 2016; Nguyen, Locke and Reddy, 2015; Schiehll and Martins, 2016).

Bao and Lewellyn (2017), however, have noted that the measurement of formal institutions varies greatly in literature. Similar to Durnev, Li and Magnan (2017), Schiehll and Martins (2016), who also mention that institutional settings, which are complex phenomena, cannot be captured easily and their proxies are mixed in extant studies. Therefore, perceptions of institutions vary greatly (Casson, Della Giusta and Kambhampati, 2010). It is still challenging researchers to set an identical proxy for institutions. Following prior research, three dimensions; legal environment, minority shareholders protection, and accounting enforcement, which reflect three salient dimensions of institutional arrangements within the country (La Porta *et al.*, 1998), are applied in this research to capture the formal institutions[19]. Different dimensions of institutions may play different roles (Li *et al.*, 2019). Individual dimensions are discussed below.

#### 4.7.3.1 Legal Environment

The first dimension of institutional settings studied in this research is “legal environment (LEGAL)”. The efficacy of the legal system and its enforcement are supposed to be in place in order to protect property rights and enforce contracts (Kanagaretnam, Lim and Lobo, 2014). Specifically, the efficacy of the legal system and its enforcement underpins the business system as one of the required

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[19] The term “country-level governance or national governance” has also been mentioned in prior studies to label the institutional settings within the country (Bao and Lewellyn, 2017; Nguyen, Locke and Reddy, 2015) and these words will also be mentioned interchangeably in this research.

infrastructures. In order to measure the efficacy of legal system and its enforcement, which is labelled as legal environment in this research, the aggregate legal system and property rights index provided by FRASER INSTITUTE[20] (Gwartney *et al.*, 2018) is applied in line with prior studies (Bradshaw, Huang and Tan, 2019; Bushman and Piotroski, 2006; Kanagaretnam, Lim and Lobo, 2014).

According to economic freedom of the world: the 2018 annual report published by FRASER INSTITUTE, the aggregate legal system and property rights index attempts to capture how efficiently the protective functions of government are performed through the rule of law, the security of property rights, impartial courts and judiciary, and the effectiveness of legal enforcement. These are essential mechanisms to underpin the effectiveness of the economic system and other institutional aspects (Gwartney *et al.*, 2018).  The protection of property rights is also mentioned to be the central focus of the legal system (Gwartney *et al.*, 2018). Thus, the concept of this aggregate index is consistent with the notion of institutional effectiveness proposed by Dixit (2009). Specifically, Dixit (2009) mentions that the effectiveness of institutional settings would reinforce the economic activities by underpinning economic functions in terms of contract enforcement, property rights protection, and collective action.

The aggregate index of the legal system and property rights ranges from 0 to 10 and the higher value indicates a better legal environment. There are six subcategories: "judicial independence, impartial courts, protection of property rights, military interference in rule of law and politics, integrity of the legal system, legal enforcement of contracts, regulatory costs of the sale of real property, reliability of police and

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[20] The aggregate legal system and property rights index is available at https://www.fraserinstitute.org/economic-freedom/dataset?

business costs of crime" (Gwartney *et al.*, 2018). The aggregate index is available for annual periods of this study from the years 2013-2017.

#### 4.7.3.2 Minority Investor Protection

In addition to the broad view of the efficacy of the legal environment, the degree of minority shareholders protection, which is the most frequently used variable (Schiehll and Martins, 2016), is also applied to capture the specific governance mechanism. This mechanism is set for controlling the private control benefits persuaded by majority shareholders or insiders. Shleifer and Vishny (1997) mention that granting shareholders some power, especially minority shareholders, is the basic mechanism in the governance concept. Typically, majority shareholders can exercise their power through their voting rights to resist opportunistic behaviour induced by managers. On the other hand, minority shareholders may have some difficulties in exercising their power due to their voting rights. Thus, the essential mechanisms to protect minority shareholders from being expropriated or oppressed are giving the abilities to place their votes (Belloc, 2013) and granting them the legal power to challenge majority shareholders (La Porta *et al.*, 1997). If the voting system enables minority shareholders to exercise their voting rights easily, it might encourage such shareholders to participate and pay more attention to a corporate decision. In addition, legal mechanisms that allow the oppressed minority shareholders to bring legal action against majority shareholders might also reduce the incentive to expropriate.

Accordingly, the revised antidirector rights index (ADR hereafter), proposed by Djankov *et al.* (2008) is likely to be an effective proxy for capturing the degree of minority shareholders protection within the country. ADR index is constructed from six components, which will be assigned a value of one if, for example, the commercial codes or business laws are in place to protect shareholder rights, and zero otherwise. Thus, ADR ranges from 0 to 6 and higher score is better. However, an intermediate value (0.5) may be used in some cases. There are three components related to the voting system, "voting by mail, no shares blocking before voting, and the ability to call for the extraordinary meeting". The other three components, "cumulative voting for board representative, legal remedy, and preemptive action to buy new stock issues", deal with the protection system (La Porta *et al.*, 1998; Spamann, 2010).

This index is widely used in research focused on how strongly minority shareholders rights are protected by law (Spamann, 2010). Initially, it was introduced by La Porta *et al.* (1998), who state that shareholders typically exert their rights in company policies through their voting. Thus, the original ADR was mainly intended to capture the degree of shareholders protection by considering the voting and protecting systems granted by law (La Porta *et al.*, 1998). However, the original ADR index has been criticised for its ambiguous measurements (Djankov *et al.*, 2008; Spamann, 2010). Accordingly, the ADR index has been revised by researchers; Spamann (2010) and Djankov *et al.* (2008), for example.

The revised version of ADR proposed by Spamann (2010), however, does not have an index for Indonesia, one of the countries in this research's sample. Thus, the ADR index version revised by Djankov *et al.* (2008) is applied in this case. Such a version is more related to the regulation on expropriation (Ferrell, Liang and Renneboog, 2016) and it is closer to the Spamann (2010) version when compared to the original version. ADR index is available online[21] and in the well-published research paper conducted by Spamann (2010). The aggregate index is time-invariant and scaled from 0 – 6, the higher score representing stronger protection of minority shareholders. This index, however, is static.

#### 4.7.3.3 Accounting Enforcement

Preiato, Brown and Tarca (2015) point out that the enforcement of auditing and reporting standards within the country can add to the explanation of institutional effects besides the legal environment and the protection of minority shareholders in general. Therefore, the degree to which auditing and accounting standards can comply in order to govern the quality of financial information is incorporated in this research as an accounting institution (Wysocki, 2011). To capture such a variable, researchers should consider beyond the dichotomy of financial reporting standards. Researchers have contended that implementing International Financial Reporting Standards (IFRS) may not yield similar consequences in different contexts (Brown, 2011). Consequently, the clustering of accounting enforcement by using financial reporting standards is somewhat deceptive (Ball, Robin and Wu, 2003). The absence of enforcement may devastate the power of well-designed accounting standards.

Besides IFRS dichotomies, there is a well-known “auditing and accounting enforcement index” introduced by Brown, Preiato and Tarca (2014) that captures the good environment of auditing and the level of reporting standards compliance in different countries. The index was created during the mandatory adoption of IFRS in the European Union for individual years, 2002, 2005, and 2008 and it is available for

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[21] The index can be retrieved from https://scholar.harvard.edu/shleifer/publications/law-and-economics-self-dealing

51 countries (Brown, Preiato and Tarca, 2014). Those periods, however, do not align with this research's study period of 2013-2017. Clearly, there is a huge interval from 2008 to 2013 and the index may confront the concern of being an outdated proxy to capture the compliance of accounting regulations during the period of this study.

In addition to the auditing and accounting enforcement index published in Brown, Preiato and Tarca (2014), World Economic Forum (WEF)[22], an international organisation that aims to model the global governance mechanism, offers several country-level indicators, one of which is the "strength of auditing and accounting standards"[23]. This index has been used together with another index in the empirical work to capture sound governance within the country (Houqe *et al.*, 2012; Persakis and Iatridis, 2017; Siekkinen, 2016). Researchers have acknowledged that "the strength of auditing and accounting standards index", provided by WEF, is one of the first efforts to empirically capture the degree of auditing and accounting standards enforcement (Preiato, Brown and Tarca, 2015) despite perception-based construction. It is important to note that there is no perfect accounting enforcement proxy in the literature (Hope, 2003).

The indicators provided by WEF are widely accepted by professionals and academics. The public policy research institute, namely the FRASER INSTITUTE,[24] has applied a broad range of country-level indicators introduced by WEF for underpinning their own published indicators. Additionally, researchers have also implemented WEF indicators, which are suitable for their own research topics. For example, Li *et al.*

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[22] See https://www.weforum.org for more information.

[23] The index is published annually in "The Global Competitiveness Report" and is available at www.weforum.org.

[24] For more information see https://www.fraserinstitute.org/economic-freedom/approach

(2006) apply minority shareholder rights and financial information disclosure indexes for capturing the macro-governance environment within the country. Recently, Enomoto, Kimura and Yamaguchi (2018) adopt the set of financial development index published by WEF to reflect the degree of financial development at the country level. The validity and reliability of indicators published by WEF should be reasonably acceptable despite the survey-based design.

The strength of auditing and accounting standards index has been annually updated and it is available for each study period in this research (2013-2017). Taken together, the strength of auditing and accounting standards index will be implemented as an accounting enforcement proxy in the main analysis. The index ranges from 1 (extremely weak) to 7 (extremely strong) and it is available for all countries in this sample.

#### 4.7.3.4 Control Variables

Finally, this research adds three firm-level control variables; financial leverage, financial performance, and firm size, similar to prior studies (Anagnostopoulou and Tsekrekos, 2017; Chen *et al*., 2018; Kim, Kim and Zhou, 2017; Haga, 2018; Martin, Wiseman and Gomez-Mejia, 2019). Moreover, cultural aspect, GDP growth rate, and inflation will also be controlled to account for the effect of informal institutional settings and macroeconomic environments, corresponding to prior practice (Braam *et al.*, 2015; Chen *et al.*, 2018; Choi, Choi and Sohn, 2018; Kim, Kim and Zhou, 2017). In summary, the variable measurement will be concluded in Table 4.4 and it will be used to form the empirical models in regression analysis (see Chapters 5 and 6).

## Table 4.4 Variable Definitions and Measures

| ***Dependent Variables*** | | |
|---|---|---|
| **Variable** | **Measurement** | **Acronym** |
| Accrual Earnings Management | Three accruals earnings management applied in this research. | AEM |
| | The Absolute Value of Abnormal Discretionary Accruals computed by the Jones (1991) Model | ABDACC1 |
| | The Absolute Value of Abnormal Discretionary Accruals computed by the Modified Jones (1995) Model | ABDACC2 |
| | The Absolute Value of Abnormal Discretionary Accruals computed by the Performance-Matched Model (Kothari, Leone and Wasley, 2005) | ABDACC3 |
| Real Earnings Management | The aggregate real earnings management, computed by the sum of 3 individual real earnings management: abnormal cash flow from operation (ABCFO), abnormal production costs (ABPROD), and abnormal discretionary expenses (ABDISEX), following Choi, Choi and Sohn (2018) and Braam *et al.* (2015) | REM |
| | Abnormal cash flows from operations (Multiplied by -1), following Roychowdhury (2006) | ABCFO |
| | Abnormal production costs, following Roychowdhury (2006) | ABPROD |
| | Abnormal discretionary expenses (Multiplied by -1), following Roychowdhury (2006) | ABDISEX |
| | The aggregate real earnings management, computed by the sum of abnormal production costs (ABPROD), and abnormal discretionary expenses (ABDISEX), following Cohen and Zarowin (2010) and Zang (2012) | REM_PD |
| | The aggregate real earnings management, computed by the sum of abnormal cash flow from operation (ABCFO), and abnormal discretionary expenses (ABDISEX), following Cohen and Zarowin (2010) | REM_CD |

| ***Independent Variables*** | | |
|---|---|---|
| **Variable** | **Measurement** | **Acronym** |
| Ownership Concentration | The percentage of shares held by the largest shareholder | LARGEST |
| Managerial Ownership | The percentage of shares held by current managers | MA |
| Domestic Institutional Ownership | The percentage of shares held by domestic institutional shareholders | IS_DOM |
| Foreigner Ownership | The percentage of shares held by foreign shareholders | FOR |
| ***Moderators*** | | |
| **Variable** | **Measurement** | **Acronym** |
| Legal Environment | The aggregate legal system and property right index, provide by FRASER INSTITUTE | LEGAL |
| Minority Shareholders protection | Antidirector Rights Index, following Djankov *et al.* (2008) | ADR |
| Accounting Enforcement | The strength of auditing and reporting index, provided by The World Economic Forum and published in The Global Competitiveness Report | ACC_ENT |
| ***Control Variables*** | | |
| **Variable** | **Measurement** | **Acronym** |
| Financial Leverage | Debt to Asset Ratio | DA |
| Financial Performance | Return on Assets | ROA |
| Firm Size | Natural log of total assets in US Dollars at the end of the fiscal year | Log_TA |
| Culture | Masculinity, following Hofstede (2001)[25] | MAS |
| GDP Growth Rate | GDP growth (annual %) from the World Bank[26] | GDP |
| Inflation | GDP deflator (annual %) from the World Bank | INFLA |

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[25] Due to the high collinearity between four cultural aspects; Uncertainty Avoidance, Individualism, Power Distance, and Masculinity, this research controls for one aspect, Masculinity, to avoid the concern of multicollinearity in regression analysis.

[26] GDP and inflation rate for Taiwan are collected from the National Statistics Republic of China (Taiwan), https://eng.stat.gov.tw/mp.asp?mp=5.

## 4.8 Conclusion

This research is underpinned by the philosophical paradigm of positivism. In addition, a quantitative approach is applied as a philosophical tool to investigate the effect of governance mechanisms on the quality of earnings. The interplay roles of such mechanisms at the firm level and country level are the primary focus in this research. Accordingly, it directs the implementation of the international dataset to test the proposed hypotheses. There are ten countries from both developed and emerging markets incorporated in this research's sample. Data is collected from established databases such as OSIRIS and Datastream, as well as from secondary sources; research papers, World Bank, Fraser Research Institute and The World Economic Forum website. Data analysis, findings and discussion will be presented in Chapters 5 and 6.

# CHAPTER 5

# Accruals Earnings Management: Data Analysis, Findings, and Discussion

## 5.1 Introduction

This chapter presents and discusses the data analysis for all variables of interest with the exception of real earnings management, which will be discussed in Chapter 6. Descriptive statistics of abnormal discretionary accruals, ownership characteristics, and firm-level control variables are presented and discussed in Section 5.2. In addition, descriptive statistics of all country-level variables, which are institutional settings and control variables at the country level, are presented and discussed in Section 5.3. Following descriptive statistics, the univariate and correlation analyses are illustrated and discussed in Sections 5.4 and 5.5 respectively. The core analyses, namely regression, are performed and discussed in Sections 5.6 through to 5.9. The chapter conclusion is presented in Section 5.10.

## 5.2 Descriptive Statistics of Firm-Level Variables

### 5.2.1 Absolute Value of Abnormal Discretionary Accruals

Table 5.1 illustrates the descriptive statistics for the absolute value of abnormal discretionary accruals (ABDACC) from three accruals models. ABDACC2 will be used in the main test and the others will be applied in robustness check as alternative proxies. Overall, the pooled sample means and individual country means of the absolute value of discretionary accruals (ABDACC1, ABDACC2, ABDACC3) approximately range from 0.01 - 0.22. These values are similar to those prior international studies, including Lemma *et al.* (2018), Kim, Kim and Zhou (2017), Lewellyn and Bao (2017), Francis, Hasan and Li (2016), and Leuz, Nanda and Wysocki (2003). In addition to pooled sample statistics, the highest of average accruals earnings management is shown in the US market, compared to other countries in this sample set.

The abnormal discretionary accruals from the US market presented in the previous studies, however, reported comparable level of accruals earnings management, which is quite high and similar to this study. For example, Liu *et al.* (2017) reported that the average value for accruals earnings management[27] of companies listed on the S&P 500 is approximately 0.626 with a standard deviation (SD) of 7.946. Additionally, when their sample is partitioned into family and non-family firms, the second group reveals the higher mean of accruals earnings management, mean 0.921 and SD 9.111. The study of Warfield, Wild and Wild, (1995) also reports a similar mean for the absolute value of discretionary accruals, which is higher than 0.10. It ranges between 0.179 - 0.567 for sub-samples clustered by managerial percentage. Apart from the US, the average value of absolute discretionary accruals is close to zero. The lowest mean of such an item is presented in Taiwan (mean 0.059). Based upon this study's dataset, it can be assumed that the degree of earnings management captured by the absolute value of ABDACC[28] is higher in Western countries, the US and UK in this case, when compared to Asian countries.

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[27] Performance Matched Model is applied in their study.

[28] Absolute value captures the magnitude of abnormal discretionary accruals with disregarding its sign.

### Table 5.1 Descriptive statistics of Accruals Earnings Management

| The Absolute Value of Abnormal Discretionary Accruals (ABDACC) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **ABDACC1** | | | **ABDACC2** | | | **ABDACC3** | | |
| **COUNTRY** | **Mean** | **SD** | **Median** | **Mean** | **SD** | **Median** | **Mean** | **SD** | **Median** |
| United Kingdom | 0.086 | 0.092 | 0.051 | 0.085 | 0.092 | 0.050 | 0.089 | 0.096 | 0.056 |
| Hong Kong | 0.060 | 0.075 | 0.036 | 0.061 | 0.077 | 0.035 | 0.061 | 0.077 | 0.038 |
| Indonesia | 0.077 | 0.090 | 0.049 | 0.079 | 0.090 | 0.051 | 0.074 | 0.084 | 0.049 |
| South Korea | 0.063 | 0.073 | 0.040 | 0.063 | 0.072 | 0.039 | 0.063 | 0.073 | 0.040 |
| Malaysia | 0.064 | 0.072 | 0.041 | 0.064 | 0.073 | 0.041 | 0.061 | 0.068 | 0.041 |
| Philippines | 0.065 | 0.076 | 0.043 | 0.071 | 0.078 | 0.049 | 0.069 | 0.072 | 0.049 |
| Singapore | 0.074 | 0.086 | 0.042 | 0.076 | 0.087 | 0.043 | 0.076 | 0.086 | 0.044 |
| Thailand | 0.076 | 0.086 | 0.046 | 0.077 | 0.088 | 0.047 | 0.076 | 0.082 | 0.049 |
| Taiwan | 0.059 | 0.067 | 0.038 | 0.059 | 0.067 | 0.038 | 0.061 | 0.068 | 0.040 |
| United States | 0.219 | 0.456 | 0.077 | 0.203 | 0.399 | 0.074 | 0.181 | 0.347 | 0.071 |
| **Pooled Sample** | **0.116** | **0.277** | **0.049** | **0.111** | **0.244** | **0.049** | **0.104** | **0.214** | **0.050** |

**Where:**

ABDACC1 = The Absolute Value of Abnormal Discretionary Accruals computed by the Jones Model (1991).

ABDACC2 = The Absolute Value of Abnormal Discretionary Accruals computed by the Modified Jones (1995)

ABDACC3 = The Absolute Value of Abnormal Discretionary Accruals computed by Performance-Matched Model (Kothari, Leone and Wasley, 2005)

## 5.2.2 Ownership Characteristics

This research focuses on four ownership characteristics, as illustrated in Table 5.2. Most countries in this research's dataset have concentrated ownership. The average percentage of shares held by the largest shareholder (LARGEST) is 26.407 for the pooled sample. In addition, Indonesia is the country that reports the highest ownership concentration. In that country, the mean of LARGEST is higher than 50%, which implies that one shareholder is capable of complete control of the firm's policies. As expected, other countries in East Asia, such as the Philippines, Hong Kong, Malaysia, Singapore, South Korea, and Thailand also have a high degree of ownership concentration, the means of LARGEST are higher than 25%. Taiwan has the lowest concentration of ownership (a mean of about 16%). The descriptive statistic of the percentage of shares held by the largest shareholder in this research is consistent with the evidence introduced by Claessens, Djankov and Lang (2000), who report that the mean of voting rights for 9 Asian countries, Hong Kong, Indonesia, South Korea, Malaysia, Philippines, Singapore, Japan, Thailand, and Taiwan, is 15.70%. The most significant concentration of voting rights is also illustrated in Indonesia.

The averages of LARGEST presented in the US and UK are 23.747% and 21.711% respectively. Although it seems to be lower than most Asian countries, it is still high. From those LARGEST's means, one may assume that the controlling shareholder can also exist even in western countries such as the US and UK. This empirical evidence of voting rights for the largest shareholder echoes the notion and empirical evidence provided by La Porta, Lopez- De- Silanes and Shleifer (1999), in which concentration is the dominant characteristic of corporate ownership around the world. In addition to the percentage of shares held by the largest shareholder, managerial ownership (MA) is one of ownership identities that this study aims to investigate according to agency theory.

The average for this variable for the pooled sample is 2.551%, while the average of this variable among countries ranges from 0.731% - 4.000%. In other words, the data suggests that management does not own much of the company's stake. The highest mean of MA originates from South Korea (4.000%), while the lowest mean is from Hong Kong (0.731%). The average of managerial ownership is consistent with the degree of managerial ownership reported in the literature. For example, Huang, Wang and Zhou (2013) demonstrate that the percentage of shares held by CEOs is about

0.022%, while officers and directors own about 0.116% of company's shares in the US.

Apart from LARGEST and MA, domestic institutional ownership (IS_DOM) is one of the ownership characteristics studied in this research. According to the descriptive statistics reported in Table 5.2, domestic institutional shareholders own a company stake of around 17.707% (sample mean). In particular, it is not surprising that, on average, institutions are the main type of ownership in the US (mean 34.839%) and UK (mean 26.461%). Aggarwal *et al.* (2011) mention that the trending of institutional holding has increased internationally. According to their evidence, institutions are the primary shareholders in the US and UK, which is similar to the descriptive statistics presented in this study. On the other hand, Thailand is the country in which the percentage of domestic institutional ownership is lowest (mean 2.975%). The final ownership characteristic in which this research aims to investigate is foreign ownership (FOR) and the sample mean of this variable is 10.489%. The countries where companies are mainly owned by foreigners are Hong Kong and the UK, with an average of 41% of shares held by foreigners in such countries, whereas Taiwan has the lowest percentage of shares owned by foreigners (mean 4.165%). To conclude, ownership characteristics represented in this research dataset are likely to be concentrated and the majority type of ownership according to the sample mean is domestic institutions, followed by foreigners. Finally, managers control very little of a company's stake.

### 5.2.3 Control Variables at Firm Level

According to the previous chapter, there are three firm-level control variables included in the regression models. First, the firm's leverage is controlled in this study, as suggested by prior research (Bao and Lewellyn, 2017; Chen *et al.*, 2018; Houqe *et al.*, 2012; Kim, Kim and Zhou, 2017; Lewellyn and Bao, 2017; Zhong, Chourou and Ni, 2017). Debt to assets ratio (DA) is used as a proxy for firm leverage and the sample mean of this variable is 0.858, indicating that in general the sample constituted from companies where total assets exceeded total liabilities, as shown in Table 5.2. The degree of leverage is slightly higher when compared to previous studies such as Chen *et al.* (2018), who reported the mean of debt to total assets for cross-countries as 0.235. Similarly, Lemma *et al.* (2018) report the level of leverage as 0.488. However, some cross-countries study shows that the leverage ratio can be particularly high. For example, the leverage ratio in the study of Lewellyn and Bao (2017) is 120.00 for the sample mean. In addition to leverage, firm performance measured by the return on asset ratio (ROA) is negative (sample mean -0.260), which is comparable to prior international studies such as Kim, Kim and Zhou (2017). However, such a variable can also vary significantly from research to research depending on the sample. Finally, firm size, as measured by the natural logarithm of total assets at the end of the fiscal year, is 11.896 for the sample mean. This value is comparable to a prior study (see Lemma *et al.*, 2018).

## Table 5.2 Descriptive Statistics of Ownership Characteristics and Control Variables for Baseline Model at Firm Level

| | **LARGEST (%)** | | **MA (%)** | | **IS_DOM (%)** | | **FOR (%)** | | **DA** | | **ROA** | | **Log_TA** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Country** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** |
| United Kingdom | 21.711 | 16.575 | 2.865 | 9.084 | 26.461 | 24.388 | 40.700 | 28.819 | 0.684 | 1.818 | -0.231 | 1.127 | 11.844 | 2.713 |
| Hong Kong | 41.233 | 23.598 | 0.731 | 5.400 | 8.418 | 20.366 | 40.859 | 31.211 | 0.420 | 0.249 | 0.020 | 0.113 | 14.332 | 2.196 |
| Indonesia | 53.828 | 21.458 | 0.813 | 5.169 | 5.265 | 15.911 | 17.073 | 24.933 | 0.586 | 0.981 | 0.008 | 0.380 | 12.011 | 1.748 |
| South Korea | 29.854 | 15.416 | 4.000 | 10.990 | 6.357 | 12.174 | 4.807 | 10.188 | 0.431 | 0.230 | 0.006 | 0.148 | 12.063 | 1.536 |
| Malaysia | 32.139 | 18.531 | 3.329 | 9.750 | 8.637 | 16.366 | 7.402 | 15.565 | 0.394 | 0.615 | 0.021 | 0.358 | 11.622 | 1.704 |
| Philippines | 45.817 | 24.947 | 1.315 | 7.498 | 18.397 | 26.297 | 9.341 | 19.438 | 4.068 | 7.363 | 0.023 | 0.204 | 11.952 | 2.386 |
| Singapore | 31.236 | 22.783 | 3.051 | 10.134 | 13.757 | 20.89 | 12.119 | 20.284 | 0.517 | 0.769 | -0.076 | 0.808 | 12.056 | 1.876 |
| Thailand | 27.398 | 21.549 | 2.956 | 10.123 | 2.975 | 9.278 | 6.634 | 14.949 | 0.456 | 0.601 | 0.038 | 0.146 | 11.537 | 1.595 |
| Taiwan | 16.042 | 14.097 | 1.465 | 4.049 | 8.483 | 11.885 | 4.165 | 9.042 | 0.393 | 0.187 | 0.022 | 0.118 | 11.592 | 1.553 |
| United States | 23.747 | 20.880 | 2.434 | 10.512 | 34.839 | 31.992 | 11.070 | 14.932 | 1.515 | 3.973 | -0.806 | 2.564 | 11.942 | 3.667 |
| **Pooled Sample** | **26.407** | **20.492** | **2.551** | **9.296** | **17.707** | **25.713** | **10.489** | **18.138** | **0.858** | **2.599** | **-0.260** | **1.526** | **11.896** | **2.554** |

**Where:**

LARGEST = The percentage of shares held by the largest shareholder

MA = The percentage of shares held by current managers

IS_DOM = The percentage of shares held by domestic institutional investors

FOR = The percentage of shares held by foreign shareholders

DA = Debt to Asset Ratio

ROA = Return on Asset Ratio

Log_TA = Natural log of total assets at the end of the fiscal year

## 5.3 Descriptive Statistics of Country-Level Variables

### 5.3.1 Institutional Settings at the Country Level

Table 5.3 presents an overview of country-level institutional settings and control variables at the country level. Each of them will be used in this chapter's, and Chapter 6, empirical analysis. The means of legal environment efficacy (LEGAL), captured by the aggregate legal system and property rights index, range from 4.43 (The Philippines) to 8.22 (Singapore). It implicitly indicates that the efficacy of the legal environment of countries in this dataset varies widely from one country to another. In addition, Table 5.3 also reports the summary of the minority shareholders protection measured by antidirector rights index (ADR). As mentioned before (see Chapter 4 Section 4.7.3.2), ADR is a static index and thus there is no standard deviation to report for this variable in Table 5.3. The highest score for ADR among the ten countries in this dataset is 5; for the UK, Hong Kong, Malaysia, and Singapore. The lowest score is 3, which is reported in Taiwan and the US.

Additionally, Singapore also has the highest mean of the accounting enforcement index (ACC_ENT) at 6.26, with the lowest mean of such index reported in Indonesia, with 4.50. According to these descriptive statistics, institutional settings among countries in this research's sample are likely to reflect the diversity of country-level governance. In contrast to the means, the standard deviations of institutional settings variables: LEGAL and ACC_ENT, are low. This echoes the notion that institutional settings change slowly over time (Wysocki, 2011).

### 5.3.2 Control Variables at the Country Level

There are three control variables at the country level; Masculinity (MAS), Gross Domestic Product Growth Rate (GDP), and Inflation (INFLA), as reported in Table 5.3. Masculinity, one dimension of cultural aspects that captures the level of intensity for achievement and assertive behaviour, is a time-invariant index. The scores of the MAS index in western countries, which are the US (MAS score 62.00) and the UK (MAS score 66.00), are higher than the pooled sample mean (51.17). On the other hand, the Philippines (MAS score 64.00) and Hong Kong (MAS score 57.00) had higher MAS scores than the pooled sample mean in Asia. Accordingly, Western societies are likely to be driven by high achievement orientation when compared to Asian culture.

Finally, there are two control variables to capture the economic scenario: Gross Domestic Product Growth Rate (GDP) and inflation, captured by GDP Deflator (INFLA). On average, many countries in Asia have high GDP growth rates. For example, the highest percentage of GDP Growth Rate within the country is reported in the Philippines (6.57%), followed by Malaysia (5.17%) and Indonesia (5.11%) respectively. However, the lowest mean of GDP growth rate also stems from an Asian country; Taiwan. On the other hand, Asian countries also have a high variation in inflation (INFLA). The highest mean of INFLA is reported in Indonesia (4.22%) and the lowest mean is presented in Singapore. Accordingly, Asian economies, at least as presented by this dataset, are rapidly growing and relatively volatile. This has been discussed in literature (Oehmichen, 2018; Young *et al.*, 2008).

**Table 5.3 Descriptive Statistics of Institutional Settings and Country-level Control Variables**

| | **LEGAL** | | **ADR** | **ACC_ENT** | | **MAS** | **GDP (%)** | | **INFLA (%)** | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Country** | **Mean** | **SD** | **Mean** | **Mean** | **SD** | **Mean** | **Mean** | **SD** | **Mean** | **SD** |
| United Kingdom | 7.84 | 0.05 | 5.00 | 5.90 | 0.09 | 66.00 | 2.23 | 0.45 | 1.61 | 0.58 |
| Hong Kong | 7.99 | 0.07 | 5.00 | 6.12 | 0.12 | 57.00 | 2.84 | 0.57 | 2.58 | 0.74 |
| Indonesia | 4.77 | 0.19 | 4.00 | 4.50 | 0.13 | 46.00 | 5.11 | 0.23 | 4.22 | 1.01 |
| South Korea | 6.30 | 0.19 | 4.50 | 4.52 | 0.16 | 39.00 | 3.00 | 0.19 | 1.62 | 0.74 |
| Malaysia | 5.75 | 0.10 | 5.00 | 5.48 | 0.13 | 50.00 | 5.17 | 0.69 | 1.61 | 1.53 |
| Philippines | 4.43 | 0.16 | 4.00 | 5.08 | 0.07 | 64.00 | 6.57 | 0.40 | 1.73 | 1.25 |
| Singapore | 8.22 | 0.05 | 5.00 | 6.26 | 0.08 | 48.00 | 3.45 | 1.05 | 0.79 | 1.46 |
| Thailand | 4.69 | 0.05 | 4.00 | 5.04 | 0.08 | 34.00 | 2.78 | 0.98 | 1.75 | 0.56 |
| Taiwan | 6.62 | 0.18 | 3.00 | 5.68 | 0.04 | 45.00 | 1.01 | 0.06 | 0.84 | 0.60 |
| United States | 7.23 | 0.18 | 3.00 | 5.62 | 0.19 | 62.00 | 2.17 | 0.52 | 1.51 | 0.29 |
| **Pooled Sample** | **6.63** | **0.94** | **3.73** | **5.37** | **0.55** | **51.17** | **2.59** | **1.33** | **1.55** | **1.00** |

**Where:**

LEGAL= The efficacy of legal environment, captured by the aggregate legal system and property rights index

ADR = Antidirector Rights Index, representing the degree of minority shareholders protection

ACC_ENT = Accounting Enforcement, captured by the strength of auditing and reporting index

MAS = Masculinity

GDP = GDP Growth (%)

INFLA = Inflation, captured by GDP Deflator (%)

## 5.4 Univariate Analysis of Accruals Earnings Management

To complement the understanding of the absolute value of discretionary accruals reported in Table 5.1, the t-test analysis, the statistical technique used to discover whether the means of two sample groups are statistically different (Hair *et al.*, 2006) is also conducted and the outcome is reported in Table 5.4. First, the pooled sample is partitioned into Western and Asian countries because their means of accruals earnings management presented in Table 5.1 are likely to differ. The result is reported in Table 5.4 and it indicates that the means in accrual earnings management captured by ABDACC2[29] are statistically different between the Western and Asian countries at a significance level of 5%. Accordingly, it can be assumed that the practice of accruals earnings management differs between countries.

In addition, t-test analysis is also performed to test whether the means of accruals earnings management differ between firms with different ownership characteristics. The pooled sample is separated into two subsamples by considering ownership characteristics. More specifically, firms are clustered into two categories; firms with high or low ownership concentration, firms with high or low managerial ownership, firms with high or low domestic institutional ownership, or firms with high or low foreign ownership. The pooled sample means of ownership variables are applied as a threshold[30]. For example, firms in which the largest shareholder possesses voting rights more than or equal to the sample mean will be placed in the high concentration group.

The findings of the t-test analysis are presented in Table 5.5. More specifically, *Panel A* Table 5.5 tests whether the means of accruals earnings management, ABDACC2, differ for firms with different degree of ownership concentration. The finding shows that at a significance level of 5%, there is a significant difference in means of accruals earnings

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[29] If ABDACC2 is replaced by ABDACC1 and ABDACC3, the result from t-test analysis is still significant at the same level with the result reported in Table 5.4.

[30] If the medians of pooled sample are applied instead of means, the conclusions are similar. However, the pooled sample median of managerial ownership (MA) is zero and there are no observations that MA is less than zero. In such a case, pooled sample is clustered by considering whether firms have managerial ownership. T-test analysis shows that the means of ABDACC2 for firms with and without managerial ownership are statistically different. Specifically, the higher mean of ABDACC2 is shown in a group where firms do not have managerial ownership.

management between firms with a high and low degree of ownership concentration. The mean of accruals earnings management of firms with high ownership concentration (0.121) is slightly higher than firms that have low ownership concentration (0.103). In addition, *Panel B* Table 5.5 points out those firms with high and low managerial ownership have the difference in means of accruals earnings management at a significance level 5%. In this case, firms with low managerial ownership have a higher means of accruals earning management. On the other hand, *Panel C* Table 5.5 shows that the means in accruals earning management between firms with high and low domestic institutional ownership are insignificantly different at a significance level of 5%. Finally, the statistics reported in *Panel D* Table 5.5 ensure that the means of accruals earnings management are significantly different between firms with high and low foreign ownership. Overall, the univariate analysis, t-test, reveals valuable insights in which the means of accruals earnings management differ between firms with different ownership characteristics. For that reason, one may initially assume that ownership characteristics may influence the difference in accruals earnings management. It also initially supports the hypotheses proposed in this research (see Section 4.4.2).

**Table 5.4 Two-Sample t-test Analysis of The Difference in Means of Accruals Earnings Management between the Western and Asian Countries**

The table illustrates the difference in accruals earnings management, captured by the absolute value of discretionary accruals, between the subsamples clustered by the Western and Asian countries.

| | **Asian Countries** | **Western Countries** | | | |
|---|---|---|---|---|---|
| | **Mean1** | **Mean2** | **Dif** | **t-value** | **p-value** |
| **ABDACC2** | 0.065 | 0.183 | -0.118 | -44.350 | 0.000 |

## Table 5.5 Two-Sample t-test Analysis of The Difference in Mean of Accruals Earnings Management between Firms with Different Ownership Characteristics

| The table illustrates the difference in accruals earnings management, capture by the absolute value of discretionary accruals, between the subsamples clustered by the ownership characteristics. | | | | | |
|---|---|---|---|---|---|
| ***Panel A:*** The difference in means of accruals earnings management between firms with high and low ownership concentration | | | | | |
| | **High Ownership Concentration** | **Low Ownership Concentration** | | | |
| | **Mean1** | **Mean2** | **Dif** | **t-value** | **p-value** |
| **ABDACC2** | 0.118 | 0.104 | -0.014 | -5.199 | 0.000 |
| ***Panel B:*** The difference in means of accruals earnings management between firms with and without managerial ownership | | | | | |
| | **High Managerial Ownership** | **Low Managerial Ownership** | | | |
| | **Mean1** | **Mean2** | **Dif** | **t-value** | **p-value** |
| **ABDACC2** | 0.086 | 0.114 | 0.028 | 6.328 | 0.000 |
| ***Panel C:*** The difference in means of accruals earnings management between firms with high and low domestic institutional ownership | | | | | |
| | **High Domestic Institutional Ownership** | **Low Domestic Institutional Ownership** | | | |
| | **Mean1** | **Mean2** | **Dif** | **t-value** | **p-value** |
| **ABDACC2** | 0.108 | 0.112 | 0.004 | 1.420 | 0.156 |
| ***Panel D:*** The difference in means of accruals earnings management between firms with high and low foreign ownership | | | | | |
| | **High Foreign Ownership** | **Low Foreign Ownership** | | | |
| | **Mean1** | **Mean2** | **Dif** | **t-value** | **p-value** |
| **ABDACC2** | 0.097 | 0.119 | 0.022 | 7.903 | 0.000 |

## 5.5 Correlation Test

In this section, the correlation matrix is conducted in order to investigate the potential of multicollinearity. When the high linear relationship between two or more independent variables exits, the assumption of regression analysis is likely to be violated (Wooldridge, 2016). Pearson correlation technique is employed in this research to investigate correlations among variables. Table 5.6 illustrates that the highest correlation among variables of interest, which are ownership characteristics and institutional settings, is -0.712. This correlation coefficient indicates the correlation between debt to assets ratio (DA) and return on assets (ROA). The reason is that these two variables need the value of total assets to compute their values. In addition, the collinearity between legal environment (LEGAL) and accounting enforcement (ACC_ENT), 0.635, is also relatively strong according to Evans (1996).

Due to the strong collinearity, institutional settings variables will be separately regressed in regression models in order to avoid the potential of multicollinearity. Alternatively, it is argued that omitting some variable(s) that highly correlate with another should also resolve the potential multicollinearity problem (Hair *et al.*, 2006). However, such a technique may erode the substantial characteristics of variables of interest. For this reason, separation of the regression model to investigate the effect of institutional settings is performed in prior research (see An, Li and Yu, 2016; Haw *et al.*, 2004; Sahasranamam and Nandakumar, 2018). In addition to the correlation analysis, Wooldridge (2016) also mentions that checking the variance inflation factor (VIF), as an additional test to detect multicollinearity in a regression test, is suggested. Thus, the VIF value will be checked after a regression analysis is performed in the following sections.

In addition, all of the firm-level and country-level variables are significantly correlated with accruals earnings management at the 5% and 10% levels[31]. However, such correlation coefficients report the link between two variables and thus have a limitation in the inference. Accordingly, the analysis, namely multiple regression, is conducted in the following sections to present the overall explanatory power of all variables of interest (Klein, 1998).

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[31] LARGEST and INFLA, reported in Table 5.3, are significant at the 10% level.

## Table 5.6 Pearson Correlation Matrix

**All variables for regression analysis at the firm level and country level**

| **Variables** | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** | **(7)** | **(8)** | **(9)** | **(10)** | **(11)** | **(12)** | **(13)** | **(14)** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) ABDACC2 | 1.000 | | | | | | | | | | | | | |
| (2) LARGEST | 0.011 | 1.000 | | | | | | | | | | | | |
| (3) MA | -0.018* | 0.103* | 1.000 | | | | | | | | | | | |
| (4) IS_DOM | -0.011* | -0.141* | -0.088* | 1.000 | | | | | | | | | | |
| (5) FOR | -0.044* | 0.097* | -0.036* | 0.199* | 1.000 | | | | | | | | | |
| (6) DA | 0.298* | 0.082* | 0.024* | -0.057* | -0.014* | 1.000 | | | | | | | | |
| (7) ROA | -0.533* | -0.055* | -0.031* | 0.074* | 0.027* | -0.712* | 1.000 | | | | | | | |
| (8) Log_TA | -0.301* | -0.097* | -0.093* | 0.355* | 0.244* | -0.340* | 0.478* | 1.000 | | | | | | |
| (9) LEGAL | 0.098* | -0.207* | 0.004 | 0.311* | 0.200* | 0.009 | -0.017* | 0.049* | 1.000 | | | | | |
| (10) ADR | -0.152* | 0.212* | 0.057* | -0.247* | 0.169* | -0.099* | 0.137* | 0.042* | -0.249* | 1.000 | | | | |
| (11) ACC_ENT | 0.058* | -0.208* | -0.033* | 0.265* | 0.184* | 0.042* | -0.082* | 0.010* | 0.635* | -0.314* | 1.000 | | | |
| (12) MAS | 0.198* | -0.061* | -0.029* | 0.460* | 0.275* | 0.182* | -0.195* | 0.025* | 0.527* | -0.334* | 0.594* | 1.000 | | |
| (13) GDP | -0.045* | 0.347* | 0.019* | -0.107* | 0.044* | 0.045* | 0.054* | 0.031* | -0.568* | 0.562* | -0.394* | -0.072* | 1.000 | |
| (14) INFLA | 0.009 | 0.250* | -0.005 | -0.027* | 0.117* | 0.006 | 0.007 | 0.041* | -0.417* | 0.175* | -0.307* | -0.006 | 0.398* | 1.000 |

*** shows significance at the .05 level**

## 5.6 Multiple Regression Analysis for Accruals Earnings Management: The Effect of Ownership Characteristics

This section presents the results of hypothesis testing regarding the direct link between ownership characteristics and earnings quality, measured by the absolute value of discretionary accruals. The influence of ownership characteristics on accrual earnings management is also discussed in this chapter, while the empirical analysis for real earnings management will be discussed in Chapter 6. In the main test, the absolute value of discretionary accruals from the Modified Jones (1995) model is used as accrual earnings management's proxy and the model specification is presented as follows:

**Baseline Model 1A**

$$ABDACC2_{it} = \beta_0 + \beta_1 LARGEST_{it} + \beta_2 MA_{it} + \beta_3 IS\_DOM_{it} + \beta_4 FOR_{it} + \beta_5 DA_{it} + \beta_6 ROA_{it} + \beta_7 Log\_TA_{it} + \text{Industry Dummies}_k + \text{Year Dummies}_t + \text{Country Dummies}_j + \varepsilon_{it}$$

**Where:**

ABDACC2 = The absolute value of abnormal discretionary accruals from the Modified Jones (1995) Model

LARGEST = The proportion of shares held by the largest shareholder

MA = The proportion of shares held by current managers

IS_DOM = The proportion of shares held by domestic institutional shareholders

FOR = The proportion of shares held by foreign shareholders

DA = Debt to Asset Ratio

ROA = Return on Assets Ratio

Log_TA = Natural log of total assets in US dollars at the end of the fiscal year

i = Firm i

t = Time period (2013 – 2017)

k = Industry Denote

j = Country Denote

ε = Error term

Industry dummies are generally included in regression models according to prior practice, in order to account for industry-specific effects (for example, Bao and Lewellyn, 2017; Chen *et al.*, 2018; Francis, Hasan and Li, 2016; Lemma *et al.*, 2018; Zhong, Chourou and Ni, 2017). In addition to industry dummies, the model also contains country dummies to account for the unobserved heterogeneity among countries, following prior studies such as Ben-Nasr, Boubakri and Cosset (2015) and Lel (2018). Finally, year dummies are added to the model to reflect the variances in the macroeconomic environment in terms of time effect during the study period. The standard errors are robust and clustered[32] within the firm to account for potential heteroskedasticity and autocorrelation, following prior research (Jiang, Habib and Wang, 2018; Nguyen, Locke and Reddy, 2015). In addition, all empirical analyses presented in this chapter and Chapter 6 are performed by using STATA software.

The findings using OLS estimation[33] with industry-country-year fixed effects are reported in Table 5.7. Such findings respond to the sub-question, which is the firm-level analysis. The question is: "does accruals earnings management varies due to the effect of ownership characteristics?" The proposed hypotheses (H1.1 – H1.4) are examined in this stage. The findings show that most of the hypotheses proposed at the firm-level analysis are accepted, excluding foreign ownership. The adjusted R-squared for accruals earnings management reported from Baseline Model 1A is 0.373,

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[32] This practice is prevalent in the panel data analysis. It is recommended that the inference drawn from OLS should be relied on cluster-robust standard error (Cameron and Miller, 2015).

[33] See the discussion of this estimation in Chapter 4 under "Quantitative Approach" Section 4.3.1.

meaning that the variation in the absolute value of discretionary accruals can be explained by the variation of explanatory variables in Baseline Model 1A about 37%. Adjusted R-squared obtained from such a model is also comparable with previous studies, including Lel (2018), Liu *et al.* (2018), Lyu, Yuen and Zhang (2017), and Achleitner *et al.* (2014). There are four variables of interest and three control variables at the firm-level analysis. The findings are presented and discussed below.

### 5.6.1 Ownership Concentration (LARGEST)

As reported in Table 5.7, accruals earnings management is found to positively vary with the degree of ownership concentration. That is, when the largest shareholder owns more company's stakes, they are likely to drive high earnings management throughout discretionary accruals which in turn reduced earnings quality. The finding supports the entrenchment effect under agency theory (Morck, Shleifer and Vishny, 1988) and the hypothesis, H 1.1, is accepted in this case. The coefficient of LARGEST is 0.039 (p-value < 0.01). Specifically, it indicates that if the percentage of shares held by the largest shareholder increases by 1%, the absolute value of abnormal discretionary accruals will increase by about 3.9% of lagged total assets. This finding is consistent with previous research such as Fan and Wong (2002) who report that ownership concentration in seven countries from East Asia induces the lower level of earnings informativeness. In addition to Fan and Wong (2002), Bao and Lewellyn (2017) find that the percentage of shares held by the largest shareholder is positively linked with the absolute value of abnormal discretionary accruals. In addition to these studies, there are others with findings that support the entrenchment effect, for example, Lyu, Yuen and Zhang (2017), García- Sánchez and García- Meca (2014), and Firth, Fung and Rui (2007).

### 5.6.2 Managerial Ownership (MA)

The alignment of interests between owners and managers through increased managerial ownership has been posited under the view of agency theory (Jensen and Meckling, 1976). This study, therefore, projects that the percentage of shares owned by managers should significantly associate with accruals earnings management, as stated by hypothesis 1.2. The result from regression analysis reported in Table 5.7 shows that managerial ownership has a negative link with the absolute value of discretionary accruals. In other words, the finding supports the alignment-convergence effect and hypothesis 1.2 is also supported. The coefficient of MA is -0.040 and statistically significant at the 1% level. The finding of managerial ownership is convergent with the findings of Warfield, Wild and Wild (1995), Sandra (2012), and Di Meo, García Lara and Surroca (2017). Their empirical findings also report a negative link between managerial ownership and the absolute value of abnormal discretionary accruals.

### 5.6.3 Domestic Institutional Ownership (IS_DOM)

In addition to concentrated and managerial ownership, institutions are one of the ownership identities focused on in this research. As discussed in the previous chapter, institutions are specifically classified as domestic institutions. Hypothesis 1.3 proposed that domestic institutional ownership might prefer to act as an active monitoring mechanism according to their hometown advantages, as mentioned in Chapter 4 (Section 4.4.1.3). Thus, accruals earnings management should be unlikely when the firm’s stakes are significantly owned by this type of shareholder. The finding for domestic institutional shareholders (IS_DOM) illustrated in Table 5.7 indicates that the active monitoring hypothesis is presented in this current study and hypothesis

1.3 is accepted at the statistical significance 1% level (coefficient -0.083). The finding aligns with prior research such as Zhong, Chourou and Ni (2017) who also find that institutional ownership increases earnings quality. In addition, Liu *et al.* (2018) and Kim *et al.* (2016) add more convergence evidence in which domestic institutional shareholders deter the accruals earnings management practice. It is also consistent with prior studies, including Jung and Kwon (2002), Hashim and Devi (2012), Ajay and Madhumathi (2015b).

### 5.6.4 Foreign Ownership (FOR)

The result for foreign ownership (FOR) presented in Table 5.7 does not support the proposed hypothesis 1.4, which predicted that the level of foreign ownership is significantly associated with accruals earnings management. The coefficient of FOR is -0.001 but it is not statistically significant at any conventional levels. Therefore, hypothesis 1.4 is rejected. The finding contradicts previous evidence provided by Ben-Nasr, Boubakri and Cosset (2015) whose finding supports the active monitoring roles of foreign ownership. More specifically, they find that discretionary accruals are negatively associated with greater foreign ownership. However, the institutional settings within the host countries, where the firm is located, might also influence such shareholders' behaviour (Kim *et al.*, 2019). Accordingly, one may infer that the incentive of foreign investors might be contingent on the host countries' institutional environment.

Although this research finding does not align with the hypothesis, it can be reasonably justified by the information asymmetry assumption mentioned in prior research (e.g., Alzoubi, 2016; Batten and Vo, 2015; Choe, Kho and Stulz, 2005; Dvořák, 2005).

Dvořák (2005) points out that there is an ongoing debate due to information asymmetry between domestic and foreign investors. Typically, there are several difficulties with investing in overseas countries. For example, the differences in languages, culture and physical distances may diminish the incentive of foreign shareholders to actively monitor the financial report preparing. Therefore, those difficulties are potential and reasonable factors to cause no link between foreign ownership and accruals earnings management in this study.

### 5.6.5 The Findings of Firm-level Control Variables

There are three control variables in the firm-level analysis which prior studies have suggested that are also likely to influence earnings management. First, debt ratio (DA), which expresses the firm’s leverage, has a statistically significant effect on accruals earnings management as predicted. DA is statistically significant at the 1% level and its coefficient is positive (0.006), as reported in Table 5.7. The finding indicates that a higher level of financial leverage encourages firms to engage in accruals earnings management. More specifically, the assumption of debt covenant pressures is supported in this case, similar to previous findings such as Haw *et al.* (2004), Bao and Lewellyn (2017), Beuselinck, Blanco and García Lara (2017), and Liu *et al.* (2018).

In addition to firm’s leverage, this study controls for the effect of firm’s profitability, proxied by return on assets (ROA), following prior practices (Choi, Choi and Sohn, 2018; Liu *et al.* 2018; Kim, Kim and Zhou, 2017). The negative link between ROA and the absolute value of abnormal discretionary accruals is expected. The result confirms that firms with higher ROA tend to have lower abnormal discretionary accruals. The negative sign of ROA’s coefficient (-0.116) is statistically significant at the 1% level, as reported in Table 5.7.

The final control variable included in the Baseline model 1A is firm size (Log_TA) according to the concern of business complexities (Lel, 2018) and political costs (Choi, Choi and Sohn, 2018). This research follows the political costs hypothesis, which proposes that larger firms typically face greater pressure from a number of stakeholders. Accordingly, this research expects that there should be a negative link between the firm’s size and its abnormal discretionary accruals because of high pressure from external scrutinise. The regression result in Table 5.7 confirms that such prediction is true. The coefficient of Log_TA is -0.015 and statistically significant at the 1% level. All findings for control variables are consistent with prior evidence, for example, Choi, Choi and Sohn (2018), Liu *et al.* (2018), Kim, Kim and Zhou (2017), and Francis, Hasan and Li (2016).

## Table 5.7 The Link between Ownership Characteristics and Accruals Earnings Management

This table reports the link between ownership characteristics and earnings quality measured by the absolute value of abnormal discretionary accruals from the Modified Jones 1995 Model (ABDACC2), known as accruals earnings management (AEM). There are four variables of interest; concentrated ownership (LARGEST), managerial ownership (MA), domestic institutional ownership (IS_DOM), foreign ownership (FOR). Three control variables, leverage (DA), performance (ROA), and size (Log_TA), are also added to the model. The OLS estimation is employed in this stage and VIF for all variables of interest is lower than 5 (it ranges from 1.08 – 2.16). Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation.

| **Independent Variable** | **Expected Sign** | **Baseline Model 1A Dependent Variable ABDACC2** |
|---|---|---|
| LARGEST | H1.1 (+/-) | 0.039***<br>(4.330) |
| MA | H1.2 (+/-) | -0.040***<br>(-2.820) |
| IS_DOM | H1.3 (-) | -0.083***<br>(-10.029) |
| FOR | H1.4 (+/-) | -0.001<br>(-0.120) |
| DA | | 0.006**<br>(2.461) |
| ROA | | -0.116***<br>(-12.114) |
| Log_TA | | -0.015***<br>(-14.237) |
| Constant | | 0.302***<br>(18.184) |
| **Year Dummy** | | **Yes** |
| **Industry Dummy** | | **Yes** |
| **Country Dummy** | | **Yes** |
| **Observations** | | **29,394** |
| **Adjusted R-squared** | | **0.373** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

## 5.7 Robustness Tests: The Effect of Ownership Characteristics on Accruals Earnings Management

In this section, additional tests are performed in order to ascertain the robustness of the findings reported in the main analysis regarding the direct effect of ownership characteristics on accruals earnings management at the firm level. Alternative measures of dependent variable are first implemented in line with prior research (Anagnostopoulou, 2017; Bao and Lewellyn, 2017; Doukakis, 2014; Lo, Ramos and Rogo, 2017). Second, the alternative estimation, namely the Fixed-Effects Model, is applied. Third, the alternative model specification by adding an additional control variable is performed. Finally, the examination of the trade-off between accruals and real earnings management is studied.

### 5.7.1 Alternative Proxies for Accruals Earnings Management

As discussed earlier, the Modified Jones (1995) Model, among others, is well known and widely used in international studies to capture accruals earnings management (see: Bonetti, Magnan and Parbonetti, 2016; Chen *et al.*, 2010; Doukakis, 2014; Francis, Hasan and Li, 2016; Oz and Yelkenci, 2018). Although accrual models which proxy accruals earnings management have been critiqued, the Jones family models remain resilient over time (Defond, 2010). Accordingly, this research implements the absolute value of abnormal discretionary accruals calculated by the Jones Model (Jones, 1991) and the Performance-matched Model (Kothari, Leone and Wasley, 2005) for alternative proxies of accruals earnings management. Both are considered as Jones family Models.

The results from using alternative proxies of accruals earnings management are reported in Table 5.8. The adjusted R-square of Model 1 presented in Table 5.8 for accruals earnings management (ABDACC1) computed using the Jones 1991 Model is 38.60%. On the other hand, the adjusted R-square of Model 2 reported in Table 5.8 for the Performance-matched Model applied to calculate accruals earnings management (ABDACC3) is 32.80%. These adjusted R-square values are comparable with the adjusted R-square reported from the Baseline Model 1A, 37.30% (see Table 5.7). Moreover, the findings also confirm that using alternative accruals proxies computed from alternative accruals models does not significantly modify the main findings. Specifically, LARGEST still has a positive link with the absolute value of abnormal discretionary accruals, measured by the Jones Model (ABDACC1) and the Performance- matched Model (ABDACC3). Its significance level is 1% (p-value < 0.01); the same as the finding for LARGEST reported in the main analysis. Other independent and control variables in which their signs of coefficients and their levels of significance still hold constant are IS_DOM, DA, ROA, and Log_TA. Thus, one may conclude that the effect of those variables is qualitatively similar[34] to the main analysis and robust to the alternative proxies of accruals earnings management. Although MA is not significant at any conventional level in Model 1 Table 5.8, its influence reported in Model 2 Table 5.8 is statistically significant and similar to the main analysis. In this regard, the results for applying alternative proxies of accruals earnings management reinforce the results and their inferences presented in the main analysis.

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[34] The term “Qualitatively similar” is used when the sign and significance level of variables of interest are not materially different from the main findings (Choi, Choi and Sohn, 2018, p.2233)

**Table 5.8 The Link between Ownership Characteristics and Accruals Earnings Management by Using Alternative Proxies**

This table reports the link between ownership characteristics and alternative proxies of accruals earnings management. ABDACC1 is the absolute value of abnormal discretionary accruals computed by the Jones Model and ABDACC3 is the absolute value of abnormal discretionary accruals computed by the Performance-Matched accruals Model. VIF values of Model 1 and 2 range from 1.08 – 2.85 and 1.08 - 2.16, respectively. Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation.

| | **Dependent Variable** | |
|---|---|---|
| | **Model (1)** | **Model (2)** |
| **VARIABLES** | **ABDACC1** | **ABDACC3** |
| LARGEST | 0.044*** | 0.036*** |
| | (4.423) | (4.408) |
| MA | -0.034 | -0.046*** |
| | (-1.412) | (-3.146) |
| IS_DOM | -0.089*** | -0.073*** |
| | (-9.547) | (-10.152) |
| FOR | -0.009 | -0.001 |
| | (-1.008) | (-0.146) |
| DA | 0.006** | 0.004* |
| | (1.995) | (1.933) |
| ROA | -0.135*** | -0.091*** |
| | (-12.512) | (-11.420) |
| Log_TA1 | -0.014*** | -0.015*** |
| | (-11.765) | (-16.058) |
| Constant | 0.289*** | 0.309*** |
| | (15.941) | (21.151) |
| **Year Dummy** | **Yes** | **Yes** |
| **Industry Dummy** | **Yes** | **Yes** |
| **Country Dummy** | **Yes** | **Yes** |
| **Observations** | **29,519** | **29,393** |
| **Adjusted R-squared** | **0.385** | **0.328** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

### 5.7.2 Alternative Estimation by Using the Fixed-Effects Model

To determine the alternative estimation, namely Random-Effects or Fixed-Effects model, the Hausman Test is conducted (Hausman, 1978). McKnight and Weir (2009) explain that such a test differentiates random effects from fixed effects by checking the correlation between explanatory variables and an individual random effect ($\varepsilon_i$). The random-effect estimation should be preferred if there is no such correlation. On the other hand, the fixed- effect estimation should be applied in case of the existence of that correlation. In this case, the Hausman test identifies that the random-effect assumption is violated (Prob>chi2 = 0.0000). Thus, fixed-effects estimation is applied as an alternative estimation and the results from such an estimation are shown in Table 5.9.

Generally, the results from using a fixed-effects estimation regarding the effect of ownership characteristics on accruals earnings management are qualitatively similar to the results from applying OLS estimation in the main analysis. The term "qualitatively similar" is applied by Choi, Choi and Sohn (2018, p.2233) when the alternative tests are performed and the sign and significance level of variables of interest are not substantially changed. In this case, the findings of LARGEST, MA, IS_DOM, and FOR are qualitatively similar to the main analysis tabulated in Table 5.7. Consequently, the inference remains similar to the main analysis.

### Table 5.9 The Link between Ownership Characteristics and Accruals Earnings Management Using the Fixed-Effects Estimation

This table reports the link between ownership characteristics and accruals earnings management measured by the absolute value of abnormal discretionary accruals from the Modified Jones Model (ABDACC2). Firm-Year Fixed Effects estimation is employed in this stage. Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation.

| **Independent Variable** | **Dependent Variable**<br>**ABDACC2** |
|---|---|
| LARGEST | 0.049***<br>(2.691) |
| MA | -0.073***<br>(-3.774) |
| IS_DOM | -0.064***<br>(-4.189) |
| FOR | -0.021<br>(-1.250) |
| DA | -0.005<br>(-0.775) |
| ROA | -0.064***<br>(-5.298) |
| Log_TA | 0.008<br>(0.768) |
| Constant | 0.037<br>(0.295) |
| **Firm-Fixed Effect** | **Yes** |
| **Year-Fixed Effect** | **Yes** |
| **Observations** | **29,394** |
| **Number of Firms** | **8,009** |
| **Adjusted R-squared** | **0.041** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

### 5.7.3 Additional Control Variable

According to literature, the Baseline Model 1A comprises of crucial control variables at the firm level. However, adding further control variables to a model specification is also a practice to conduct a robustness test in prior studies (Ben-Nasr, Boubakri and Cosset, 2015; Enomoto, Kimura and Yamaguchi, 2015; Francis, Hasan and Li, 2016; Kim, Kim and Zhou, 2017). Due to the nature of accruals earnings management, auditors must pay more attention to whether and how managers exercise their discretion, which is allowed by GAAP, over accruals principles. In that regard, accruals earnings management is prone to detection by auditors. Consequently, much research examining accruals earnings management has proposed that the quality of auditing or auditors should deter such a technique.

In accordance with data available from Datastream, this research adds an audit fee (AUD), the amount of money that the firm paid for the auditing and assurance services (Thompson Reuters, 2019), into the Baseline Model 1A. Similar to Hope (2003)[35], audit fees are deflated by total assets. The rationale is that firms with more spending on audit fees are likely to have a closer investigation, and thus accruals manipulation is unlikely. The Baseline Model 1A is rerun and the results are reported in Table 5.10. It is obvious that once AUD is added into the model, the sample size significantly dropped from 29,394 to 22,471 firm-year observations[36]. Additionally, the adjusted R-squared is significantly reduced from 37% to approximately 29%. This is the reason why this variable is not included in the main analysis. The concern of sample size is

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[35] Hope (2003) applies the aggregate audit spending paid to the 10 largest audit firms within the country as a country-level variable and it is deflated by GDP. This variable is one of the proxies used to capture the enforcement of accounting regulations.

[36] Audit fees are effectively non-existent in Indonesia, Thailand, and the Philippines.

also mentioned in previous studies (Enomoto, Kimura and Yamaguchi, 2015; Kim, Kim and Zhou, 2017). As shown in Table 5.10, the results of ownership and control variables hold constant despite adding AUD. In other words, the findings reported in the main analysis are significantly robust to an alternative model specification. The effect of AUD on accruals earnings management is negative (coefficient -0.051) but it is not statistically significant at any conventional levels. The smaller size of the sample, which induces less information, might influence the insignificant effect of AUD. The study by Enomoto, Kimura and Yamaguchi (2015) does not find a significant effect of auditors on earnings management as well after adding auditor types into the model as a robustness analysis. Their sample size is also significantly smaller due to missing data.

## Table 5.10 The Link between Ownership Characteristics and Accruals Earnings Management by Adding Additional Controls

This table reports the link between ownership characteristics and accruals earnings management by adding more control variable, audit fees (AUD). OLS estimation is employed in this stage and VIF for all variables of interest is lower than 5 (It ranges from 1.09 – 2.38). Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation.

| **VARIABLES** | **Dependent Variable**<br>**ABDACC2** |
|---|---|
| LARGEST | 0.038***<br>(4.248) |
| MA | -0.045***<br>(-4.000) |
| IS_DOM | -0.058***<br>(-7.111) |
| FOR | 0.006<br>(0.714) |
| DA | 0.017***<br>(2.731) |
| ROA | -0.118***<br>(-8.365) |
| Log_TA1 | -0.013***<br>(-13.260) |
| AUD | -0.051<br>(-1.633) |
| Constant | 0.265***<br>(17.819) |
| **Year Dummy** | **Yes** |
| **Industry Dummy** | **Yes** |
| **Country Dummy** | **Yes** |
| **Observations** | **22,471** |
| **Adjusted R-squared** | **0.294** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

### 5.7.4 The Trade-Off between Accruals and Real Earnings Management

This section provides more evidence regarding the trade-off between accruals and real earnings management. The trade-off is also a crucial question, which earlier research has attempted to uncover (Cohen, Dey and Lys, 2008; Zang, 2012). According to Zang (2012), the timing to conduct accruals and real earnings management is different. Specifically, the manipulation of real activities through operating policies must be performed during the accounting period whereas accruals manipulation through accounting estimates typically occurred at the end of the accounting period (Zang, 2012). Due to the restriction on timing, managers are likely to adjust the degree of accruals manipulation to the level of real activities management. In other words, these two techniques of earnings management are possibly substituted, and the degree of real earnings management determines the degree of accruals manipulation.

Accordingly, the aggregate value of real earnings management (REM) is added, as one of the predictor variables, into the Baseline Model 1A. The results from such a model specification are reported in Table 5.11. The negative coefficient of REM (coefficient -0.024, $p < 0.01$) suggests that real and accruals earnings management are likely to be substituted in this research dataset. Specifically, firms trade off these two techniques in order to manage their bottom line and the degree of real earnings management determines the magnitude of accruals earnings management. This finding is in line with prior research (Zang, 2012). The difference in nature of these two techniques are the main motivation for the substitution (Choi, Choi and Sohn, 2018; Cohen, Dey and Lys, 2008; Zang, 2012). In addition, the effect of variables of interest on accruals earnings management is constant despite the inclusion of REM. It implies that the alternative model specification does not alter the effect of ownership characteristics on accruals earnings management.

**Table 5.11 The Trade-Off between Accruals and Real Earnings Management**

This table illustrates the trade-off between real (REM) and accruals earnings management (AEM). OLS estimation is employed in this stage and VIF for all variables of interest is lower than 5 (it ranges from 1.08 – 2.20). Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation.

| **VARIABLES** | **Dependent variable ABDACC2** |
|---|---|
| REM | -0.024***<br>(-4.752) |
| LARGEST | 0.040***<br>(4.519) |
| MA | -0.048***<br>(-3.562) |
| IS_DOM | -0.085***<br>(-10.200) |
| FOR | -0.007<br>(-0.833) |
| DA | 0.005**<br>(2.051) |
| ROA | -0.109***<br>(-11.694) |
| Log_TA | -0.014***<br>(-13.695) |
| Constant | 0.287***<br>(17.567) |
| **Year Dummy** | **Yes** |
| **Industry Dummy** | **Yes** |
| **Country Dummy** | **Yes** |
| **Observations** | **28,231** |
| **Adjusted R-squared** | **0.393** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

To conclude, the effect of firm-level governance, ownership characteristics, on accruals earnings management is generally robust to the alternative proxies for accruals earnings management. It is also robust to the alternative estimation method by using the fixed-effects estimation, and alternative model specification by adding one control variable, audit fees, and alternative model specification by adding real earnings management as one of the predictors. In addition to the firm-level analysis, the effect of institutional settings within the country is incorporated into the analysis as moderators in the following sections.

## 5.8 Multiple Regression Analysis for Accruals Earnings Management: The Interaction Analysis

The moderating effect of institutional settings in altering the direct link between ownership characteristics and accruals earnings management (AEM) are denoted in the Moderating Model 1A[37]. More specifically, Moderating Model 1A estimates the conditional effect instead of the partial effect, as presented in the Baseline Model 1A. The conditional effect responds to how the independent variable influences variation in the outcome variable as a function of another variable, known as the moderator (Kingsley, Noordewier and Vanden Bergh, 2017). The statistical coefficient of an interaction term, $\beta_9$, in the Moderating Model 1A indicates whether the effect of a change in the primary independent variable on dependent variable differ from each

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[37] On the other hand, researchers may test the interaction effects by splitting sample into clusters, high–low investor protection for example, without implementing the explicit interaction term in the model and the regression is performed separately for each group. Such a research design, however, may lose its efficiency because the sample size is shrinking (Brambor, Clark and Golder, 2005). Brambor, Clark and Golder (2005) mention that the interpretation from such a research design might also be limited due to the smaller sample size and less information.

other among different levels of the moderator, also known as a marginal effect (Kingsley, Noordewier and Vanden Bergh, 2017).

According to literature, it is also strongly suggested that a partial effect model, which is the Baseline Model 1A in this case, should be individually estimated and excluded from the conditional model (Hayes, 2018). This is the reason why the effect of ownership characteristics was individually estimated as a firm-level analysis in the previous section. Moreover, Hayes (2018) and Brambor, Clark and Golder (2005) mention that when an interaction variable[38] is included in the model, its constituents must also be included in the model as well. Failure to do so will bias the moderating effect, which in turn might cause some confusion in the interpretation. The findings from the Moderating Model 1A empirically respond to the main research question as to "do institutional settings modify the link between ownership characteristics and earnings quality, captured by accruals earnings management?"

**Moderating Model 1A**

$$\begin{aligned} ABDACC2_{it} = {} & \beta_0 + \beta_1 LARGEST_{itj} + \beta_2 MA_{itj} + \beta_3 IS\_DOM_{itj} + \beta_4 FOR_{itj} + \beta_5 DA_{itj} + \\ & \beta_6 ROA_{itj} + \beta_7 Log\_TA_{itj} + \beta_8 IS_{jt} + \beta_9 (OS_{it} * IS_{jt}) + \beta_{10} MAS_{jt} + \beta_{11} GDP_{jt} \\ & + \beta_{12} INFLA_{jt} + \text{Industry Dummies}_k + \text{Year Dummies}_t + \varepsilon_{it} \end{aligned}$$

**Where:**

OS = Ownership Variables (OS ∈ {LARGEST, MA, IS_DOM, FOR}) of firm i in year t and country j

IS = Institutional Settings Variable of Country j in year t (IS ∈ {LEGAL, ADR, ACC_ENT})

MAS = Masculinity Index from Hofstede (2001)

GDP = GDP Growth Rate (Annual %)

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[38] It is also called the product term in the literature (Kingsley, Noordewier and Vanden Bergh, 2017).

INFLA = GDP Deflator (Annual %)

Apart from those aforementioned set of country-level variables, there are firm-level variables (ABDACC2, LARGEST, MA, IS_DOM, FOR, DA, ROA, Log_TA) in which their definitions are presented under the Baseline Model 1A (see Section 5.6). Industry and year dummies are still included to account for the unobserved industry-year effect[39]. To alleviate potential multicollinearity among country-level variables, institutional settings variables will be entered into the model separately. This was discussed in Section 5.5[40].

To produce the interaction variable or product term in the Moderating Model 1A, this research centres the independent and moderator variables (ownership variables and institutional settings) by using the mean centering technique as recommended in literature (see Jaccard and Turrisi, 2003; Nguyen, Locke and Reddy, 2015). This technique will make the interpretation for the main effect of constitutive variables become meaningful (Hayes, 2018) if the product term is produced from two continuous variables, which is the case in this research. Moreover, it also alleviates the potential for high collinearity between the product term and its constitutive variables. The following sections present the results in response to the main research question and the proposed hypotheses (H 1.5 – H 1.8), which account for the moderating effect of institutional settings at the country level. The findings are reported in Table 5.12.

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[39] If the Country dummies are included in the Moderating Model 1A, the VIF values of the country-level variables are much higher than 10.

[40] As mentioned earlier, this practice is also implemented in literature (see Jiang, Habib and Wang, 2018; Sahasranamam and Nandakumar, 2018).

## Table 5.12 The Moderating Effect of Institutional Settings on the Link between Ownership Characteristics and Accruals Earnings Management[41]

This table reports the moderating effect of institutional settings on the link between ownership characteristics and accruals earnings management. The OLS estimation is applied. Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation.

| | | **Dependent Variable** | | | |
|---|---|---|---|---|---|
| **VARIABLES** | **Expected Sign** | **Model 1 ABDACC2** | **Model 2 ABDACC2** | **Model 3 ABDACC2** | **Model 4 ABDACC2** |
| LARGEST | | 0.045*** | 0.041*** | 0.042*** | 0.039*** |
| | | (4.831) | (4.750) | (4.850) | (4.448) |
| MA | | -0.018 | -0.027* | -0.024* | -0.029 |
| | | (-1.193) | (-1.822) | (-1.679) | (-1.487) |
| IS_DOM | | -0.036*** | -0.021*** | -0.032*** | -0.036*** |
| | | (-5.127) | (-3.289) | (-4.713) | (-5.175) |
| FOR | | -0.027*** | -0.056*** | -0.048*** | -0.054*** |
| | | (-3.627) | (-7.652) | (-6.860) | (-7.333) |
| DA | | 0.002 | 0.003 | 0.003 | 0.003 |
| | | (0.98) | (1.222) | (1.312) | (1.264) |
| ROA | | -0.126*** | -0.127*** | -0.126*** | -0.126*** |
| | | (-13.439) | (-13.373) | (-13.337) | (-13.387) |
| Log_TA | | -0.013*** | -0.013*** | -0.013*** | -0.013*** |
| | | (-12.788) | (-12.313) | (-12.415) | (-12.579) |
| ADR | | -0.024*** | | | |
| | | (-11.806) | | | |
| **LARGEST*ADR** | **H 1.5 (+/-)** | **-0.037*** ** | | | |
| | | **(-3.392)** | | | |
| LEGAL | | | -0.004** | 0.000 | |
| | | | (-2.393) | (0.177) | |
| **IS_DOM*LEGAL** | **H 1.6 (+/-)** | | **-0.024*** ** | | |
| | | | **(-4.807)** | | |
| **FOR*LEGAL** | **H 1.7 (+/-)** | | | **-0.037*** ** | |
| | | | | **(-8.961)** | |
| ACC_ENT | | | | | -0.026*** |
| | | | | | (-10.014) |
| **MA*ACC_ENT** | **H 1.8 (+/-)** | | | | **0.032* ** |
| | | | | | **(1.651)** |
| MAS | | 0.003*** | 0.004*** | 0.004*** | 0.005*** |
| | | (15.270) | (15.397) | (15.419) | (16.549) |
| GDP | | 0.002 | -0.007*** | -0.007*** | -0.010*** |
| | | (1.607) | (-7.617) | (-7.284) | (-8.719) |
| INFLA | | 0.006*** | 0.008*** | 0.008*** | 0.005*** |
| | | (6.865) | (7.795) | (7.472) | (5.792) |
| Constant | | 0.121*** | 0.081*** | 0.084*** | 0.058*** |
| | | (7.068) | (4.155) | (4.356) | (3.241) |
| **The Highest VIF** | | **2.25** | **2.94** | **2.93** | **3.14** |
| **Industry Dummy** | | **Yes** | **Yes** | **Yes** | **Yes** |
| **Year Dummy** | | **Yes** | **Yes** | **Yes** | **Yes** |
| **Observations** | | **29,394** | **29,394** | **29,394** | **29,394** |
| **Adjusted R-squared** | | **0.357** | **0.354** | **0.355** | **0.355** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

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[41] The model specifications without interaction variables are also run but untabulated. Such model specifications yield the comparable findings with the findings reported in this table in relation to the effects of ownership characteristics, institutional settings, and control variables.

### 5.8.1 Concentrated Ownership, Minority Shareholders Protection, and Accruals Earnings Management

Model 1 Table 5.12 shows the moderating effect of minority investor protection (ADR) on the link between ownership concentration (LARGEST) and accruals earnings management. The finding responds to hypothesis 1.5. Holding other things constant, the significance of the product term, LARGEST*ADR (coefficient -0.037 p-value $< 0.01$), in Model 1 Table 5.12 indicates that the effect of the largest shareholder (LARGEST) on accruals earnings management (AEM) is contingent on the degree of minority investor protection within the country (ADR). Thus, H 1.5 is accepted. The coefficient of LARGEST*ADR shown in Model 1 Table 5.12, however, is less informative in order to explain the conditional effect where the effect of the independent variable on the dependent variable is altered by a moderator (Brambor, Clark and Golder, 2005).

To understand such an effect, visualising and probing interaction are needed to further explain the role of interaction effect (Hayes, 2018). This study employs the "Margins Command" provided in STATA software to produce the marginal effects of the independent variable on the dependent variable ($\partial y / \partial x$)[42] at any particular value of the moderator. Such marginal effects are visualised in Figure 5.1 and the corresponding standard errors are presented in Appendix A.

The substantive range of ADR value is selected. The selected region of ADR value ranges from low (-1SD) to high (+1SD) in line with prior practice (Preacher, Curran

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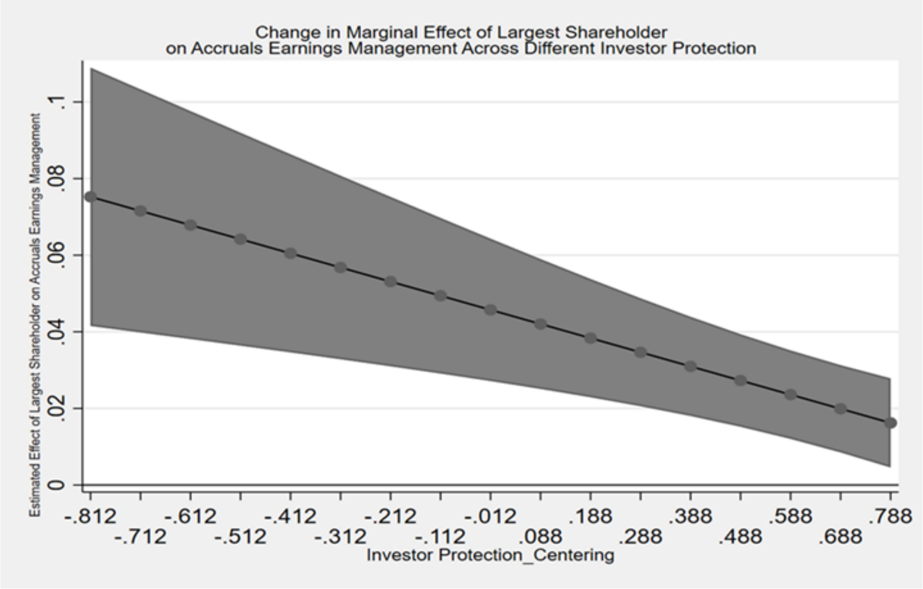
[42] In empirical analysis where interaction is performed, the calculation and presentation for meaningful marginal effects and standard errors are recommended to illustrate the conditional effect of independent variable on dependent variable as a function of a moderator (Brambor, Clark and Golder, 2005).

and Bauer, 2006) and the confidence interval (95%) determines the range of the significance of the moderating effect. LARGEST has a statistically significant effect on AEM as a function of ADR when the upper and lower boundaries of the confidence intervals, as shown in Figure 5.1, are both above or below the zero line (Brambor, Clark and Golder, 2005).

**Figure 5.1 The Change in Marginal Effects of The Largest Shareholder on Accruals Earnings Management**



According to Figure 5.1, accruals earnings management induced by the largest shareholder is alleviated by the stronger mechanisms of minority shareholders protection. As shown by the coefficient slope, the largest shareholder is less influential where minority shareholders can easily exercise their rights and be protected by the law. In other words, the positive link between LARGEST and ABDACC2 is less pronounced when ADR is higher. The finding corresponds to the argument discussed by Shleifer and Wolfenzon (2002), in which stronger minority protection is likely to reduce the occurrence of expropriation induced by the majority shareholder.

The finding also supports hypothesis (H1.5), in which the opportunistic behaviour persuaded by majority shareholders, such as accruals earnings management, is modified by the degree of minority shareholders protection. The finding also aligns with the previous empirical evidence and highlights that majority shareholders are likely to adjust their behaviour to the external environment, as proposed by institutional theory (see Bao and Lewellyn, 2017; Haw *et al.*, 2004). In addition, the significant interaction effect between LARGEST and ADR to determine accruals earnings management implicitly supports the substitutive effect between the firm-level and country-level governance. The downside effect of entrenchment indicated by the positive link between LARGEST and ABDACC2 in Model 1 Table 5.12 is substituted by the strength of minority shareholders protection at the country level.

### 5.8.2 Domestic Institutional Shareholders, Foreign Shareholders, Legal Environment, and Accruals Earnings Management

Hypotheses 1.6 and 1.7 draw the propositions in which the efficacy of the legal environment (LEGAL) should modify the behaviour of domestic institutional shareholders (IS_DOM) and foreign shareholders (FOR) toward accruals earnings management. The coefficient of IS_DOM*LEGAL in Model 2 Table 5.12 is statistically significant, indicating that the moderating effect of the legal environment efficacy on the link between domestic institutional shareholders and accruals earnings management is acceptable (H 1.6). Specifically, the negative link between domestic institutional shareholders and accruals earnings management is contingent upon the degree of legal environment efficacy, while holding other things constant. The coefficient of such product term is negative (-0.024) and statistically significant at the 1% level. To interpret such a moderating effect, the marginal command is conducted, and the result is visually reported in Figure 5.2. The corresponding standard errors are also reported in Appendix B.

**Figure 5.2 The Change in Marginal Effects of Domestic Institutional Shareholders on Accruals Earnings Management**

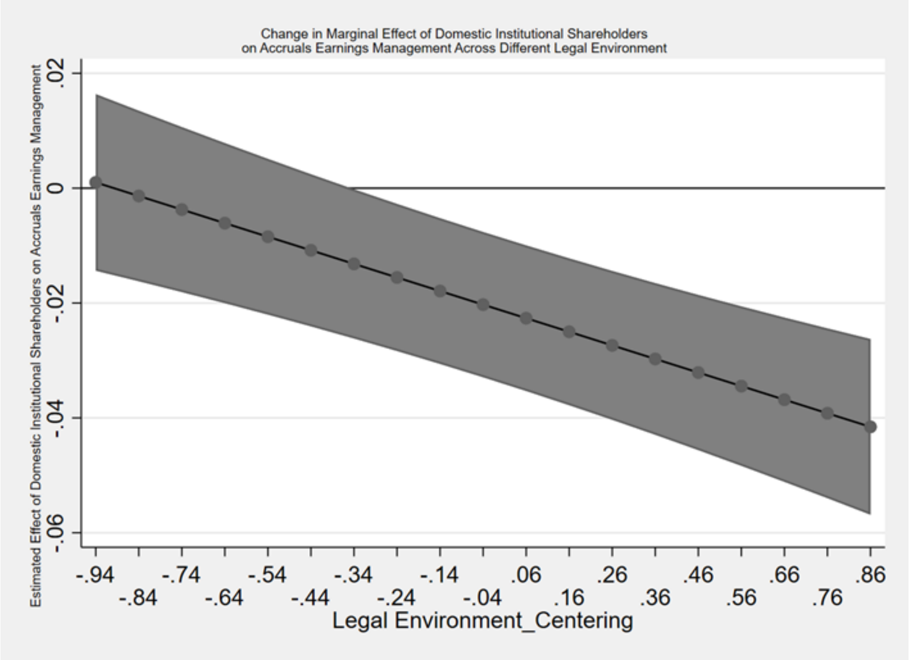
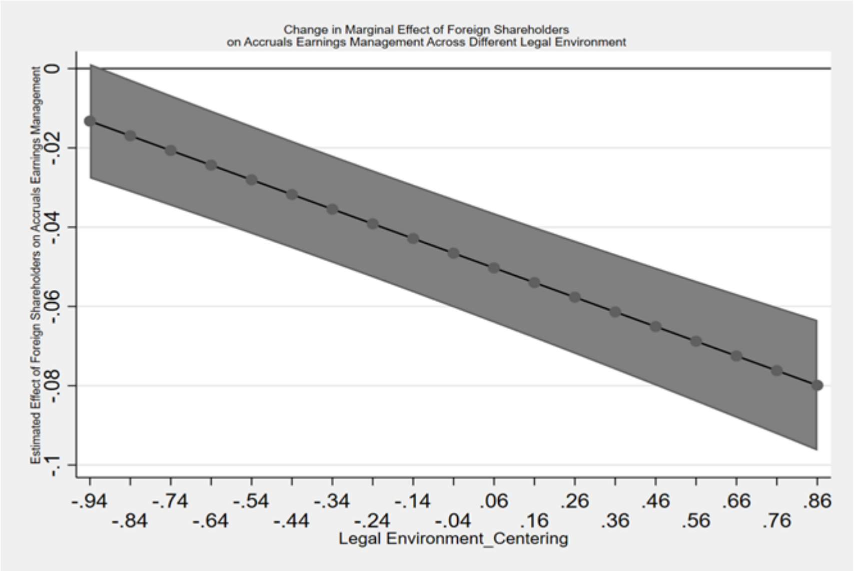


Figure 5.2 illustrates that domestic institutional shareholders (IS_DOM) do not influence accruals earnings management at the lower value of the legal environment (LEGAL). The confidence intervals lines at the lower value of the legal environment (LEGAL) demonstrate this. However, the negative link between those two variables becomes statistically significant when the value of LEGAL is higher and the negative coefficient slope is steeper as the degree of legal environment efficacy increases. In this case, the moderating effect of LEGAL appears at some values. This is an inherent feature when the continuous by continuous interaction variable is applied (Golder, 2006). One may imply that, on the other hand, domestic institutional shareholders are more influential to monitor accruals earnings management in contexts where the

efficacy of the legal environment is strong. The finding is consistent with the result provided by Bao and Lewellyn (2017). Their study found that the regulatory environment at the country level facilitates the active monitoring role of institutional shareholders.

Additionally, the coefficient of product term, FOR*LEGAL, reported in Model 3 Table 5.12 is negative (-0.037) and statistically significant at the 1 % level. It indicates that the legal environment (LEGAL) modifies the link between foreign shareholders (FOR) and accruals earnings management. Therefore, Hypothesis 1.7 is supported. The probing interaction is also conducted and reported in Figure 5.3. The corresponding standard errors are reported in Appendix C.

**Figure 5.3 The Change in Marginal Effects of Foreign Shareholders on Accruals Earnings Management**



The visualised probing presented in Figure 5.3 reveals that foreign shareholders are more influential on curbing accruals earnings management in the contexts where the efficacy of the legal environment is in place. The negative link between foreign shareholders and accruals earnings management is more pronounced, as shown by the coefficient slope in Figure 5.3 when the efficacy of the legal environment is higher. This finding is in line with the argument proposed by Kim *et al.* (2019), in which local institutional arrangements reinforce the monitoring role of foreign investors. In this respect, the notion of a complementary role between country-level governance (legal environment) and firm-level governance (foreign shareholders) to constrain accruals earnings management is supported.

### 5.8.3 Managerial Shareholders, Accounting Enforcement, and Accruals Earnings Management

The moderating effect of accounting enforcement (ACC_ENT) on the link between managerial shareholders (MA) and accruals earnings management (AEM) is reported by the coefficient of the product term, MA*ACC_ENT, in Model 4 Table 5.12. Such a coefficient is positive (0.032) and significant at the 10% level. Therefore, Hypothesis 1.8 is accepted, and Figure 5.4 presents the change in the marginal effects of managerial shareholders on accruals earnings management across different values of accounting enforcement (ACC_ENT). The corresponding standard errors are reported in Appendix D.

**Figure 5.4 The Change in The Marginal Effects of Managerial Shareholders on Accruals Earnings Management**

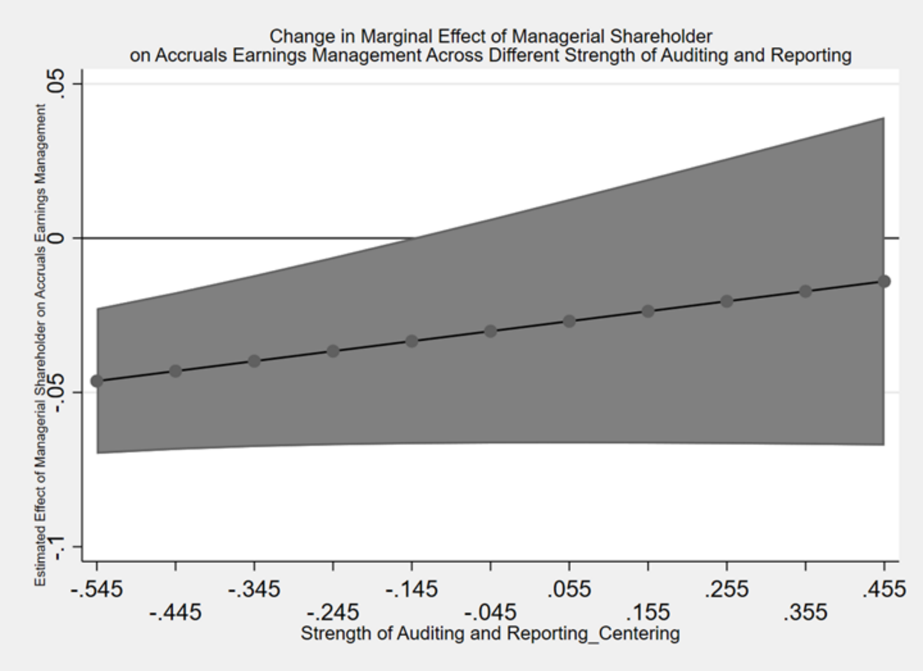


Figure 5.4 reveals that managerial shareholders are less influential, and in turn, becomes insignificant when the strength of auditing and reporting index, an accounting enforcement proxy, is higher. In other words, the negative link between managerial shareholders and accruals earnings management is less pronounced when accounting enforcement, one dimension of external governance, is stronger. Additionally, managerial shareholders do not have a significant effect on accruals earnings management once the value of the strength of auditing and reporting, the proxy of accounting enforcement, is close to the sample mean, which is zero in this case.

Figure 5.4 illustrates how the moderating effect seems to appear at some value of ACC_ENT. This is an inherent feature when the interaction variable is constituted from two continuous variables, as mention earlier (Golder, 2006). Accordingly, one may infer that only in the contexts where ACC_ENT is tremendously low, managerial shareholders are likely to constrain accruals earnings management. Although there is limited empirical evidence examining the moderating effect of accounting enforcement, the explanation may draw from the notion of substitutability and complementarity among firm-level and country-level governance (Schiehll and Martins, 2016). In this case, the substitutive role between managerial shareholders and accounting enforcement exists. The finding possibly reflects that managerial shareholders adapt their behaviour by acting as a monitoring system to the absence of accounting enforcement at the country level.

However, such a firm's monitoring system may no longer be needed in contexts where accounting enforcement is in place to limit the potential of accruals earnings management. Alternatively, managerial discretion over accounting choices is likely to be limited to contexts where accounting standards are well prescribed and enforced (Hope, 2003). In this respect, the influence of shareholders who are also managers appears to be less pronounced as accounting enforcement increases. The finding shown by the interaction between managerial shareholders and accounting enforcement also corresponds to the notion that firms adapt to the weak national framework by establishing good governance mechanism(s) at the firm level (Durnev and Kim, 2005). The study by Ernstberger and Grüning (2013) also revealed a similar finding. Specifically, firms with high corporate governance scores provide more disclosures in the contexts where national governance, in terms of legal protection, is weaker.

### 5.8.4 The Findings of Country-level Control Variables

There are three control variables included in regression models for the country-level analysis. First, masculinity (MAS), one characteristic of cultural dimension, has a positive link with accruals earnings management (p-value < 0.01). The significant link of MAS holds constant in Model 1 through to Model 4, as reported in Table 5.12, although its coefficients are slightly different. This finding corresponds to prior research such as Chen *et al.* (2018) and Kim, Kim and Zhou (2017). The finding reveals and supports that accruals earnings management is likely in societies where people prefer high achievement and material success indicated by high degree of masculinity.

In addition, there is a negative link between Gross Domestic Product Growth Rate (GDP) and accruals earnings management as reported in Model 2 to Model 4 (p-value <0.01) Table 5.12, despite having an insignificant link in Model 1. The finding of GDP points out that accruals earnings management is less likely to perform in the context where economic growth is in a strong position. The finding is in line with the empirical evidence introduced by Gaio (2010), in which the incentive to manipulate accounting earnings by using the discretionary accruals is decreased when GDP increases. Finally, accruals earnings management is positively associated with the degree of inflation (INFLA). The positive link between INFLA and accruals earnings management is presented for all Models in Table 5.12. This finding supports the empirical results presented in literature (for example, Chen *et al.*, 2018), in which a higher fluctuation in the economic system induces more accruals earnings management.

# 5.9 Robustness Tests for Accruals Earnings Management: The Interaction Analysis

## 5.9.1 Alternative Procedure to Calculate Accruals Earnings Management[43]

Due to the concern of cross-country heterogeneity that might affect the measure of accruals earnings management, this research re-estimates the Modified Jones (1995) Model by applying the individual country-industry-year basis instead of using the country-clustered basis as mentioned in Chapter 4 Section 4.7.1.3. Following prior research (Doukakis, 2014), each industry-year within a single country must have at least 8 observations in which each observation has all required financial data to generate the model parameters. This procedure would make the sample size drop to some extent. According to Francis, Hasan and Li (2016), the small sample size in some countries, which is inevitable in cross-country studies, may somehow influence the estimate of parameters in the accruals model. This is the reason why the country-clustered basis is applied in the main analysis. However, it is worth checking whether different procedures to calculate accruals earnings management would alter the research findings (Doukakis, 2014). The regression analysis of accruals earnings management by implementing the alternative procedure to calculate such a dependent variable is reported in Table 5.13.

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[43] In addition to the alternative accruals earnings management calculation, the untabulated moderating effects of minority shareholders protection (ADR) and the efficacy of legal environment (LEGAL) are qualitatively similar to the findings reported in the main analysis when alternative accruals models; the Jones (1991) Model and the Kothari, Leone and Wasley (2005) Model are applied. However, the moderating effect of accounting enforcement (ACC_ENT) disappears if accruals earnings management is calculated using the Jones Model (1991) or Kothari, Leone and Wasley (2005) Model.

The estimate of accruals earnings management by applying country-industry-year basis reduces the sample size from 29,394 to 28,977 firm-year observations. Despite the smaller sample size, the findings of variables of interest are generally similar to the findings reported in the main analysis (see Table 5.12). The only exception is the interaction effect of accounting enforcement and managerial shareholders (MA*ACC_ENT) reported in Model 4 Table 5.13. Specifically, there is no statistically significance of such an interaction variable when accruals earnings management is computed using the country-industry-year basis. The main analysis reports the significance of that interaction variable at the significance level of 0.10. However, such a level is relatively weak, and it might be eroded by the shrinkage of sample size. The degree of managerial ownership is obviously low in this dataset, as reported by the descriptive statistic. Overall, the findings are generally robust to the alternative procedure used to calculate accruals earnings management.

## Table 5.13 The Moderating Effect of Institutional Settings on the Link between Ownership Characteristics and Accruals Earnings Management Computed by Country-Industry-Year Basis

This table reports the moderating effect of institutional settings on the link between ownership characteristics and accruals earnings management, computed by the country-year-industry basis. The OLS estimation is applied. Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation. The results for firm-level and country-level control variables are untabulated for the brevity and qualitatively similar to the findings reported in the main analysis (see Table 5.12).

| | **Dependent Variable** | | | |
|---|---|---|---|---|
| **VARIABLES** | **Model 1**<br>**ABDACC2** | **Model 2**<br>**ABDACC2** | **Model 3**<br>**ABDACC2** | **Model 4**<br>**ABDACC2** |
| LARGEST | 0.053***<br>(3.348) | 0.049***<br>(3.331) | 0.050***<br>(3.372) | 0.046***<br>(3.151) |
| MA | -0.021<br>(-0.737) | -0.030<br>(-1.054) | -0.028<br>(-0.970) | -0.036<br>(-0.936) |
| IS_DOM | -0.050***<br>(-4.673) | -0.035***<br>(-3.696) | -0.046***<br>(-4.489) | -0.051***<br>(-4.811) |
| FOR | -0.037***<br>(-2.929) | -0.065***<br>(-5.251) | -0.057***<br>(-4.851) | -0.063***<br>(-4.989) |
| ADR | -0.024***<br>(-7.413) | | | |
| **LARGEST*ADR** | **-0.038****<br>**(-2.070)** | | | |
| LEGAL | | -0.002<br>(-0.622) | 0.003<br>(0.759) | |
| **IS_DOM*LEGAL** | | **-0.027*****<br>**(-3.647)** | | |
| **FOR*LEGAL** | | | **-0.040*****<br>**(-6.114)** | |
| ACC_ENT | | | | -0.028***<br>(-6.709) |
| **MA*ACC_ENT** | | | | **0.020**<br>**(0.542)** |
| Constant | 0.114***<br>(3.407) | 0.074*<br>(1.869) | 0.080**<br>(2.010) | 0.046<br>(1.355) |
| **The Highest VIF** | **2.30** | **3.02** | **3.02** | **3.20** |
| **Firm- and Country-level Control Variables** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Industry Dummy** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Year Dummy** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Observations** | **28,977** | **28,977** | **28,977** | **28,977** |
| **Adjusted R-squared** | **0.361** | **0.360** | **0.360** | **0.360** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

### 5.9.2 Alternative Test for Signed Accruals Earnings Management

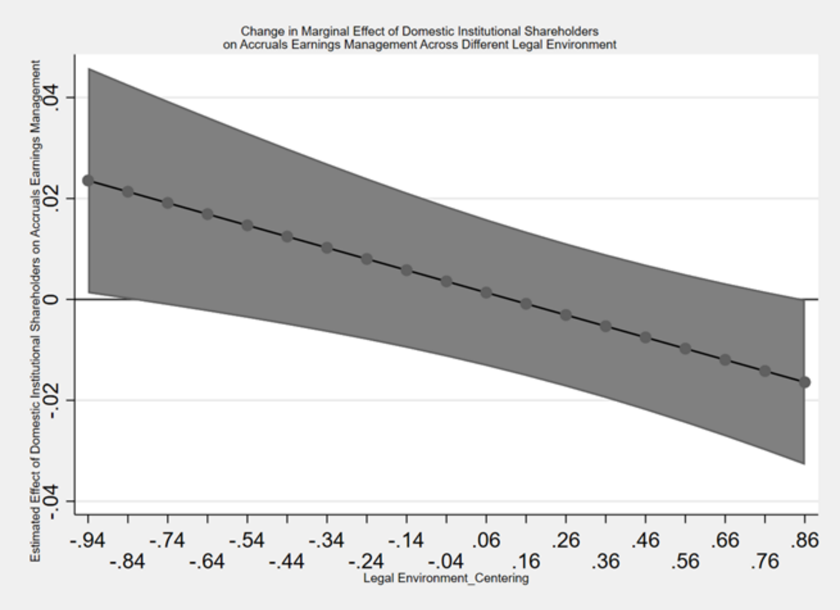
The absolute value of abnormal discretionary accruals computed from the Modified Jones Model is applied in the main analysis to capture the magnitude of accruals earnings management, both income increasing and decreasing (Hribar and Craig Nichols, 2007). The reason to implement the absolute value of abnormal discretionary accruals is this research does not have a particular focus on the specific direction of accruals earnings management (see Chapter 4 Section 4.7.1.3). However, there is an argument in literature supporting the use of signed discretionary accruals in earnings management research (Hribar and Craig Nichols, 2007).

The notion underpinning the use of signed discretionary accruals is that managers may have different preferences and propensity to implement income-increasing (positive discretionary accruals) or income-decreasing techniques (negative discretionary accruals) in a particular circumstance. In this line, it is worth investigating the influences of interaction effect between firm-level and country-level governance on the signed accruals earnings management as the additional analysis following prior research (Kim, Kim and Zhou, 2017). The sample is, thus, partitioned into two sub-samples due to the sign of discretionary accruals.

According to Table 5.14, the moderating effect of minority shareholders protection (ADR) on the link between ownership concentration and income-increasing (decreasing) accruals earnings management is qualitatively similar to the finding reported in the main analysis (see Table 5.12). The coefficient of LARGEST*ADR is negative and statistically significant at the 1% level in Model 1 and Model 5 Table 5.14. Hence, one may assume that the stronger minority shareholders protection within the country is likely to diminish both income-increasing and income-decreasing accruals earnings management induced by the largest shareholder. As a result, the positive link between the largest shareholder (LARGEST) on income-increasing (decreasing) accruals earnings management is less pronounced when the degree of minority shareholder protection is higher. In other words, the effect of the largest shareholder on income-increasing (decreasing) accruals earnings management is less influential.

In addition, the effect of the legal environment (LEGAL) on the link between domestic institutional shareholders (IS_DOM) and income-increasing (decreasing), illustrated by the coefficient of IS_DOM*LEGAL in Model 2 (Model 6), is still negatively significant and consistent with the result presented in the main analysis. Despite having significant interaction, the coefficient of IS_DOM itself is positive but not significant in Model 2 Table 5.14. To interpret such an interaction effect, probing interaction is needed in this case to make interpretation easier. Therefore, the marginal effect of domestic institutional shareholders on income-increasing accruals earnings management is run and presented in Figure 5.5. The corresponding standard errors are reported in Appendix E.

**Figure 5.5 The Change in The Marginal Effects of Domestic Institutional Shareholders on Income-Increasing Accruals Earnings Management**



Probing interaction in Figure 5.5 reveals that domestic institutional shareholders seem to positively associate with income-increasing accruals earnings management when the value of the legal environment is extremely low. However, such a positive link disappears when the legal environment index is higher but still much lower than the sample mean, which is 0 in this case. Accordingly, the effect of domestic institutional shareholders on income-increasing accruals earnings management is likely to appear only in the contexts where the legal environment is extremely weak. On the other hand, Model 6 Table 5.14 reports the negatively significant link between domestic institutional shareholders and income-decreasing accruals earnings management. Moreover, such a negative link is strengthened when the efficacy of the legal environment increases, which is illustrated by the negative coefficient of IS_DOM*LEGAL (p-value < 0.01). Thus, the result in Model 6 Table 5.14 is qualitatively similar to the main analysis. This means that the efficacy of the legal environment reinforces the monitoring effect of domestic institutional shareholders to monitor income-decreasing accruals earnings management actively.

Likewise, the negatively significant coefficients of FOR*LEGAL (p-value < 0.01) in Model 3 and Model 7 Table 5.14 support the moderating effect of the legal environment (LEGAL) on the link between foreign shareholders (FOR) and income-increasing (decreasing) accruals earnings management. Specifically, foreign shareholders become more influential in monitoring income-increasing (decreasing) accruals earnings management when the LEGAL index is higher. Accordingly, the efficacy of the legal environment to support the active monitoring role of foreign shareholders for reducing accruals earnings management holds constant in both sub-samples. However, the moderating effect of accounting enforcement on the link between managerial shareholders and income-increasing (decreasing) accruals earnings management disappears in both sub-samples.

# Table 5.14 The Moderating Effect of Institutional Settings on the Link between Ownership Characteristics and Accruals Earnings Management Measured by Signed Discretionary Accruals

This table reports the moderating effect of institutional settings on the link between ownership characteristics and accruals earnings management, measured by the signed discretionary accruals. OLS estimation is applied. Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation. The results for firm-level and country-level control variables are untabulated for the brevity and qualitatively similar to the findings reported in the main analysis (see Table 5.12).

| | **Dependent variable** | | | | **Dependent variable** | | | |
|---|---|---|---|---|---|---|---|---|
| | **Income-Increasing Accruals Earnings Management** | | | | **Income-Decreasing Accruals Earnings Management** | | | |
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** | **Model 7** | **Model 8** |
| **VARIABLES** | **+DACC2** | **+DACC2** | **+DACC2** | **+DACC2** | **-DACC2** | **-DACC2** | **-DACC2** | **-DACC2** |
| LARGEST | 0.037*** | 0.034*** | 0.035*** | 0.032*** | 0.063*** | 0.057*** | 0.057*** | 0.053*** |
| | (4.361) | (4.217) | (4.304) | (3.960) | (4.036) | (3.978) | (4.000) | (3.718) |
| MA | -0.041*** | -0.049*** | -0.047*** | -0.054*** | -0.016 | -0.027 | -0.025 | -0.032 |
| | (-3.109) | (-3.741) | (-3.528) | (-3.216) | (-0.643) | (-1.050) | (-0.987) | (-1.000) |
| IS_DOM | -0.010 | 0.003 | -0.007 | -0.011 | -0.057*** | -0.044*** | -0.053*** | -0.058*** |
| | (-1.408) | (0.357) | (-0.898) | (-1.444) | (-5.165) | (-4.556) | (-4.983) | (-5.252) |
| FOR | -0.007 | -0.034*** | -0.027*** | -0.031*** | -0.035*** | -0.068*** | -0.060*** | -0.065*** |
| | (-0.881) | (-4.379) | (-3.368) | (-3.972) | (-3.081) | (-5.848) | (-5.515) | (-5.671) |
| ADR | -0.023*** | | | | -0.026*** | | | |
| | (-10.014) | | | | (-8.724) | | | |
| **LARGEST*ADR** | **-0.027*** ** | | | | **-0.060*** ** | | | |
| | **(-2.742)** | | | | **(-3.239)** | | | |
| LEGAL | | -0.002 | 0.003 | | | -0.007*** | -0.002 | |
| | | (-0.800) | (1.163) | | | (-2.685) | (-0.976) | |
| **IS_DOM*LEGAL** | | **-0.022*** ** | | | | **-0.017*** ** | | |
| | | **(-3.086)** | | | | **(-2.738)** | | |
| **FOR*LEGAL** | | | **-0.035*** ** | | | | **-0.038*** ** | |
| | | | **(-6.311)** | | | | **(-6.422)** | |
| ACC_ENT | | | | -0.021*** | | | | -0.033*** |
| | | | | (-7.162) | | | | (-7.649) |
| **MA*ACC_ENT** | | | | **0.017** | | | | **0.027** |
| | | | | **(0.929)** | | | | **(0.839)** |
| Constant | 0.189*** | 0.162*** | 0.163*** | 0.135*** | 0.074*** | 0.020 | 0.025 | -0.003 |
| | (9.310) | (7.305) | (7.409) | (6.479) | (3.021) | (0.681) | (0.891) | (-0.116) |
| **The highest VIF** | **2.29** | **2.86** | **2.86** | **2.99** | **2.35** | **3.04** | **3.05** | **3.34** |
| **Control Variables** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Industry Dummy** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Year Dummy** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Observations** | **14,515** | **14,515** | **14,515** | **14,515** | **14,879** | **14,879** | **14,879** | **14,879** |
| **Adjusted R-squared** | **0.193** | **0.188** | **0.189** | **0.189** | **0.455** | **0.452** | **0.452** | **0.453** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

### 5.9.3 Alternative Proxies for Institutional Settings

There are three alternative proxies of institutional settings applied in this section. First, the revised antidirector rights index (ADR_2)[44] introduced by Spamann (2010) is applied as an alternative proxy for minority shareholders protection. ADR_2 has also been applied frequently in research as one of the alternative measures of investor protection (for example, Bartram, Brown and Stulz, 2012; Qi, Roth and Wald, 2011). However, it is important to note that ADR_2 revised version index introduced by Spamann (2010) is not available for Indonesia, as mentioned before (see Chapter 4 Section 4.7.3.2), thus the sample size is substantively reduced from 29,394 to 28,055 firm-year observations. The moderating effect of ADR_2 is presented by the coefficient of LARGEST*ADR_2 in Model 1 Table 5.15. Although it has a negative coefficient similar to the main result, this coefficient is not statistically significant at any conventional levels.

Additionally, this research implements the Worldwide Governance Indicators (WGI hereafter) as an alternative measure for the efficacy of the legal environment. WGI aims to capture the extent to which regulations and other substantive country-level governance formulated by the government can be practically perceived (Kaufmann, Kraay and Mastruzzi, 2011). The index was initially introduced by Kaufmann, Kraay and Mastruzzi (2011) and officially published by the World Bank. There are six individual governance dimensions: Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. Researchers have acknowledged that this set of indicators

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[44] The index is available in the published paper "The "Antidirector Rights Index" Revisited" conducted by Spamann (2010).

broadly captures the national governance mechanisms (Wysocki, 2011). According to its dimensions, WGI seems to be broader than the legal system and property rights index, a proxy for the efficacy of the legal environment (LEGAL) used in the main analysis. To alleviate the concern of high collinearities among six dimensions, the principal component analysis (PCA) is applied to reduce such concern, which also corresponds to practice in prior studies (Martins, Schiehll and Terra, 2017; Saona and San Martín, 2016).

The coefficient of IS_DOM*WGI in Model 2 Table 5.15 demonstrates the moderating effect of WGI on the link between domestic institutional shareholders and accruals earnings management. Despite the negative coefficient (-0.001), the moderating effect is not statistically significant at any conventional levels. This is, the negative link between domestic institutional shareholders and accruals earnings management is not contingent upon the value of WGI, while holding all else constant. This finding is inconsistent with the main finding. However, the coefficient of FOR*WGI in Model 3 Table 5.15 indicates that the link between foreign shareholders and accruals earnings management is modified by the level of WGI (Coefficient -0.013 and p-value < 0.01). This finding is in line with the finding reported in the main analysis for the product term FOR*LEGAL. Thus, the effect of the legal environment to reinforce the monitoring role of foreign shareholders is robust to an alternative proxy of the legal environment efficacy.

Finally, the aggregate auditing and accounting enforcement index (ACC_ENT_2) introduced by Brown, Preiato and Tarca (2014) is used as an alternative proxy for accounting enforcement. The index aims to capture the salient features of the audit environment and the enforcement of accounting standards executed by regulatory bodies around the periods that International Financial Reporting Standards are mandated in the European Union (2002, 2005, 2008). The moderating effect of ACC_ENT_2 on the link between managerial shareholders and accruals earnings management is shown by the coefficient of MA*ACC_ENT_2 in Model 4 Table 5.15. Although the coefficient is positive, similar to the main analysis, this product term is not statistically significant at any conventional levels. Taken altogether, the moderating effect of this accounting institution is likely to be sensitive to how it is measured.

As mentioned in Chapter 4 Section 4.7.3, institutional settings at the country level are widely perceived and measured in the literature. Hence, the consensus in their proxies is still lacking (Schiehll and Martins, 2016). Schiehll and Martins (2016) also mention that the inconsistent measures of institutional settings or the multiple perspectives in defining such variables are the significant factors that obstruct the comparisons among empirical research. In addition, it is extremely challenging for researchers to empirically capture the complex phenomena such as institutional settings and its enforcement (Brown, Preiato and Tarca, 2014). Accordingly, the alternative proxies used in this section might not be perfect-alternative proxies, which are constructed by equivalent methodologies or created from the parallel perspectives, for individual institutional settings used in the main analysis. The inferences of findings should, accordingly, be considered with caution.

### Table 5.15 The Moderating Effect of Institutional Settings Using Alternative Proxies on the Link between Ownership Characteristics and Accruals Earnings Management

This table reports the moderating effect of institutional settings (alternative proxies) on the link between ownership characteristics and accruals earnings management. The OLS estimation is applied. Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation. The results for firm-level and country-level control variables are untabulated for the brevity and qualitatively similar to the findings reported in the main analysis (see Table 5.12).

| | **Dependent Variable** | | | |
|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model4** |
| **VARIABLES** | **ABDACC2** | **ABDACC2** | **ABDACC2** | **ABDACC2** |
| LARGEST | 0.049*** | 0.043*** | 0.042*** | 0.047*** |
| | (5.307) | (4.953) | (4.873) | (5.395) |
| MA | -0.020 | -0.027* | -0.026* | -0.052*** |
| | (-1.368) | (-1.880) | (-1.759) | (-2.648) |
| IS_DOM | -0.064*** | -0.029*** | -0.031*** | -0.065*** |
| | (-7.952) | (-4.611) | (-4.572) | (-8.491) |
| FOR | -0.014* | -0.059*** | -0.055*** | -0.057*** |
| | (-1.700) | (-8.040) | (-7.767) | (-7.796) |
| ADR_2 | -0.031*** | | | |
| | (-20.204) | | | |
| **LARGEST*ADR_2** | **-0.004** | | | |
| | **(-0.517)** | | | |
| WGI | | -0.001* | -0.000 | |
| | | (-1.844) | (-0.583) | |
| **IS_DOM*WGI** | | **-0.001** | | |
| | | **(-0.709)** | | |
| **FOR*WGI** | | | **-0.013*** ** | |
| | | | **(-7.270)** | |
| ACC_ENT_2 | | | | 0.004*** |
| | | | | (18.498) |
| **MA*ACC_ENT_2** | | | | **0.000** |
| | | | | **(0.070)** |
| Constant | 0.268*** | 0.083*** | 0.081*** | 0.282*** |
| | (13.036) | (4.343) | (4.299) | (13.073) |
| | | | | |
| **The Highest VIF** | **3.39** | **3.20** | **2.90** | **4.99** |
| **Control Variables (Firm and Country)** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Industry Dummy** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Year Dummy** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Observations** | **28,055** | **29,394** | **29,394** | **29,394** |
| **Adjusted R-squared** | **0.371** | **0.354** | **0.355** | **0.365** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

## 5.10 Conclusion

To conclude, this chapter presents the empirical analyses of data and discusses the empirical findings regarding accruals earnings management to answer the research questions proposed in this research. Generally, the findings indicate that ownership characteristics within the firm influence accruals earnings management. Specifically, such findings implicitly support the notion that shareholders of the firm might have different incentives, hence different behaviour towards accruals earnings management. The findings reported from the regression model at the firm-level analysis are in line with the convergence-entrenchment effect mentioned in agency theory.

More interestingly, the interaction analysis by incorporating institutional settings at the country level reveals that such incentive or behaviour of shareholders at the firm level is altered by institutional settings. Such findings specify that the external environment within the country shape the behaviour of economic actors, which are owners in this case, as suggested by institutional theory. Such findings also ensure the notion of the interplay roles between firm-level and country-level governance mentioned in the literature (Kumar and Zattoni, 2013).

# CHAPTER 6

# Real Earnings Management: Data Analysis, Findings, and Discussion

## 6.1 Introduction

This chapter presents and analyses the real earnings management data, one of the earnings management techniques this research aims to study. In addition, the empirical findings are also presented and discussed along with descriptive statistics and univariate analyses. This chapter is divided into five sections. Section 6.2 illustrates descriptive statistics of real earnings management from this research's dataset. The t-test, which is a univariate analysis is performed in Section 6.3 to complement descriptive statistics illustrated in Section 6.2. In addition, Section 6.4 displays the correlation matrix as a preliminary test for the regression analyses in Section 6.5 through Section 6.8, where the empirical findings are presented and discussed. Finally, Section 6.9 provides the conclusion for this chapter.

## 6.2 Descriptive Statistics of Real Earnings Management

Table 6.1 demonstrates the descriptive statistics of real earnings management (REM). This variable captures the aggregate of abnormal cash flow from operations (ABCFO), abnormal production costs (ABPROD), and abnormal discretionary expenses (ABDISEX). ABCFO and ABDISEX are multiplied by (-1) in order to make the interpretation easier. Thus, a higher amount of REM represents higher real earnings management. Overall, the average of aggregate REM, which is the sum of three individual values of real earnings management, is 0.054. This value indicates that the total REM is about 5.4 % of lagged total assets in this research's dataset. The pooled sample's standard deviation is relatively large (2.319). It implies that the implementations of real earnings management approaches are likely to vary from country to country or even from firm to firm, as mentioned by Sohn (2016). The sample mean of aggregate REM, reported in this study, is slightly higher than the aggregate REM reported in prior studies[45]. However, the individual real earnings management values: ABCFO, ABPROD, ABDISEX, are comparable with prior studies (see Braam *et al.*, 2015; Doukakis, 2014). The mean of abnormal discretionary expenses is the highest mean among three individual real earnings management values. Accordingly, one may assume that on average firms obtained in this research prefer to boost their bottom line by cutting discretionary expenses. Additionally, Table 6.1 also presents the descriptive statistics of aggregate REM and individual REM for individual countries, along with the pooled sample statistics. In short, the means of REM, ABCFO, ABPROD, and ABDISEX vary across countries. The highest mean of aggregate REM is presented in South Korea, followed by the US and Malaysia. The highest means of individual ABCFO, ABPROD, and ABDISEX are reported in Singapore, South Korea, and the US respectively. On the other hand, these descriptive statistics can initially reflect a preference over real earnings management approaches among countries in this research sample. The descriptive statistics of ownership, institutional settings, and control variables at the firm level and country level were reported in the previous chapter (see Chapter 5 Section 5.2 and Section 5.3).

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[45] The aggregate proxies of real earnings management applied in the literature likely vary among the studies, as discussed in Chapter 4 Section 4.7.1.3. This might be a potential reason as to why the mean of aggregate REM in this research is slightly different from the literature. In addition, there is a limited evidence regarding real earnings management in international contexts. Thus, the comparison is also restricted.

## Table 6.1 Descriptive Statistics of Real Earnings Management

| The Real Earnings Management | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **REM** | | | **ABCFO** | | | **ABPROD** | | | **ABDISEX** | | |
| **COUNTRY** | **Mean** | **SD** | **Median** | **Mean** | **SD** | **Median** | **Mean** | **SD** | **Median** | **Mean** | **SD** | **Median** |
| United Kingdom | -0.246 | 0.469 | -0.241 | 0.009 | 0.200 | -0.019 | -0.168 | 0.343 | -0.203 | -0.074 | 0.242 | 0.004 |
| Hong Kong | -0.090 | 0.294 | -0.081 | 0.007 | 0.126 | -0.011 | -0.148 | 0.221 | -0.109 | 0.046 | 0.092 | 0.045 |
| Indonesia | -0.003 | 0.304 | 0.025 | 0.001 | 0.115 | 0.003 | 0.001 | 0.158 | 0.012 | -0.003 | 0.108 | 0.013 |
| South Korea | 0.179 | 0.513 | 0.126 | -0.016 | 0.118 | -0.013 | 0.222 | 0.474 | 0.136 | -0.026 | 0.140 | 0.004 |
| Malaysia | 0.016 | 0.238 | 0.021 | -0.002 | 0.098 | -0.001 | 0.009 | 0.129 | 0.006 | 0.013 | 0.086 | 0.019 |
| Philippines | -0.011 | 0.226 | 0.020 | -0.015 | 0.096 | -0.003 | 0.000 | 0.133 | 0.013 | 0.010 | 0.082 | 0.024 |
| Singapore | -0.074 | 0.404 | -0.107 | 0.013 | 0.143 | 0.001 | -0.107 | 0.317 | -0.131 | 0.022 | 0.148 | 0.039 |
| Thailand | -0.018 | 0.268 | -0.004 | -0.002 | 0.120 | -0.008 | -0.009 | 0.140 | -0.006 | -0.008 | 0.096 | 0.009 |
| Taiwan | -0.098 | 0.373 | -0.128 | -0.006 | 0.130 | -0.010 | -0.135 | 0.271 | -0.173 | 0.043 | 0.133 | 0.063 |
| United States | 0.175 | 4.055 | 0.545 | 0.004 | 0.709 | -0.090 | -0.003 | 0.343 | -0.017 | 0.167 | 4.278 | 0.628 |
| **Pooled Sample** | **0.054** | **2.319** | **0.040** | **-0.002** | **0.413** | **-0.022** | **-0.002** | **0.354** | **-0.032** | **0.055** | **2.439** | **0.045** |

**Where:**

REM = The aggregate real earnings management, computed by the sum of 3 real earnings management's proxies: abnormal cash flow from operations (ABCFO), abnormal production costs (ABPROD), and abnormal discretionary expenses (ABDISEX), following Roychowdhury (2006).

ABCFO = Abnormal cash flow from operations (Multiplied by -1)

ABPROD = Abnormal production costs

ABDISEX = Abnormal discretionary expenses (Multiplied by -1)

## 6.3 Univariate Analysis of Real Earnings Management

To complement the understanding of descriptive statistics reported in Table 6.1, the univariate analysis, namely t-test, is performed in this section by splitting the pooled sample into two groups. First, a comparison of means of real earnings management is conducted between the Western and Asian countries. The findings are illustrated in Table 6.2 and they confirm that the mean of real earnings management in Western countries is statistically different from the mean of real earnings management in Asian countries, at the 5% level of significance. It may imply that real earnings management practices vary between those two country categories. According to Table 6.2, the mean of real earnings management is higher in Western countries when compared to the mean of such a variable in Asian countries.

Additionally, the pooled sample is clustered again with respect to ownership characteristics as presented in Table 6.3. There are four pairs of groups: firms with high or low ownership concentration, firms with high or low managerial ownership, firms with high or low domestic institutional ownership, or firms with high or low foreign ownership. The pooled sample means of ownership variables are again applied as a threshold[46]. The results are presented in Table 6.3. Overall, the statistics disclose that firms with different ownership characteristics have a difference in means of real earnings management. In particular, at the significance level of 5%, the mean of real earnings management of firms with high ownership concentration (*Panel A* Table 6.3)

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[46] The conclusions remain similar if the medians of pooled sample are applied instead of means. However, the pooled sample median of managerial ownership (MA) is zero and there are no observations where MA is less than zero. In such case, pooled sample is clustered by considering whether firms have managerial ownership. T-test analysis shows that the means of REM for firms with and without managerial ownership are statistically different. Specifically, the higher mean of REM is shown in a group where firms do not have managerial ownership.

is lower than the mean of real earnings management of firms with a low degree of such ownership characteristic. Similarly, the mean of real earnings management of firms with high managerial ownership (*Panel B* Table 6.3) is lower than the mean of real earnings management of firms with a low managerial ownership.

However, *Panel C* Table 6.3 reports that the mean of real earnings management for firms with a high degree of domestic institutional ownership is higher than the mean of real earnings management of firms with a low degree of such an ownership at a significance level of 5%. Similarly, *Panel D* Table 6.3 presents that there is a statistical difference in means of real earnings management between firms with high and low foreign shareholders. In such two groups, the mean of real earnings management is higher in the group where firms have high foreign ownership. Overall, the univariate analysis, t-test, reveals that the difference in such earnings management practice may vary with ownership characteristics. It initially supports the proposed hypotheses that ownership characteristics might influence the variation in real earnings management.

**Table 6.2 Two-Sample t-test Analysis of The Difference in Means of Real Earnings Management between the Western and Asian Countries**

The table illustrates the difference in real earnings management, captured by the aggregate value of abnormal cash flow from operations (ABCFO), abnormal production costs (ABPROD) and abnormal discretionary expenses (ABDISEX), between the subsamples clustered by Western and Asian countries.

| | **Asian Countries** | **Western Countries** | | | |
|---|---|---|---|---|---|
| | Mean1 | Mean2 | Dif | t-value | p-value |
| **REM** | 0.018 | 0.114 | -0.096 | -4.112 | 0.000 |

**Table 6.3 Two-Sample t-test Analysis of The Difference in Means of Real Earnings Management between Firms with Different Ownership Characteristics**

| | | | | | |
|---|---|---|---|---|---|
| The table illustrates the difference in real earnings management, captured by the aggregate real earnings management, between the subsamples clustered by the ownership characteristics. | | | | | |
| ***Panel A:*** The difference in means of real earnings management between firms with high and low ownership concentration | | | | | |
| | **High Ownership Concentration** | **Low Ownership Concentration** | **Mean2-Mean1** | | |
| | Mean1 | Mean2 | Dif | t-value | p-value |
| **REM** | -0.062 | 0.144 | 0.206 | 9.011 | 0.000 |
| ***Panel B:*** The difference in means of real earnings management between firms with high and low managerial ownership | | | | | |
| | **High Managerial Ownership** | **Low Managerial Ownership** | **Mean2-Mean1** | | |
| | Mean1 | Mean2 | Dif | t-value | p-value |
| **REM** | -0.074 | 0.072 | 0.146 | 4.216 | 0.000 |
| ***Panel C:*** The difference in means of real earnings management between firms with high and low domestic institutional ownership | | | | | |
| | **High Domestic Institutional Ownership** | **Low Domestic Institutional Ownership** | **Mean2-Mean1** | | |
| | Mean1 | Mean2 | Dif | t-value | p-value |
| **REM** | 0.375 | -0.112 | -0.487 | -20.387 | 0.000 |
| ***Panel D:*** The difference in means of real earnings management between firms with high and low foreign ownership | | | | | |
| | **High Foreign Ownership** | **Low Foreign Ownership** | **Mean2-Mean1** | | |
| | Mean1 | Mean2 | Dif | t-value | p-value |
| **REM** | 0.215 | -0.019 | 0.234 | -9.542 | 0.000 |

## 6.4 Correlation Test

To evaluate multicollinearity between independent variables, please see the discussion in Chapter 5 Section 5.5. This is because all independent and control variables are the same in real and accruals earnings management models. In addition to the multicollinearity issue, Table 6.4 reports the correlation coefficients between real earnings management and individual variables of interest. Most of them are statistically significant at the 5% level. However, the correlation coefficients between real earnings management and the efficacy of the legal environment (LGAL), Masculinity Index (MAS), GDP Growth Rate (GDP), and inflation (INFLA) are statistically insignificant. Nevertheless, as mentioned earlier in Chapter 5 Section 5.5, an empirical inference for the link between dependent and independent variables might not be completely drawn from the bivariate analysis, namely correlation, since such analysis presents the association between only two variables. Lemma *et al.* (2018) discuss other factors (e.g. firm, industry, or country effect) that may influence the dependent variable and it should be controlled in the analysis. Therefore, multiple regression is conducted in the following sections.

## Table 6.4 Pearson Correlation Matrix for Real Earnings Management

| **All variables for real earnings management models** | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Variables** | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** | **(7)** | **(8)** | **(9)** | **(10)** | **(11)** | **(12)** | **(13)** | **(14)** |
| (1) REM | 1.000 | | | | | | | | | | | | | |
| (2) LARGEST | -0.053* | 1.000 | | | | | | | | | | | | |
| (3) MA | -0.031* | 0.103* | 1.000 | | | | | | | | | | | |
| (4) IS_DOM | 0.108* | -0.141* | -0.088* | 1.000 | | | | | | | | | | |
| (5) FOR | 0.016* | 0.097* | -0.036* | 0.199* | 1.000 | | | | | | | | | |
| (6) DA | -0.230* | 0.082* | 0.024* | -0.057* | -0.014* | 1.000 | | | | | | | | |
| (7) ROA | 0.331* | -0.055* | -0.031* | 0.074* | 0.027* | -0.712* | 1.000 | | | | | | | |
| (8) Log_TA | 0.179* | -0.097* | -0.093* | 0.355* | 0.244* | -0.340* | 0.478* | 1.000 | | | | | | |
| (9) LEGAL | 0.000 | -0.207* | 0.004 | 0.311* | 0.200* | 0.020* | -0.122* | 0.049* | 1.000 | | | | | |
| (10) ADR | -0.011* | 0.212* | 0.057* | -0.247* | 0.169* | -0.099* | 0.137* | 0.042* | -0.147* | 1.000 | | | | |
| (11) ACC_ENT | -0.027* | -0.208* | -0.033* | 0.265* | 0.184* | 0.042* | -0.082* | 0.010* | 0.686* | -0.314* | 1.000 | | | |
| (12) MAS | 0.006 | -0.061* | -0.029* | 0.460* | 0.275* | 0.182* | -0.195* | 0.025* | 0.588* | -0.334* | 0.594* | 1.000 | | |
| (13) GDP | 0.005 | 0.347* | 0.019* | -0.107* | 0.044* | 0.045* | 0.054* | 0.031* | -0.477* | 0.562* | -0.394* | -0.072* | 1.000 | |
| (14) INFLA | 0.007 | 0.250* | -0.005 | -0.027* | 0.117* | 0.006 | 0.007 | 0.041* | -0.310* | 0.175* | -0.307* | -0.006 | 0.398* | 1.000 |
| *** shows significance at the .05 level** | | | | | | | | | | | | | | |

## 6.5 Multiple Regression Analysis for Real Earnings Management: The Effect of Ownership Characteristics

The empirical analyses and findings of real earnings management (REM), one of the proxies for earnings quality used in this research, are presented and discussed in this section. There is an ongoing debate in literature regarding whether the same set of governance mechanisms can curb different techniques of earnings management. Such a debate requires further explanation. The Baseline Model 2A depicts the empirical model used to examine how ownership characteristics, the firm-level governance, influence REM. In other words, the model accounts for the effect of ownership characteristics on real earnings management.

**Baseline Model 2A**

$$REM_{it} = \beta_0 + \beta_1 LARGEST_{it} + \beta_2 MA_{it} + \beta_3 IS\_DOM_{it} + \beta_4 FOR_{it} + \beta_5 DA_{it} + \beta_6 ROA_{it} + \beta_7 Log\_TA_{it} + \text{Industry Dummies}_k + \text{Year Dummies}_t + \text{Country Dummies}_j + \varepsilon_{it}$$

**Where:**

REM = Aggregate real earnings management computed by the sum of 3 individual real earnings management (ABCFO + ABPROD + ABDISEX)

LARGEST = The proportion of shares held by the largest shareholder

MA = The proportion of shares held by current managers

IS_DOM = The proportion of shares held by domestic institutional shareholders

FOR = The proportion of shares held by foreign shareholders

DA = Debt to Asset Ratio

ROA = Return on Assets Ratio

Log_TA = Natural logarithm of total assets in US Dollars at the end of the fiscal year

i = Firm i

t = Time period (2013 – 2017)

k = Industry denote
j = Country Denote
ε = Error term

Table 6.5 presents the empirical findings from regressing aggregate REM on ownership characteristics and firm-level control variables along with industry-country-year fixed effect in order to respond to the sub-research question "does real earnings management vary due to the effect of ownership characteristics?" Overall, the adjusted R-squared reported from the Baseline Model 2A is 0.135 (13.50%), which is equivalent to prior studies (see Goh, Lee and Lee, 2013; Guo and Ma, 2015). The adjusted R-squared reported in Table 6.5 is lower than the adjusted R-squared reported in accruals earnings management (see Table 5.7) despite having more observations.

## 6.5.1 Ownership Concentration (LARGEST)

According to Table 6.5, Hypothesis 2.1 that proposed the effect of the largest shareholder (LARGEST) is supported. The coefficient of LARGEST is negative (-0.289) and statistically significant at the 1% level (p-value < 0.01). This finding corresponds to prior research. Goh, Lee and Lee (2013), for example, argue that the majority shareholder has a lower incentive to get involved in REM because this earnings management technique appears to erode the value of the firm. For this reason, firm sustainability is likely to be the biggest concern for the largest shareholder. In addition to Goh, Lee and Lee (2013), the finding of LARGEST is also similar to the finding reported by Achleitner *et al.* (2014) in which family firms, which typically have high ownership concentration, are likely to avoid REM.

Due to the differences in accruals and real earnings management, the largest shareholder is likely to be more concerned about the negative consequences of REM since this approach affects operating activities and cash flows. Although accruals earnings management is costly in terms of detecting, it does not harm operating activities in the long term (Gunny, 2010). Conversely, higher REM in the current period might induce volatile performance in the future (Vorst, 2016). Such consequences, perhaps, threaten the largest shareholder who owns the biggest stake and commits the highest risk from volatile performance.

### 6.5.2 Managerial Ownership (MA)

Hypothesis 2.2 posits that the higher level of managerial ownership (MA) is likely to discourage REM as mentioned by Di Meo, García Lara and Surroca (2017). The alignment effect should be pursued when managers become owners according to agency theory. Additionally, this type of shareholders should be more aware of REM due to its negative effect on the cash flows and firm performance when they are also managers. The coefficient of managerial ownership (MA) reported in Table 6.5 is negative (-0.409) and statistically significant at the 10 % level. This finding is in line with prior research, including Haga, Höglund and Sundvik (2018) and Di Meo, García Lara and Surroca (2017). Their evidence supports that REM is negatively linked with the entrenchment of managerial ownership. Specifically, REM is unlikely when managerial ownership is higher. The convergence effect is supported in this case.

### 6.5.3 Domestic Institutional Ownership (IS_DOM)

Hypothesis 2.3 proposes that domestic institutional shareholders (IS_DOM) should be more concerned about the negative consequences of REM. As knowledgeable shareholders, they are likely to curb REM. The finding reported in Table 6.5 is not in line with the prediction. The coefficient of IS_DOM is positive (0.236) and significant at the 1% level. The finding contradicts prior evidence, for example, the studies by Roychowdhury (2006) and Sakaki, Jackson and Jory (2017). In such studies, the negative link between institutional shareholders and real earnings management is documented. However, this research finding corresponds to the finding reported by Bushee (1998). Specifically, Bushee (1998) documents that transient institutions, who invest in diversified portfolios with high turnover and rely on momentum trading, could encourage the firm to cut R&D expenses. The empirical finding in this research implies that domestic institutional shareholders are likely to prefer real earnings management over accruals earnings management, although the firm might encounter higher risks in operational activities. The difficulties in detection might be a rational motivation for implementing this technique and the entrenchment effect appears regarding the link between real earnings management and domestic institutional ownership in this research.

### 6.5.4 Foreign Ownership (FOR)

Hypothesis 2.4 proposes that REM should be negatively associated with the level of foreign ownership (FOR). The coefficient of FOR presented in Table 6.5 is positive (0.019) but not statistically significant at any conventional levels. The finding is unlike the evidence introduced by Goh, Lee and Lee (2013) whose evidence indicates that the higher level of foreign ownership in Japan limits REM. Although there is a statistically insignificant link between FOR and the aggregate REM, such a finding might be justified by the information asymmetry as previously explained in the accruals earnings management part (Chapter 5 Section 5.6.4).

### 6.5.5 The Findings of Firm-Level Control Variables

The results from using the OLS estimation with industry-country-year fixed effect presented in Table 6.5 show that there is no link between leverage (DA) or size (Log_TA) and the aggregate REM. Only firm performance (ROA) has a positive link with the aggregate REM at a significance level of 1%. Specifically, this research finding points out that firms with high profitability are likely to engage in real earnings management. The positive link between ROA and aggregate REM is also reported in prior research, Braam *et al.* (2015), for example. The explanation is that highly profitable firms might not fear modifying their real economic transactions throughout operating policies in order to inflate their reported earnings.

## Table 6.5 The Link between Ownership Characteristics and Aggregate Real Earnings Management

This table reports the link between ownership characteristics and the aggregate real earnings management (REM). There are four variables of interest; concentrated ownership (LARGEST), managerial ownership (MA), domestic institutional ownership (IS_DOM), foreign ownership (FOR). Three firm-level control variables; leverage (DA), performance (ROA), and size (Log_TA) are also included in the model. The OLS estimation is employed in this stage and the Variance Inflation Factor (VIF) for all variables of interest is lower than 10.00 (it ranges from 1.09 – 2.63). Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation.

| **VARIABLES** | **Expected Sign** | **Dependent Variable REM** |
|---|---|---|
| LARGEST | H2.1(+/-) | -0.289***<br>(-2.727) |
| MA | H2.2(-) | -0.409*<br>(-1.737) |
| IS_DOM | H2.3(-) | 0.236***<br>(2.840) |
| FOR | H2.4(-) | 0.019<br>(0.185) |
| DA | | 0.008<br>(0.265) |
| ROA | | 0.522***<br>(7.867) |
| Log_TA | | 0.017<br>(1.407) |
| Constant | | -0.419***<br>(-3.015) |
| **Year Dummy** | | **Yes** |
| **Industry Dummy** | | **Yes** |
| **Country Dummy** | | **Yes** |
| **Observations** | | **35,929** |
| **Adjusted R-squared** | | **0.135** |

Robust t-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

## 6.6 Robustness Tests for Real Earnings Management: The Effect of Ownership Characteristics

Alternative proxies of real earnings management, alternative estimation, and alternative model specification by adding an additional control variable are implemented in this section to ensure the robustness of the findings reported in the main analysis at the firm level. The findings for robustness tests are discussed as follows:

### 6.6.1 Alternative Proxies for Real Earnings Management

The alternative proxies of aggregate REM used in the robustness test are the sum of abnormal production costs and abnormal discretionary expenses (REM_PD) and the sum of abnormal cash flow from operations and abnormal discretionary expenses (REM_CD). These measures are in line with implementation in prior research (see Braam *et al.*, 2015; Cohen and Zarowin, 2010; Francis, Hasan and Li, 2016; Ipino and Parbonetti, 2017; Zang, 2012). Table 6.6 shows that all significant results reported in Model 2, where the dependent variable is REM_CD, are qualitatively similar to the results reported in the main analysis (Table 6.5). In addition, Model 1 Table 6.6, where the dependent variable is REM_PD, presents comparable results with those reported in the main analysis, excluding managerial ownership effect (MA). The significant effect of such a variable on REM_PD disappears in Model 1 Table 6.6. More specifically, managerial ownership does not have any influences on the sum of abnormal production costs and abnormal discretionary expenses. Accordingly, one may argue that it is difficult to interpret any of the findings when the aggregate measure is used as REM's proxy. This is because such an aggregate proxy is computed from the sum of two or three values of individual real earnings management.

Therefore, Cohen and Zarowin (2010) suggest that three individual REM proxies should also be applied along with the aggregate measure(s). Accordingly, individual REM proxies: ABCFO, ABPROD, and ABDISEX, are also applied as alternative proxies for REM in this section. The results are presented in Table 6.7.

### Table 6.6 The Link between Ownership Characteristics and Real Earnings Management by Using Alternative Aggregate Proxies

This table reports the link between ownership characteristics and alternative proxies of the aggregate real earnings management. REM_PD is the sum of abnormal production costs and abnormal discretionary expenses, while REM_CD is the sum of abnormal cash flow from operations and abnormal discretionary expenses. VIF of Model 1 and 2 ranges from 1.09 – 2.63, 1.09 - 2.66, respectively. Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation.

| | **Dependent Variable** | |
|---|---|---|
| | **Model 1** | **Model 2** |
| **VARIABLES** | **REM_PD** | **REM_CD** |
| LARGEST | -0.258** | -0.376*** |
| | (-2.377) | (-3.610) |
| MA | -0.341 | -0.423* |
| | (-1.462) | (-1.842) |
| IS_DOM | 0.383*** | 0.252*** |
| | (4.540) | (3.154) |
| FOR | 0.071 | 0.106 |
| | (0.657) | (0.996) |
| DA | 0.023 | 0.006 |
| | (0.771) | (0.210) |
| ROA | 0.626*** | 0.524*** |
| | (9.081) | (8.047) |
| Log_TA | 0.029** | 0.006 |
| | (2.391) | (0.515) |
| Constant | -0.640*** | -0.146 |
| | (-4.527) | (-1.111) |
| **Year Dummy** | **Yes** | **Yes** |
| **Industry Dummy** | **Yes** | **Yes** |
| **Country Dummy** | **Yes** | **Yes** |
| **Observations** | **35,966** | **36,186** |
| **Adjusted R-squared** | **0.170** | **0.138** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

**Table 6.7 The Link between Ownership Characteristics and Real Earnings Management by Using Alternative Individual Proxies**

This table reports the link between ownership characteristics and individual proxies of real earnings management techniques. ABCFO is an abnormal cash flow from operations. ABPROD is an abnormal production cost. ABDISEX is abnormal discretionary expenses. VIF values in Model 1, 2, and 3, rang from 1.09 – 2.54, 1.09 - 2.51, and 1.09 – 2.66 respectively. Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation.

| | **Dependent Variable** | | |
|---|---|---|---|
| | **Model 1** | **Model 2** | **Model3** |
| **VARIABLES** | **ABCFO** | **ABPROD** | **ABDISEX** |
| LARGEST | -0.031** | 0.080*** | -0.343*** |
| | (-2.019) | (4.488) | (-3.207) |
| MA | -0.076** | 0.003 | -0.346 |
| | (-2.522) | (0.104) | (-1.521) |
| IS_DOM | -0.143*** | -0.009 | 0.404*** |
| | (-10.155) | (-0.654) | (4.940) |
| FOR | -0.040** | -0.076*** | 0.153 |
| | (-2.267) | (-4.513) | (1.371) |
| DA | -0.013*** | -0.001 | 0.023 |
| | (-3.021) | (-0.449) | (0.780) |
| ROA | -0.100*** | -0.006 | 0.632*** |
| | (-11.207) | (-1.597) | (9.331) |
| Log_TA | -0.012*** | 0.009*** | 0.018 |
| | (-5.844) | (5.209) | (1.531) |
| Constant | 0.219*** | -0.236*** | -0.365*** |
| | (7.878) | (-7.595) | (-2.715) |
| **Year Dummy** | **Yes** | **Yes** | **Yes** |
| **Industry Dummy** | **Yes** | **Yes** | **Yes** |
| **Country Dummy** | **Yes** | **Yes** | **Yes** |
| **Observations** | **37,655** | **37,375** | **36,228** |
| **Adjusted R-squared** | **0.152** | **0.137** | **0.173** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.7 reveals the interesting results from regressing individual proxies of real earnings management on ownership characteristics and firm-level control variables. The effect of ownership characteristics is likely to fluctuate across individual real earnings management techniques. Model 1 Table 6.7 indicates that sales manipulation, captured by abnormal cash flows from operations (ABCFO) is negatively associated with LARGEST (Coefficient -0.031, p-value < 0.05), MA (Coefficient -0.076, p-value < 0.05), IS_DOM (Coefficient -0.143, p-value < 0.01), and FOR (Coefficient -0.040, p<0.05). Only LARGEST and MA report similar results to the main analysis (see Table 6.5). In summary, one may infer that the owners in terms of the largest, managerial, domestic institutional, and foreign shareholders are likely to limit sale manipulation. Roychowdhury (2006) mentions that sale manipulation, by providing an abnormal discount or lenient credit policies, would encourage sale volumes because such policies accelerate future sales to the current period. However, it may also reduce the cash flows from operations in the current period. The volatility of cash flows from operations may cause more concern for owners.

In contrast, LARGEST has a positive link (Coefficient 0.080, p-value < 0.01) with production costs manipulation (ABPROD) as reported in Model 2 Table 6.7. Specifically, the higher ownership concentration is, the more likely firms may engage in ABPROD. The finding of LARGEST is unlike the finding of this variable reported in the main analysis. Conversely, ABPROD is likely to reduce when foreign ownership (FOR) is higher (Coefficient -0.076, p-value <0.01) although this variable does not have a statistically significant effect in the main analysis. In addition, the effect of managerial (MA) and domestic institutional ownership (IS_DOM) disappear when ABPROD is used as a proxy of real earnings management in Model 2 Table 6.7.

Model 3 Table 6.7 reports the regressing of abnormal discretionary expenses (ABDISEX) on ownership characteristics. As mentioned earlier in the descriptive statistics section (See Section 6.2), the mean of ABDISEX is the highest value among the three individual real earnings management techniques. That is, on average, firms in this research dataset are likely to employ manipulation by cutting discretionary expenses over other real earnings management techniques. Thus, the findings in the main test (see Table 6.5) and the findings in the robustness check by using alternative REM proxy, ABDISEX, reported in Model 3 Table 6.7 are fairly aligned, excluding MA.

Overall, applying the individual measures of REM as alternative proxies is likely to alter the main findings. In essence, it emphasises the claim suggested by Cohen and Zarowin (2010) that individual REM techniques are potentially implemented in a different way. The research findings here add incremental evidence of how ownership characteristics may have a different effect on individual REM techniques. In other words, the preferences of shareholders over three individual REM techniques are possibly different. In addition, their preferences might also change due to certain circumstances given in a period. However, the data in this research does not have many periods to implement the time-series analysis for identifying the pattern of how individual REM is implemented over time. This issue is recommended for future research and will be discussed more in the final chapter (see Chapter 7 Section 7.2.2).

### 6.6.2 Alternative Estimation by Using Fixed Effect

Table 6.8 reports the findings from implementing a Fixed-Effects estimation (FE)[47] to regress the aggregate REM on ownership characteristics and control variables. Overall, the findings from using such an estimation are generally consistent with the main findings, where the OLS estimation is applied. However, the adjusted R-squared from the FE model reported in Table 6.8 is low (1.1%) when compared to the adjusted R-squared reported from OLS (Table 6.5). As discussed earlier (see Chapter 4 Section 4.3.1), the ownership data has slightly changed over time within a single company (Zhou, 2001). Researchers have mentioned that explanatory variables with little variations from time to time might not have high explanatory power when FE is applied (An, Li and Yu, 2016; Clark and Linzer, 2015; McLean, Zhang and Zhao, 2012). Therefore, a little variation of ownership data, perhaps, is a potential explanation of why adjusted R-squared is lower in the FE model. Regarding the effect of variables of interest, the effect of MA and IS_DOM disappear in the FE model. However, the negative link between LARGEST and REM still holds constant after using the alternative estimation. Similarly, REM is still positively related to ROA. In addition to ROA, control variables in terms of firm leverage (DA) and firm size (Log_TA) become statistically significant in the FE model. Accordingly, firms under financial distress are likely to implement REM as an earnings management approach. On the other hand, REM is negatively associated with firm size in the FE model.

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[47] The Hausman test is performed and the result is in favour of Fixed-Effects Estimation (Prob>chi2 = 0.0000).

## Table 6.8 The Link between Ownership Characteristics and Real Earnings Management by Using Fixed-Effects Estimation

This table reports the link between ownership characteristics and the aggregate real earnings management (REM) by using Fixed-Effects estimation (Firm-Year Fixed Effects). There are four variables of interest; concentrated ownership (LARGEST), managerial ownership (MA), domestic institutional ownership (IS_DOM), foreign ownership (FOR). Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation.

| **VARIABLES** | **Dependent Variable REM** |
|---|---|
| LARGEST | -0.388** |
| | (-2.227) |
| MA | -0.383 |
| | (-1.613) |
| IS_DOM | 0.110 |
| | (0.921) |
| FOR | 0.224 |
| | (1.489) |
| DA | 0.128** |
| | (2.139) |
| ROA | 0.224** |
| | (2.457) |
| Log_TA1 | -0.160* |
| | (-1.649) |
| Constant | 2.053* |
| | (1.747) |
| **Firm Fixed Effect** | **Yes** |
| **Year Fixed Effect** | **Yes** |
| **Observations** | **35,929** |
| **Number of Firms** | **8,616** |
| **Adjusted R-squared** | **0.011** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

### 6.6.3 Additional Control Variable

According to Zang (2012), one of the primary costs that connect to real earnings management is the degree of competition within industries. As mentioned earlier, real earnings management distorts real activities and thus has negative economic consequences. For this reason, firms that encounter the intensity of competition within industries may find real earnings management is extremely costly and the intensity of competition might impact the incentive for engaging in this earnings management technique. Therefore, the intensity of competition within industries (NumFirm) captured by the number of firms within the industry (Datta, Iskandar-Datta and Singh, 2013; Lemma *et al.*, 2018) are added into the Baseline Model 2A as the additional control variable. The effect of NumFirm on real earnings management is presented in Table 6.9. The coefficient of NumFirm is positive but not significant. However, the effect of variables of interest on real earnings management is qualitatively similar to the findings reported in the main analysis after controlling for the intensity of competition within industries[48]. Thus, the effect of ownership characteristics is robust to the alternative model specification by adding additional controls.

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[48] Industry dummies are added to the model specification in the main analysis to control for industry effect.

**Table 6.9 The Link between Ownership Characteristics and Real Earnings Management by Adding Additional Controls**

This table reports the link between ownership characteristics and the aggregate real earnings management (REM) by adding more control variables, Number of firms within the industry (NumFirm). OLS estimation is employed in this stage and VIF for all variables of interest is lower than 5 (It ranges from 1.09 – 2.62). Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation.

| **VARIABLES** | **Dependent Variable REM** |
|---|---|
| LARGEST | -0.300*** |
| | (-2.805) |
| MA | -0.392* |
| | (-1.677) |
| IS_DOM | 0.258*** |
| | (3.158) |
| FOR | 0.063 |
| | (0.613) |
| DA | 0.003 |
| | (0.089) |
| ROA | 0.519*** |
| | (7.847) |
| Log_TA1 | 0.000 |
| | (0.030) |
| NumFirm | 0.000 |
| | (0.510) |
| Constant | -0.107 |
| | (-0.773) |
| **Year Dummy** | **Yes** |
| **Country Dummy** | **Yes** |
| **Observations** | **35,929** |
| **Adjusted R-squared** | **0.132** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

## 6.7 Multiple Regression Analysis for Real Earnings Management: The Interaction Analysis

In addition to the firm-level analysis, which investigates the direct effect of ownership characteristics and real earnings management, the effect of institutional settings at the country level is considered in this section. In other words, the moderating model 1B incorporates the moderating effect of institutional settings, country-level governance. It would allow researchers to understand how the baseline arguments, which are presented and discussed in Section 6.5, in this case, are modified by the moderators. The moderating model is presented as follows:

**Moderating Model 1B**

$$REM_{it} = \beta_0 + \beta_1 LARGEST_{itj} + \beta_2 MA_{itj} + \beta_3 IS\_DOM_{itj} + \beta_4 FOR_{itj} + \beta_5 DA_{itj} + \beta_6 ROA_{itj} + \beta_7 Log\_TA_{itj} + \beta_8 IS_{jt} + \beta_9 (OS_{itj} * IS_{jt}) + \beta_{10} MAS_{jt} + \beta_{11} GDP_{jt} + \beta_{12} INFLA_{jt} + \text{Industry Dummies}_k + \text{Year Dummies}_t + \varepsilon_{it}$$

**Where:**

OS = Ownership Variables (OS $\in$ {LARGEST, MA, IS_DOM, FOR}) of firm i in year t and country j

IS = Institutional Settings Variable of Country j in year t (IS $\in$ {LEGAL, ADR, ACC_ENT})

MAS = Masculinity Index from Hofstede (2001)

GDP = GDP Growth Rate (Annual %)

INFLA = GDP Deflator (Annual %)

REM, LARGEST, MA, IS_DOM, FOR, DA, ROA, and Log_TA have the same definitions as presented in the firm-level analysis (see Section 6.5).

The findings regarding the main research question that account for the moderating effect of institutional settings at the country level are presented in Table 6.10 (H 2.5 – H 2.8).

## Table 6.10 The Moderating Effect of Institutional Settings on the Link between Ownership Characteristics and Real Earnings Management

This table reports the moderating effect of institutional settings on the link between ownership characteristics and real earnings management. OLS estimation is applied in this section. Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation[49].

| | | Dependent Variable | | | |
|---|---|---|---|---|---|
| VARIABLES | Expected Sign | Model (1) REM | Model (2) REM | Model (3) REM | Model (4) REM |
| LARGEST | | -0.241** | -0.215** | -0.228** | -0.271*** |
| | | (-2.262) | (-2.079) | (-2.227) | (-2.636) |
| MA | | -0.272 | -0.324 | -0.305 | -0.420 |
| | | (-1.161) | (-1.384) | (-1.300) | (-1.496) |
| IS_DOM | | 0.464*** | 0.467*** | 0.492*** | 0.430*** |
| | | (5.974) | (6.774) | (6.455) | (5.592) |
| FOR | | -0.244** | -0.335*** | -0.297*** | -0.263*** |
| | | (-2.539) | (-3.679) | (-3.450) | (-2.887) |
| DA | | 0.001 | 0.004 | 0.004 | 0.000 |
| | | (0.031) | (0.153) | (0.145) | (0.016) |
| ROA | | 0.484*** | 0.487*** | 0.488*** | 0.489*** |
| | | (7.577) | (7.547) | (7.559) | (7.636) |
| Log_TA | | 0.026** | 0.028** | 0.028** | 0.025** |
| | | (2.298) | (2.449) | (2.508) | (2.186) |
| ADR | | -0.072*** | | | |
| | | (-4.011) | | | |
| **LARGEST*ADR** | **H 2.5 (+/-)** | **0.233*** | | | |
| | | **(1.883)** | | | |
| LEGAL | | | 0.027* | 0.030** | |
| | | | (1.790) | (2.105) | |
| **IS_DOM*LEGAL** | **H 2.6 (+/-)** | | **0.086**** | | |
| | | | **(2.247)** | | |
| **FOR*LEGAL** | **H 2.7 (+/-)** | | | **-0.137***** | |
| | | | | **(-4.071)** | |
| ACC_ENT | | | | | -0.305*** |
| | | | | | (-15.053) |
| **MA*ACC_ENT** | **H 2.8 (+/-)** | | | | **-0.315** |
| | | | | | **(-1.056)** |
| MAS | | 0.008*** | 0.008*** | 0.008*** | 0.020*** |
| | | (3.923) | (3.440) | (3.444) | (7.937) |
| GDP | | 0.052*** | 0.030*** | 0.030*** | -0.014 |
| | | (4.987) | (3.844) | (3.940) | (-1.629) |
| INFLA | | 0.029*** | 0.037*** | 0.037*** | -0.003 |
| | | (4.666) | (5.527) | (5.591) | (-0.445) |
| Constant | | -0.820*** | -0.676*** | -0.797*** | -1.214*** |
| | | (-4.559) | (-3.301) | (-3.972) | (-6.709) |
| **The highest VIF** | | **2.46** | **2.73** | **2.73** | **2.97** |
| **Industry Dummy** | | **Yes** | **Yes** | **Yes** | **Yes** |
| **Year Dummy** | | **Yes** | **Yes** | **Yes** | **Yes** |
| **Observations** | | **35,929** | **35,929** | **35,929** | **35,929** |
| **Adjusted R-squared** | | **0.128** | **0.127** | **0.127** | **0.130** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

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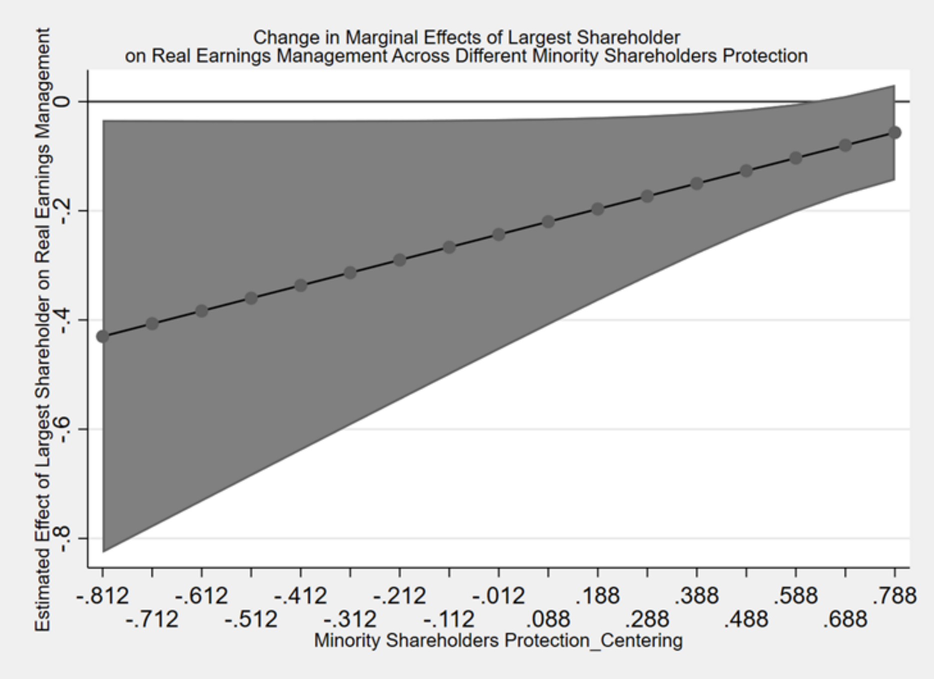
[49] The model specifications without interaction variables are also run and yield comparable findings with the findings reported in this table in regard to the effect of ownership characteristics, institutional settings, and control variables.

### 6.7.1 Concentrated Ownership, Minority Shareholders Protection, and Real Earnings Management

According to Model 1 reported in Table 6.10, the coefficient of LARGEST*ADR indicates the moderating effect of minority shareholders protection (ADR) on the link between the largest shareholder (LARGEST) and real earnings management (REM). Its coefficient is statistically significant at the 10% level; hence H 2.5 is accepted. This means that the effect of the largest shareholder on real earnings management varies depending on the degree of minority shareholders protection. However, the information provided in Model 1 Table 6.10 is limited in explaining the moderating effect of ADR. Therefore, the probing interaction is conducted to probe and visualise such a moderating effect. The coefficient slope of the largest shareholder on real earnings management across different degrees of minority shareholders protection is presented in Figure 6.1 and the corresponding standard errors of such marginal effects are reported in Appendix F.

**Figure 6.1 The Change in Marginal Effects of The Largest Shareholder on Real Earnings Management**



According to Figure 6.1, the slope of the regression coefficients shows how the marginal effect of LARGEST on real earnings management changes as a function of ADR. Considering 95% confidence intervals, which are shaded as boundaries around the coefficient slope line, the reductive effect of LARGEST on REM is more pronounced in the contexts where minority shareholders protection is low. However, the reductive effect of LARGEST to obstruct REM becomes less and less pronounced, as the degree of minority shareholders protection is higher. This implicitly infers that the effect of the largest shareholder is less influential when the external monitoring system induced by minority shareholders is stronger.

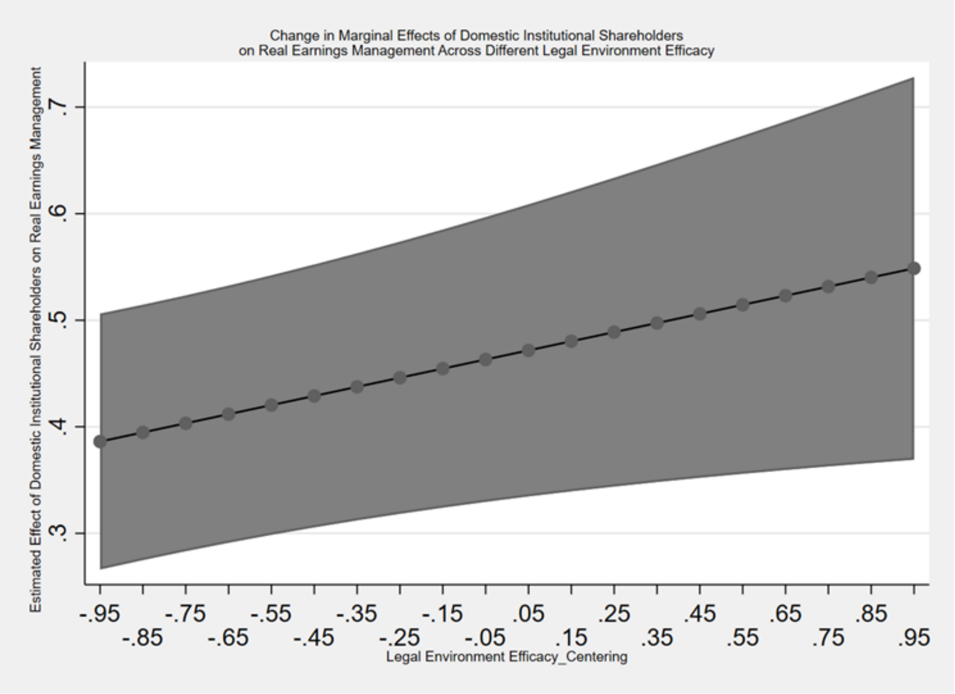
The external governance mechanism in terms of minority shareholders protection seems to influence the largest shareholder behaviour, as predicted by institutional theory. In the firm-level analysis, discussed in the previous section without considering the effect of the external governance, the largest shareholder prefers to curb REM as their ownership is higher because this earnings management technique is riskier in terms of firm-value volatility. However, stronger external monitoring by granting rights to minority shareholders alters the behaviour of such a shareholder.

The finding also supports the substitutive relationship between firm-level and country-level governance mentioned in literature (Ernstberger and Grüning, 2013). That is, the impact of the largest shareholder is weaker when minority shareholders protection is stronger. Implicitly, the mechanisms of minority shareholders protection by granting minority shareholders the right to participate in corporate policies limit the discretion of majority shareholders over firm policies (Belloc, 2013). Such a mechanism balances the power between insiders and outsiders.

### 6.7.2 Domestic Institutional Shareholders, Foreign Shareholders, Legal Environment, and Real Earnings Management

The significance of the interaction variable, IS_DOM*LEGAL, in Model 2 Table 6.10 indicates that the influence of domestic institutional shareholders (IS_DOM) on real earnings management is altered by the degree of legal environment efficacy. Accordingly, hypothesis 2.6 is accepted. The coefficient of such an interaction term, IS_DOM*LEGAL, is positive (0.086) and significant at the 5% level. The probing interaction is performed, and marginal effects are reported in Figure 6.2. The corresponding standard errors are presented in Appendix G.

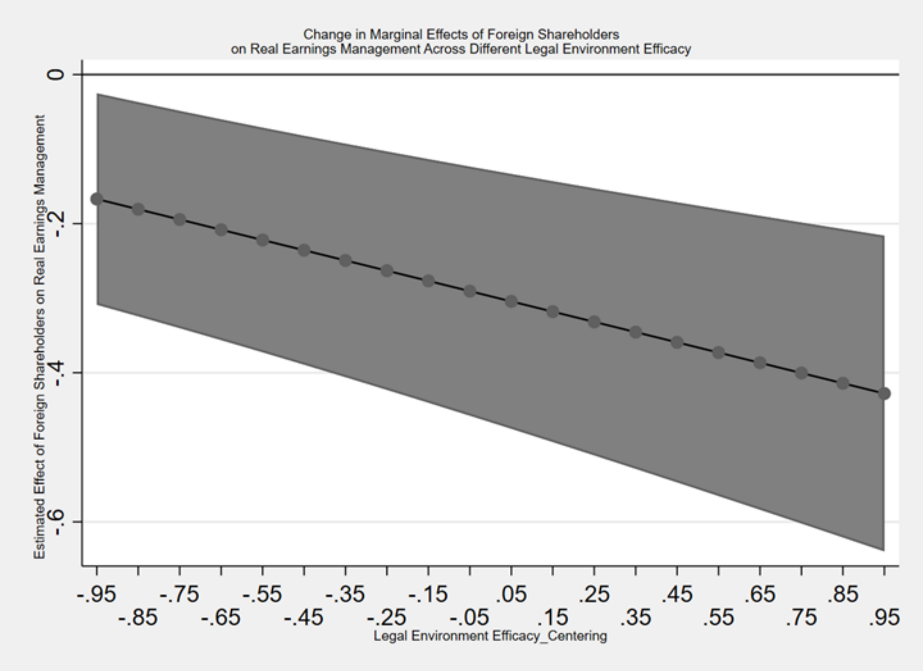
**Figure 6.2 The Change in Marginal Effects of Domestic Institutional Shareholders on Real Earnings Management**



According to the marginal effect of IS_DOM on real earnings management reported in Figure 6.2, the positive link between IS_DOM and REM is more pronounced as LEGAL increases. In other words, domestic institutional shareholders are more influential in tempting real earnings management where the legal environment is stronger. This finding echoes the argument proposed by Li *et al.* (2006) in which the legal environment is the feasible factor to dominate the roles of institutional investors. It also supports the notion of institutional theory. In this case, the finding points out that real earnings management is preferable for domestic institutional shareholders in strong legal environment contexts, where litigation risk is also typically high (Choi, Choi and Sohn, 2018). This is because real earnings management is more difficult to detect when compared to accruals earnings management (Cohen, Dey and Lys, 2008; Enomoto, Kimura and Yamaguchi, 2015; Francis, Hasan and Li, 2016). Therefore, it might be more tempted where the legal environment, deemed as external governance, is strong (Choi, Choi and Sohn, 2018; Enomoto, Kimura and Yamaguchi, 2015; Francis, Hasan and Li, 2016).

In addition, hypothesis 2.7 (H 2.7) also proposed that the efficacy of the legal environment is likely to modify the behaviour of foreign shareholders (FOR) toward real earnings management. The coefficient of FOR*LEGAL in Model 3 Table 6.10 is negative and significant at the 1 % level. It indicates that such a proposed hypothesis (H 2.7) is accepted. To interpret such a moderating effect, the probing interaction is conducted and the marginal effects of FOR on REM are reported in Figure 6.3. The corresponding standard errors are presented in Appendix H.

**Figure 6.3 The Change in Marginal Effects of Foreign Shareholders on Real Earnings Management**



The negative coefficient slope of foreign shareholders (FOR) on real earnings management presented in Figure 6.3 is steeper as the efficacy of the legal environment increases. This means that the active monitoring role of foreign shareholders to limit real earnings management is more influential in contexts where the efficacy of the legal environment is higher. The complementary role between foreign shareholders and the efficacy of the legal environment is highlighted in this case. The finding is in line with the argument mentioned in literature in which the legal environment efficacy within a country where the firm is located substantively influences the behaviour of foreign shareholders (Fang, Maffett and Zhang, 2015; Kim *et al.*, 2019).

### 6.7.3 Managerial Shareholders, Accounting Enforcement, and Real Earnings Management

Hypothesis 2.8 proposes that the link between managerial ownership (MA) and real earnings management (REM) is modified by the level of accounting enforcement (ACC_ENT). The coefficient of the interaction term, MA*ACC_ENT, in Model 4 Table 6.10 responds to such a hypothesis. Interestingly, this coefficient is not statistically significant at any conventional levels, along with the insignificant coefficient of MA. It implicitly indicates that managerial shareholders do not favour the use of more or less real earnings management although accounting enforcement is stronger. The empirical evidence regarding the moderating effect of accounting enforcement on the link between managerial shareholders and real earnings management is still limited in literature. However, this finding might be comparable to the empirical findings that exist in literature.

For example, Doukakis (2014) documents that implementing International Financial Reporting Standards (IFRS), which are typically deemed as the highest quality of Generally Accepted Accounting Principles, in European Countries does not have a significant effect on either accruals or real earnings management. However, the research design in such a study and in this one is relatively different. Doukakis (2014) focuses on the direct impact of IFRS adoption on accruals and real earnings management, whereas this study underlines the moderating effect of accounting enforcement. To justify an insignificant finding, this research refers to the manifest nature of real earnings management. Specifically, Generally Accepted Accounting Principles or accounting regulations are not directly designed to govern this type of earnings management (Kothari, Mizik and Roychowdhury, 2016). For this reason, accounting enforcement, captured by the strength of auditing and reporting, might not alter the behaviour of managerial shareholders towards real earnings management.[50]

### 6.7.4 The Findings of Country-Level Control Variables

There are three control variables added to the model specification at the country-level analysis. The findings are reported in Table 6.10. First, real earnings management is more likely when the degree of masculinity (MAS) is higher. The positive coefficients of MAS reported in Table 6.10 hold constant from Model 1 through Model 4. This finding echoes that in countries where people value high achievement and material reward, the likelihood of real earnings management is higher. Despite a costly earnings management technique, the desire for high achievement and reward might drive managers to engage in real earnings management. The finding is in line with the prediction in accruals earnings management literature that a higher degree of masculinity encourages a higher degree of accruals earnings management (Chen *et al.*,

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[50] This research proposed the moderating effect of accounting enforcement on the link between managerial shareholders and real earnings management by considering the existing argument in literature that real earnings management might prefer managers in contexts where accounting practices are stricter and subject to the greater scrutiny (Kothari, Mizik and Roychowdhury, 2016).

2018; Nabar and Boonlert-U-Thai, 2007). However, this prediction would also be applicable to real earnings management (Pacheco Paredes and Wheatley, 2017).

In addition, Table 6.10 reveals that gross domestic production growth rate (GDP) is positively associated with real earnings management in Model 1 through Model 3. It indicates that real earnings management is more likely in the context where economic growth is strong. This finding is consistent with the finding reported by Francis, Hasan and Li (2016). The possible justification is that firms might be less concerned in engaging in real earnings management when economic growth, which underpins business operations at the firm level, is stable. Long-term performance, which is eroded by real earnings management, might recover easily when the economic situation is good.

Finally, inflation (INFLA) is added into the Moderating model to control for fluctuation in the economy. The finding reported in Table 6.10 generally indicates that real earnings management is positively linked with the degree of inflation within the country. When the economic system encounters greater fluctuation, causing greater uncertainty in business activities, managers are possibly under pressure to maintain or beat expected earnings and real earnings management might be needed.

## 6.8 Robustness Tests for Real Earnings Management: The Interaction Analysis

There are additional tests performed in this section as robustness checks to examine the certainty of the findings reported in the main analysis. The robustness tests are discussed below.

### 6.8.1 Alternative Real Earnings Management Calculation[51]

The findings by implementing the country-industry-year basis as an alternative procedure to calculate real earnings management are discussed in this section. The results are reported in Table 6.11. The alternative procedure to calculate REM by applying the country-industry-year basis drops the sample size from 35,929 to 35,470 firm-year observations. The coefficient of LARGEST*ADR in Model 1 Table 6.11 indicates the moderating effect of minority shareholders protection (ADR) on the link between the largest shareholders (LARGEST) and real earnings management. The sign and significance level of such an interaction coefficient is qualitatively similar to the main analysis, implying that the effect of the largest shareholder on real earnings management is less influential as the degree of minority shareholders protection increases. Therefore, the conclusion regarding the moderating effect of such an institutional setting at the country level remains constant in the alternative procedure of real earnings management calculation.

In addition, the moderating effect of legal environment efficacy (LEGAL) on the behaviour of domestic institutional shareholders (IS_DOM), demonstrated by the coefficient of IS_DOM*LEGAL in Model 2 Table 6.11, is comparable with the finding reported in the main analysis, although the significance level drops from 5% level to 10% level. The conclusion still holds constant in which the positive link between IS_DOM and real earnings management is more pronounced in the contexts where the efficacy of the legal environment is stronger. Similarly, the moderating

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[51] Additionally, this research also applies the sum of abnormal production costs (ABPROD) and abnormal discretionary expenses (ABDISEX) as an alternative proxy for the aggregate real earnings management by following Choi, Choi and Sohn (2018). The untabulated findings are qualitatively similar to the findings reported in the main analysis.

effect of accounting enforcement on managerial shareholders behaviour (see MA*ACC_ENT in Model 4 Table 6.11) towards real earnings management is equivalent to the main finding.

However, the significance of the interaction variable (FOR*LEGAL) between foreign shareholders (FOR) and the efficacy of the legal environment (LEGAL) in Model 3 Table 6.11 disappears. Likewise, its constituents, FOR and LEGAL are insignificant. The smaller sample size used in this section may be one of the potential reasons leading to the finding change for foreign shareholders. For example, there are only 5 industries left, from 16, in Hong Kong when the country-industry-year estimate is applied for the calculation of real earnings management.

In addition, Peek *et al.* (2013) also raise the concern about the estimation error in regression-based earnings management models when the models are applied with a small sample. Specifically, the authors criticise the performance of accrual models applied with small economies in international studies. In a similar manner, the real earnings management models still rely on a parallel concept by implementing regression models to generate normal and abnormal activities. Such regression models are likely to have less power to accurately determine the normal and abnormal levels of accruals or real activities (Peek *et al.*, 2013). This concern is also mentioned in a prior study (Francis, Hasan and Li, 2016) and might alter the findings in this section.

### Table 6.11 The Moderating Effect of Institutional Settings on the Link between Ownership Characteristics and Real Earnings Management Computed by Country-Industry-Year Basis

This table reports the moderating effect of institutional settings on the link between ownership characteristics and real earnings management, computed by country-year-industry basis. The OLS estimation is applied. Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation. The results for control variables are untabulated for brevity and generally similar to the findings reported in the main analysis (see Table 6.10).

| | **Dependent Variable** | | | |
|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** |
| **VARIABLES** | **REM** | **REM** | **REM** | **REM** |
| LARGEST | -0.380** | -0.349** | -0.360** | -0.370** |
| | (-2.152) | (-2.033) | (-2.118) | (-2.173) |
| MA | -0.341 | -0.395 | -0.385 | -0.465 |
| | (-0.973) | (-1.128) | (-1.101) | (-1.108) |
| IS_DOM | 0.485*** | 0.486*** | 0.519*** | 0.498*** |
| | (3.994) | (4.593) | (4.373) | (4.148) |
| FOR | 0.083 | 0.002 | 0.020 | 0.028 |
| | (0.566) | (0.015) | (0.150) | (0.201) |
| ADR | -0.068*** | | | |
| | (-2.603) | | | |
| **LARGEST*ADR** | **0.346*** | | | |
| | **(1.689)** | | | |
| LEGAL | | 0.011 | 0.007 | |
| | | (0.461) | (0.299) | |
| **IS_DOM*LEGAL** | | **0.100*** | | |
| | | **(1.838)** | | |
| **FOR*LEGAL** | | | **-0.035** | |
| | | | **(-0.710)** | |
| ACC_ENT | | | | -0.093*** |
| | | | | (-3.385) |
| **MA*ACC_ENT** | | | | **-0.373** |
| | | | | **(-0.841)** |
| Constant | -0.799*** | -0.643* | -0.736** | -0.888*** |
| | (-2.742) | (-1.919) | (-2.266) | (-3.051) |
| **The highest VIF** | **2.48** | **2.81** | **2.81** | **3.02** |
| **Control Variables (Firm and Country)** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Industry Dummy** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Year Dummy** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Observations** | **35,470** | **35,470** | **35,470** | **35,470** |
| **Adjusted R-squared** | **0.080** | **0.079** | **0.079** | **0.079** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

### 6.8.2 Suspect Firms Analysis[52]

Following an argument in prior literature (see Doukakis, 2014; Francis, Hasan and Li, 2016; Gunny, 2010; Roychowdhury, 2006; Zang, 2012), there are firms defined as "suspect firms" that might have an extremely incentive to manipulate real activities in order to meet the crucial earnings target or benchmark. Accordingly, only the suspect firm-year observations are constructed and examined in this section. Following Gunny (2010), the suspect firms are those firms that reported a small amount of net income to avoid losses, known as just meet zero firms. In that way, suspect firms are defined as firms that reported earnings around zero (net income divided by total assets is higher than 0 but less than 0.01). Roychowdhury (2006) mentions that zero is a crucial earnings threshold due to debt agreements. A creditor generally makes reporting losses undesirable because debt agreements might be tighter if firms report losses.

However, it is important to note that the suspect firms might have a higher incentive to engage in real earnings management when compared to the generic sample used in the main analysis[53]. Accordingly, shareholders behaviour in suspect firms, reported in this section, might be different from generic firms, used in the main analysis. The results are reported in Table 6.12. Examining only suspect firm-year observations, the sample size drops from 35,929 to 2,335 firm-year observations; a substantial fall. Interestingly, in Model 1 Table 6.12, the main effect of the largest shareholder (LARGEST) on real earnings management reverses from a negative to positive

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[52] This was also recommended by participants at The British Accounting and Finance Association Annual Conference 2019, where the author presented this chapter.

[53] Roychowdhury (2006) notes that real earnings management may also be persuaded in non-suspect firms as well but suspect firms are more likely to have an incentive to do so. Accordingly, using suspect firm-year observations as a subsample might increase the power of real earnings management (Doukakis, 2014; Francis, Hasan and Li, 2016).

direction (Coefficient of LARGEST is 0.211 p-value < 0.01). This means that in suspect firm-year observations, the increase in the largest shareholder seems to encourage more real earnings management among firms with average on the degree of minority protection[54]. However, considering the moderating effect of minority shareholders protection (ADR) on the largest shareholder, presented by the coefficient of LARGEST*ADR, it indicates that the positive link between LARGEST and real earnings management is less pronounced when ADR increases (Coefficient -0.329 p-value < 0.01). In other words, the largest shareholder is less influential on manipulating real earnings management in the suspect firms in countries where minority shareholders protection is in place. Therefore, the inference of the moderating effect of such an institutional setting remains similar to the main analysis.

Model 2 and 3 in Table 6.12 present the moderating effect of legal environment efficacy on the behaviour of domestic institutional shareholders (IS_DOM) and foreign shareholder (FOR) respectively. The positive coefficient of IS_DOM*LEGAL in Model 2 is still significant but weaker. A significance level of 10% is reported in this section while 5% is presented in the main analysis. However, the conclusion due to the moderating effect of legal environment efficacy on the link between IS_DOM and real earnings management is not altered. In other words, the positive link between IS_DOM, reported by a positive and significant coefficient of such variable in Model 2, and real earnings management is more pronounced as the degree of legal environment efficacy increases.

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[54] According to the argument in literature, suspect firms are assumed to have strong firm-level incentive for earnings management (Doukakis, 2014). Hence, it is plausible that the largest shareholder may persuade real earnings management.

In addition, the moderating effect of such an institutional setting on foreign shareholders' behaviour, is qualitatively similar to the finding reported in the main analysis. The coefficient of FOR*LEGAL is still negative and strongly significant (p-value < 0.01). This means that the efficacy of the legal environment still supports the active monitoring role of FOR despite suspect firms. Finally, there is no moderating effect of accounting enforcement (ACC_ENT) on the behaviour of managerial shareholders (MA). Thus, the conclusion offered in the main analysis still holds constant.

## Table 6.12: The Moderating Effect of Institutional Settings on the Link between Ownership Characteristics and Real Earnings Management by Using only Suspect Firm-Year Observations

This table reports the moderating effect of institutional settings on the link between ownership characteristics and real earnings management for the suspect firm-year observations. The OLS estimation is applied. Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation. The results for control variables are untabulated for the brevity and generally similar to the findings reported in the main analysis.

| | **Dependent Variable** | | | |
|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** |
| **VARIABLES** | **REM** | **REM** | **REM** | **REM** |
| LARGEST | 0.211*** | 0.199*** | 0.185*** | 0.137* |
| | (2.873) | (2.813) | (2.644) | (1.947) |
| MA | 0.002 | 0.014 | 0.040 | 0.003 |
| | (0.015) | (0.100) | (0.280) | (0.020) |
| IS_DOM | 0.473*** | 0.416*** | 0.458*** | 0.384*** |
| | (6.123) | (5.723) | (5.919) | (5.013) |
| FOR | -0.346*** | -0.377*** | -0.358*** | -0.317*** |
| | (-4.380) | (-4.794) | (-4.749) | (-4.028) |
| ADR | -0.010 | | | |
| | (-0.402) | | | |
| **LARGEST*ADR** | **-0.329*** ** | | | |
| | **(-3.414)** | | | |
| LEGAL | | 0.021 | 0.024 | |
| | | (1.193) | (1.358) | |
| **IS_DOM*LEGAL** | | **0.106*** | | |
| | | **(1.693)** | | |
| **FOR*LEGAL** | | | **-0.115*** ** | |
| | | | **(-2.904)** | |
| ACC_ENT | | | | -0.268*** |
| | | | | (-8.972) |
| **MA*ACC_ENT** | | | | **0.310** |
| | | | | **(1.480)** |
| Constant | -0.560*** | -0.511** | -0.637*** | -0.967*** |
| | (-3.037) | (-2.525) | (-3.150) | (-4.910) |
| | | | | |
| **The highest VIF** | **2.94** | **2.58** | **2.56** | **3.16** |
| **Control Variables (Firm and Country)** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Industry Dummy** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Year Dummy** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Observations** | **2,335** | **2,335** | **2,335** | **2,335** |
| **Adjusted R-squared** | **0.128** | **0.124** | **0.125** | **0.152** |

Robust t-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

### 6.8.3 Alternative Proxies for Institutional Settings

In this section, three alternative proxies of institutional settings at the country level: revised antidirector rights index (ADR_2), Worldwide Governance Indicators (WGI), and aggregate auditing and accounting enforcement index (ACC_ENT_2), are applied in the Moderating Model 1B. These three alternative proxies were discussed in the previous chapter (see Chapter 5 Section 5.9.3) and the results are reported in Table 6.13. The moderating effect of the alternative measure of minority shareholders protection (ADR_2) on the link between the largest shareholders and real earnings management is shown by the coefficients of LARGEST*ADR_2 in Model 1 Table 6.13. Its coefficient is positive (0.340) and significant at the 1% level; in accordance with the main analysis. Therefore, the conclusion regarding the moderating effect of minority shareholders protection holds constant. Specifically, the largest shareholder is less influential when the degree of minority shareholders protection is higher.

Additionally, the moderating effect of Worldwide Governance Indicators (WGI), the alternative proxy of the legal environment, on the behaviour of domestic institutional shareholders (IS_DOM) and foreign shareholders (FOR) are presented by the coefficient of IS_DOM*WGI and FOR*WGI in Model 2 and Model 3 Table 6.13 respectively. The positive coefficient of IS_DOM*WGI (p-value <0.01) along with the positive coefficient of IS_DOM (p-value < 0.01) in Model 2 indicates that the increase of real earnings management induced by domestic institutional shareholders will be higher as the efficacy of legal environment is stronger. This finding is in line with the finding in the main analysis. The coefficient of FOR*WGI is still negative (p-value < 0.05) in Model 3 Table 6.13, which is comparable to the result reported in the main analysis. Considering the coefficient of FOR itself (Coefficient -0.316 p-value < 0.01) together with its interaction, FOR*WGI (Coefficient -0.038 p<0.05), it demonstrates that the negative link between foreign shareholders and real earnings management is more pronounced in contexts where the efficacy of legal environment is strong. The legal environment efficacy still supports the active monitoring role of foreign shareholders to monitor real earnings management, despite applying an alternative proxy.

Finally, the coefficient of MA*ACC_ENT_2 in Model 4 Table 6.13, which presents the moderating effect of alternative proxy of accounting enforcement (ACC_ENT_2) on the link between managerial ownership (MA) and real earnings management, is negative and significant at the 10% level, along with the negative coefficient of MA. This means that such a negative link between MA and REM will be more pronounced as accounting enforcement is stronger. However, there is an insignificant effect of such an interaction variable reported in the main analysis. The finding regarding the moderating effect of accounting enforcement is somewhat sensitive to how such a variable is measured. To justify such a finding, the previous discussion in Chapter 5 Section 5.9.3 is mentioned again. Essentially, the general consensus in empirical proxies of institutional settings is still lacking (Schiehll and Martins, 2016), especially accounting enforcement (Brown, Preiato and Tarca, 2014; Preiato, Brown and Tarca, 2015). Thus, applying different proxies in empirical analysis might preclude the comparison.

## Table 6.13 The Moderating Effect of Institutional Settings, by Using Alternative Proxies, on the Link between Ownership Characteristics and Real Earnings Management

This table reports the moderating effect of institutional settings (alternative measure) on the link between ownership characteristics and real earnings management. The OLS estimation is applied. Related t-statistics are based on the cluster-robust standard errors to adjust for potential heteroskedasticity and autocorrelation. The results for control variables are untabulated for brevity and generally similar to the findings reported in the main analysis (Table 6.10).

| | **Dependent Variable** | | | |
|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** |
| **VARIABLES** | **REM** | **REM** | **REM** | **REM** |
| LARGEST | -0.176* | -0.200* | -0.227** | -0.176* |
| | (-1.689) | (-1.924) | (-2.211) | (-1.714) |
| MA | -0.304 | -0.343 | -0.314 | -0.512* |
| | (-1.280) | (-1.464) | (-1.340) | (-1.925) |
| IS_DOM | 0.309*** | 0.421*** | 0.498*** | 0.304*** |
| | (3.539) | (6.141) | (6.504) | (3.840) |
| FOR | -0.168 | -0.340*** | -0.316*** | -0.311*** |
| | (-1.599) | (-3.744) | (-3.554) | (-3.429) |
| ADR_2 | -0.120*** | | | |
| | (-9.482) | | | |
| **LARGEST*ADR_2** | **0.340*** ** | | | |
| | **(4.035)** | | | |
| WGI | | 0.022*** | 0.015** | |
| | | (3.183) | (2.309) | |
| **ISDOM*WGI** | | **0.112*** ** | | |
| | | **(6.672)** | | |
| **FOR*WGI** | | | **-0.038** ** | |
| | | | **(-2.357)** | |
| ACC_ENT2 | | | | 0.020*** |
| | | | | (12.189) |
| **MA*ACC_ENT_2** | | | | **-0.046* ** |
| | | | | **(-1.781)** |
| Constant | -0.203 | -0.670*** | -0.804*** | 0.159 |
| | (-0.985) | (-3.300) | (-4.064) | (0.794) |
| **The highest VIF** | **3.36** | **3.00** | **2.86** | **4.59** |
| **Control Variables (Firm and Country)** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Industry Dummy** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Year Dummy** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Observations** | **34,204** | **35,929** | **35,929** | **35,929** |
| **Adjusted R-squared** | **0.133** | **0.128** | **0.127** | **0.132** |

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

## 6.9 Conclusion

This chapter presented data on real earnings management. In addition, the empirical analysis and findings are also reported and discussed in response to the main research question and sub-question proposed in Chapter 1 Section 1.3. The primary findings point out that, at the firm-level analysis, real earnings management varies as a function of ownership characteristics. More specifically, the differences in ownership concentration and ownership identities are likely to have a different effect on real earnings management. In other words, it emphasises that different shareholders may have different preferences and behave differently toward such a technique of earnings management. The findings concerning the effect of ownership characteristics at the firm-level analysis are generally in line with the premise drawn from agency theory where alignment and entrenchment effect are proposed.

Additionally, the analysis is extended by taking the institutional settings, country-level governance, into consideration as moderators. The findings at the country-level analysis reveal that the behaviour of shareholders, at the firm level, toward real earnings management is modified by the institutional settings within the country. Such findings explicitly indicate that the external environment at the macro-level shapes organisational behaviour as proposed by the concept of institutional theory. It also ensures the notion of the interplay roles between firm-level and country-level governance mentioned in literature (Kumar and Zattoni, 2013). Finally, the findings concerning the effect of ownership characteristics and institutional settings are generally robust to alternative model specifications, alternative proxies for aggregate real earnings management, alternative estimation, and alternative calculation for real earnings management. In general, the inference should be reliable.

# CHAPTER 7

# Summary and Conclusion

"An over- or under-contextualised view" in existing governance research (Kumar and Zattoni, 2013, p.199) is a crucial motivation for conducting this study. In particular, most governance research has focused only on the effect of either firm-level or country-level governance on the firm outcomes and has overlooked the interplay roles between these two levels of governance. The findings concerning the effect of governance introduced by such a research design are still inconclusive. Future research is needed to bridge such a gap, which in turn extends the understanding of governance mechanisms (Kumar and Zattoni, 2013; Schiehll and Martins, 2016). Accordingly, the study of the interplay roles of governance is thought to be a new research stream (Bao and Lewellyn, 2017). In response to such a gap, this research aims to investigate the interplay roles between firm-level and country-level governance on different strategies of earnings management: accruals and real earnings management. Ownership characteristics are firm-level governance studied in this research context, along with three institutional settings at the country level: minority shareholders protection, the efficacy of the legal environment, and accounting enforcement.

Ownership characteristics are a crucial factor for shaping the patterns of agency conflicts and to reflect how the firm is governed (Aguilera and Crespi-Cladera, 2016). Therefore, this factor has been considered as a core variable in governance research (Aguilera, Marano and Haxhi, 2019). Many studies have investigated the effect of this factor as firm-level governance on earnings management by applying agency theory lens as a theoretical framework. However, the existing findings are mixed among countries and researchers have mentioned the differences in the institutional framework as a potential factor to alter the effect of owners in different contexts (García-Meca and Sánchez-Ballesta, 2009). Such an argument emphasises the interplay roles of governance mechanisms between the firm level and the country level. Moreover, it calls for further research to prove such a claim theoretically and empirically.

Theoretically, researchers have argued that agency theory, the dominant theory for explaining the effect of governance on earnings management, needs to be extended by integrating agency perspective with other applicable theories (Boyd and Solarino, 2016). In other words, the conflict of interest, which relies on economic self-interest, in agency theory might not be able to explain the effect of governance on earnings management thoroughly (Bao and Lewellyn, 2017; Bilal, Chen and Komal, 2018; Dinh and Calabrò, 2018). Instead, institutional settings, the external environment, are likely to influence how the conflict of interest exists within the firm (Davis-Friday, 2010). Thus, country-level institutions are crucial as the “Rules of the game” (North, 1990, p.4) to shape the behaviour of economic actors.

In line with this theoretical argument, this research proposes that formal institutional settings in terms of minority shareholders protection, the efficacy of the legal environment, and accounting enforcement, could possibly modify the effect of ownership on earnings management. Applying a holistic theoretical framework by integrating agency theory and institutional theory to direct the empirical analysis would significantly broaden the understanding of how multilevel governance is interrelated and influences the quality of reported earnings respectively. The integrated view of theories would offer a better explanation of the inconclusive findings regarding the effect of ownership (Boyd and Solarino, 2016). In addition, it should reflect the interplay roles in the governance system and should bridge the gap concerning “an over-or under-contextualised view” (Kumar and Zattoni, 2013, p.199).

The quantitative technique, namely the moderating regression or contingency model is applied as a research tool in this context in order to test the theoretical argument empirically. The contingency model would allow researchers to obtain a better understanding of complex phenomena where the effect of variables of interest might be conditional on other factors, known as moderators (Boyd and Solarino, 2016). Consequently, the contingency design possibly yields or clarifies a new theoretical perspective which, in turn, advances the existing knowledge (Andersson, Cuervo-Cazurra and Nielsen, 2014). In addition, by using a large and new international dataset comprised of 10 countries from 2013-2017, the findings would significantly complement the generalisability of existing findings reported by single-country studies (Breuer *et al.*, 2018). In general, the empirical findings reveal that formal institutional settings within the country are significant factors that shape the behaviour of owners toward accruals and real earnings management. The key findings, which respond to the proposed hypotheses as illustrated in Table 7.1, are summarised below.

## 7.1 Summary of Key Findings

The main research question, as stated in Table 7.1, is “do institutional settings modify the link between ownership characteristics and earnings quality?” This question addresses the claim in literature in which the differences in institutional framework arranged within the country are potential factors to modify the behaviour of owners towards earnings management. Moreover, this question responds to the gap in prior research where firm-level or country-level governance is studied separately. In other words, the main research question addresses the interplay roles of multilevel governance. This question would extend the understanding of how multilevel governance works as the intertwined system.

In addition, the sub-question, which proposed to investigate the effect of ownership characteristics on earnings quality, is also presented in Table 7.1. The sub-question is needed to underpin the baseline argument and complements the understanding of the main research question. It also reveals the effect of owners on different strategies for earnings management. Specifically, owners may have different incentives for different techniques in earnings management and the external environment, which is perceived as country-level governance, might alter such incentive.

## 7.1.1 Key Findings of Accruals and Real Earnings Management

### 7.1.1.1 Ownership Concentration, Minority Shareholders Protection, and Earnings Management

It has been documented in the literature that concentration is the major characteristic of corporate ownership presented around the world (La Porta, Lopez- De- Silanes and Shleifer, 1999). In this research, the descriptive statistics reported in Chapter 5 (see Table 5.2) illustrate that, on average, the largest shareholder has 26.41% of the firm's voting rights. In this regard, the largest shareholder might have a significant impact on firm policies and strategies. According to agency theory, ownership concentration might alleviate the conflict between owners and managers because the largest shareholder is likely to have a strong incentive to monitor management (Lozano, Martínez and Pindado, 2016; Shleifer and Vishny, 1986). However, the expropriation in firms with high concentrated ownership is still a concern in literature (Fan and

Wong, 2002; Morck, Shleifer and Vishny, 1988). Therefore, there are two points of view in agency theory: convergence and entrenchment effect, which researchers have mentioned as theoretical assumptions to explain the influence of the largest shareholder. Empirically, researchers have not reached a decisive conclusion to confirm whether the convergence of interest or entrenchment effect does exist.

According to the analysis of ownership’s effect at the firm level, this research documents the positive link between the proportions of shares held by the largest shareholder and accruals earnings management (see Table 5.7). In contrast, real earnings management is negatively associated with the proportions of shares held by the largest shareholder (see Table 6.5). Such findings explicitly indicate that the influence of the largest shareholder on different techniques of earnings management is dissimilar. The proposed hypotheses H 1.1 and H 2.1 are accepted as summarised in Table 7.1. Implicitly, one may assume that the incentive of the largest shareholder for accruals and real earnings management differs substantively (at least in this particular setting). The largest shareholder likely prefers accruals earnings management over real activities manipulation. Due to the volatilities in cash flows and long-term performance, real earnings management is, perhaps, more costly for the largest shareholder who commits the highest risk in the firm.

In addition, the influence of the largest shareholder on accruals and real earnings management is altered by the degree of minority shareholders protection at the country level (see Table 5.12 and Table 6.10). The significant moderating effect of minority shareholders protection on the influence of the largest shareholder verifies the theoretical argument that conflicts of interest in the firm might be shaped by the external environment (Davis-Friday, 2010). The expropriation of minority shareholders is the primary concern when the ownership is concentrated (La Porta *et al.*, 2002). However, the degree of minority shareholders protection granted by law might modify the behaviour of the largest shareholder. Corresponding to institutional theory, the results at the country-level analysis confirm that the largest shareholder is less influential when the degree of minority shareholders protection increases. Specifically, the positive (negative) link between LARGEST and accruals (real) earnings management is less pronounced when the rights of minority shareholders are highly protected. Thus, the proposed hypotheses regarding the moderating effect of minority shareholders protection (H 1.5 and H 2.5) as presented in Table 7.1 are accepted. Generally, country-level mechanisms by protecting and granting rights to minority shareholders modify the behaviour or incentive of the largest shareholder towards earnings management.

#### 7.1.1.2 Domestic Institutional Shareholders, Legal Environment Efficacy, and Earnings Management

The effect of domestic institutional shareholders on accruals and real earnings management reported in this research is contradictory. Accruals earnings management is negatively linked to the proportion of shares held by domestic institutional shareholders, as reported in Chapter 5 (see Table 5.7). On the other hand, this type of ownership is positively associated with real earnings management, as shown in Chapter 6 (see Table 6.5). Although researchers have argued that the institutional shareholders are sophisticated investors, with superior knowledge and expertise, this research demonstrates that they do not play a similar role in monitoring different earnings management techniques. In particular, this type of owner may monitor the accruals earnings management, which is risky in terms of detection (Kothari, Mizik and Roychowdhury, 2016). However, real earnings management is more likely when the proportion of shares held by domestic institutional shareholders increases. As mentioned in Chapter 6 (see Section 6.5.3), domestic institutional shareholders seem to prefer real activities manipulation to accruals choice. Real activities manipulation is easier to hide, and thus is challenging to detect. Such nature of earnings management techniques may motivate domestic institutional shareholders to engage in real earnings management. Alternatively, domestic institutional shareholders in this research dataset might be short-term investors because engaging in real earnings management should increase volatility in long-term performance. In this regard, such shareholders might focus on the short-term return and leave the firm when performance is unsatisfactory.

In addition, the behaviour of domestic institutional shareholders is altered by the efficacy of the legal environment within the country, as summarised in Table 7.1 (H 1.6 and H 2.6). More specifically, domestic institutional shareholders are more influential to monitor accruals earnings management when the efficacy of the legal environment increases. This finding highlights the argument mentioned in the literature in which the preference in accruals earnings management should be diminished in the contexts where legal cost or litigation risk is higher (Choi, Choi and Sohn, 2018; Enomoto, Kimura and Yamaguchi, 2015; Francis, Hasan and Li, 2016). Therefore, the negative link between domestic institutional shareholders and accruals earnings management is more pronounced in countries with a strong legal environment. On the other hand, their influence on real earnings management is contradictory to the accruals evidence when the efficacy of the legal environment is stronger. In particular, the positive link between domestic institutional shareholders and real earnings management is more pronounced when the legal environment is stronger. This means that the preference or incentive of domestic institutional shareholders to engage in real earnings management is even higher in contexts where the legal environment is stronger. As discussed in the previous paragraph, domestic institutional shareholders, who are knowledgeable and more familiar with local institutions (Liu *et al.*, 2018), might take advantage of the challenge in detecting real earnings management. They might trade opportunistically around the period where the bottom line is boosted by using real earnings management. Altogether, the findings imply that domestic institutional shareholders may not deter all earnings management techniques. In this case, they are likely to substitute accruals manipulation by real activities manipulation. Such a substitution is strengthened by the efficacy of the legal environment.

#### 7.1.1.3 Foreign Shareholders, Legal Environment Efficacy, and Earnings Management

The effect of foreign shareholders on accruals and real earnings management could not be captured at firm-level analysis (see Table 5.7 and Table 6.5). Thus, the proposed hypotheses (H1.4 and H 2.4) are rejected, as summarised in Table 7.1. However, when the country-level variables are added into the model specification, the effect of foreign shareholders become statistically significant. Accordingly, the external environment at the country level likely influences the behaviour of these shareholders. The results reported from the Moderating Models illustrate that the external environment, namely the efficacy of the legal environment, alters their behaviour. Specifically, in contexts where the efficacy of the legal environment is stronger, foreign shareholders more actively monitor the quality of financial reports. The proposed hypotheses, H 1.7 and H 2.7, regarding the moderating effect of the efficacy of the legal environment on the link between foreign shareholders and accruals or real earnings management are accepted, as illustrated in Table 7.1.

The empirical results demonstrate that the negative links between foreign shareholders and both accruals (see Table 5.12) and real earnings management (see Table 6.10) are more pronounced when the efficacy of the legal environment increases. Put differently, the efficacy of the legal environment within countries reinforces the active monitoring of foreign shareholders. The benefits of monitoring should be higher than the costs in the contexts where the efficacy of the legal environment is in place to ensure property rights. Interestingly, both accruals and real earnings management are unlikely when foreign ownership is higher in the context where the efficacy of the legal environment is in place. Foreign shareholders will be more influential in such a context.

#### 7.1.1.4 Managerial Shareholders, Accounting Enforcement, and Earnings Management

Managerial ownership is mentioned in literature as one of the governance mechanisms to attenuate the conflicts between owners and managers (Jensen and Meckling, 1976). The proposed hypotheses regarding the influence of managerial shareholders are summarised in Table 7.1 (H1.2 and H 2.2). The empirical findings from the Baseline Models support such a notion. In particular, accruals (see Table 5.7) and real earnings management (see Table 6.5) are negatively associated with the degree of managerial ownership. Moreover, the findings from the Moderating Model reported in Chapter 5 (see Table 5.12) reveal that the effect of managerial shareholders on accruals earnings management is modified by the strength of accounting enforcement (see H 1.8 Table 7.1). Specifically, the influence of managerial shareholders to deter accruals earnings management appears in the contexts where the strength of accounting enforcement is low. In addition, such a significant effect disappears when the strength of accounting enforcement is higher.

The finding implies that managerial ownership, one of the mechanisms for motivating managers reducing opportunistic behaviour, might not be necessary if the external mechanism with regard to the strength of financial auditing and reporting standards is in place. Hope (2003) also states that the proper design and strong enforcement of accounting standards or accounting regulations might limit the influence of managers over financial reporting due to the reduction in management discretion. However, the degree of accounting enforcement does not alter the link between managerial ownership and real earnings management (see Table 6.10). There are no accounting regulations to govern real activities manipulation (Kothari, Mizik and Roychowdhury, 2016), then the behaviour of managerial shareholders towards such an earnings management technique might not be contingent on the strength of accounting enforcement. The corresponding hypothesis (H 2.8), therefore, is rejected, as summarised in Table 7.1. Overall, the research questions and research objectives are answered and achieved. Table 7.1 summarises all proposed hypotheses and their findings in response to the main and sub-research questions.

**Table 7.1 Summary of Research Hypotheses and Research Findings**

| **Research Sub-Question:** Do the earnings management strategies, AEM and REM, vary due to the effect of ownership characteristics? | | | |
|---|---|---|---|
| **Accruals Earnings Management (AEM)** | | **Real Earnings Management (REM)** | |
| **Hypothesis** | **Finding** | **Hypothesis** | **Finding** |
| **H 1.1:** Accruals earnings management varies with the degree of concentrated ownership. | Accepted | **H 2.1:** Aggregate real earnings management varies with the degree of concentrated ownership. | Accepted |
| **H 1.2:** Accruals earnings management varies with the degree of managerial ownership. | Accepted | **H 2.2:** Aggregate real earnings management varies negatively with the degree of managerial ownership. | Accepted |
| **H1.3:** Accruals earnings management varies negatively with the degree of domestic institutional ownership. | Accepted | **H2.3:** Aggregate real earnings management varies negatively with the degree of domestic institutional ownership. | Rejected |
| **H 1.4:** Accruals earnings management varies with the degree of foreign ownership. | Rejected | **H 2.4:** Aggregate real earnings management varies negatively with the degree of foreign ownership. | Rejected |
| **Main Research Question:** Do institutional settings at the country level modify the link between ownership characteristics and earnings quality? | | | |
| **Hypothesis** | **Finding** | **Hypothesis** | **Finding** |
| **H 1.5:** The degree of minority shareholders protection significantly modifies the link between concentrated ownership and accruals earnings management. | Accepted | **H 2.5:** The degree of minority shareholders protection significantly modifies the link between concentrated ownership and real earnings management. | Accepted |

**Table 7.1 Summary of Research Hypotheses and Research Findings (Continued)**

| Hypothesis | Finding | Hypothesis | Finding |
|---|---|---|---|
| **H 1.6:** The degree of legal environment efficacy significantly modifies the link between domestic institutional ownership and accruals earnings management. | Accepted | **H 2.6:** The degree of legal environment efficacy significantly modifies the link between domestic institutional ownership and real earnings management. | Accepted |
| **H 1.7:** The degree of legal environment efficacy significantly modifies the link between foreign ownership and accruals earnings management. | Accepted | **H 2.7:** The degree of legal environment efficacy significantly modifies the link between foreign ownership and real earnings management. | Accepted |
| **H 1.8:** The degree of accounting enforcement significantly modifies the link between managerial ownership and accruals earnings management. | Accepted | **H 2.8:** The degree of accounting enforcement significantly modifies the link between managerial ownership and real earnings management. | Rejected |

## 7.2 Limitations and Future Research

Although much research is conducted with care and by applying acceptable methodologies, limitations still exist (Brown, Preiato and Tarca, 2014). This research is also subject to limitations. However, limitations in this research might be opportunities for future research. Therefore, avenues for future research are also discussed in this section.

### 7.2.1 Limitations of This Research

The potential limitations of this research are categorised into two primary groups: sample and variable constructions.

#### 7.2.1.1 Sample Limitation

This research is an international study that contains a large and new dataset from 10 selected countries, whereas much research in literature is a single country study. Despite extending the literature, the sample is selected. In this respect, the generalisation of findings should be considered with caution. Incorporating all countries around the globe might not be practicable because the research should be manageable and done in a timely manner. Essentially, to select the sample, this research followed the suggestion provided by Saunders, Lewis and Thornhill (2016) that data must enable researchers to answer their research question(s) or to achieve their research objective(s). In addition, the benefits of collecting data must be higher than the costs (Saunders, Lewis and Thornhill, 2016).

This research mainly aims to investigate whether institutional settings within countries modify the effect of ownership characteristics on earnings quality. Accordingly, the research sample should reflect the varieties of institutional settings and ownership characteristics. To some extent, the researcher believes that eight Asian countries, together with the US and UK, should be able to respond to such a research question (see Chapter 4 Section 4.6.1 for more discussion about the sample selection). In addition, the use of a sample from both emerging and developed markets was also recommended in prior research (Lewellyn and Bao, 2017), in a sense that earnings management can occur in both markets as well as their institutional settings are mentioned to be significantly different.

#### 7.2.1.2 Variable Construction Limitations

In line with research philosophy, this research applies the deductive approach as a research methodology. All variables of interest need to be quantified, known as empirical proxies (Callen, 2015). To construct such variables, this research considers both the theoretical validation and the empirical implementation mentioned in literature. However, there are still limitations due to access and the complexities of data. The discussion of limitations concerning variable construction is divided into three categories in accordance with variable types.

##### 7.2.1.2.1 Independent variables: Ownership Characteristics

Theoretically, the owners are provided legal rights to control the firm and to obtain the firm’s residual earnings (Hansmann, 1988). The owners would exercise their control power to govern any matters within the firm through the voting system. Thus, this research measures the degree of ownership by relying on voting rights. In addition, the percentage of shares held by shareholders reported in OSIRIS[55] accounts for voting shares which in turn represents the control power of shareholders (Bureau van Dijk,

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[55] This was an available database at the time that ownership data was collected.

2019)[56]. Despite the divergence of voting rights and cash flow rights, there are no such explicit data to represent such divergence for individual shareholders. Consequently, it makes the measuring of divergence extremely difficult. However, this might be one avenue for future research, if applicable.

In addition, this research attempts to capture the primary characteristics of ownership that are available in the given database. As mentioned earlier (see Chapter 4 Section 4.6.2), BvD provides ownership lists, along with the percentage of shares held by each shareholder instead of the total percentage of shares held by each type of shareholders. Hence, the researcher manually extracts the total percentage of shares held by each type of shareholders. Obviously, it is a time-consuming process, especially for ten countries with 91,177 firm-year initial observations. The in-depth analysis by considering heterogeneities in each type of shareholders must take even more time in this regard, thus it will be left for future studies.

#### 7.2.1.2.2 Dependent variables: Earnings Management

Accruals and real earnings management are used to proxy the quality of reported earnings in this context. The rationales for using such earnings management techniques were discussed earlier in Chapter 2 (see Section 2.3.1). Although a specific definition for earnings quality is needed in a particular context such as research (Nelson and Skinner, 2013), earnings quality is still a dynamic word in general, which can be viewed and defined from different perspectives. Moreover, there are several models documented in the literature for capturing accruals earnings management and the debate for applying a certain model is still open. Similarly, there is an ongoing

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[56] There is no information regarding the classes of voting shares (single or dual class).

debate about the use of aggregate proxies or individual proxies for real earnings management (Cohen and Zarowin, 2010). This research applies both aggregate and individual proxies for real earnings management. Interestingly, the results at the firm-level analysis point out that the effect of ownership characteristics on individual proxies (see Table 6.7) varies among ABCFO, ABPROD, and ABDISEX. It implies that the individual techniques of real earnings management might be implemented differently and the preference of owners to apply each technique might also be different. However, this research does not have a long-time series of data to capture how three individual techniques of real earnings management are substituted or complemented. This question is very important for future research.

#### 7.2.1.2.3 Moderator Variables: Institutional Settings

The moderating effect of salient institutions at the country level in terms of the efficacy of the legal environment, minority shareholders protection, and accounting enforcement is documented in this study. These three dimensions are also mentioned in literature as the main features of formal institutional settings (La Porta *et al.*, 1998). However, the empirical results from applying alternative proxies for these institutions are slightly different from the findings reported in the main analysis. The findings should be interpreted with caution in this respect. Despite the theoretical underpinning, the empirical proxies of institutional settings are still constructed from the multidimensional view (Schiehll and Martins, 2016).

Schiehll and Martins (2016) also raise the concern about inconsistent proxies used in empirical studies for capturing the institutional settings at the country level. They mention that such inconsistent proxies would diminish the comparisons of research findings. Hence, the institutional proxies, which have been applied in prior studies as well as in this research, have been criticised due to the accuracy of how those proxies are created (Preiato, Brown and Tarca, 2015). However, there are always some empirical difficulties in measuring the complex phenomena such as institutional arrangements, thus the noise in empirical proxies for institutional settings seems to be inevitable (Brown, Preiato and Tarca, 2014).

### 7.2.2 Future Research

There are several avenues for future research in relation to the limitations discussed in the previous section. First, future research can extend the sample size by incorporating countries that have crucial heterogeneities in ownership and institutional settings, if possible. On the other hand, Mainland China, Hong Kong and Taiwan might yield a good setting for researchers to investigate the moderating effect of formal institutional settings because these three markets share a common lineage and cultural dimensions. However, their formal institutional settings are significantly different (Ahlstrom *et al.*, 2014; Nnadi, Omoteso and Yu, 2015).

Second, ownership characteristics might be measured by considering the divergence of voting and cash flow rights if the dual-class equity, pyramidal structure of shareholders, or cross-shareholding can be identified (Faccio and Lang, 2002; Francis, Schipper and Vincent, 2005). Such a divergence may affect the incentive of shareholders to engage in earnings manipulation. It is also interesting to investigate further which institutional settings can moderate such a link. In addition, better measures of ownership characteristics by addressing the heterogeneities might be of interest to researchers when such data is available. For example, identifying the type of the largest shareholder in response to the question “who are they?” would also improve the understanding of their incentive and behaviour.

Third, there are multidimensional perspectives and proxies to view and capture the quality of reported earnings. Thus, it is possible for future research to apply other proxies for future research design. Earnings timeliness, earnings response coefficient, financial misstatement, or classification shifting might be of interest to researchers. It will add valuable insight into earnings quality literature in the sense that whether the same set of governance can promote several dimensions of earnings quality. In addition, how three individual real earnings management; ABCFO, ABPROD, and ABDISEX, are substituted or complemented is also a crucial question in the real earnings management literature. Although the three approaches of real activities manipulation would influence cash flows and future performance of the firm, their costs and risks are possibly different. For example, firms that operate in competitive industries may fear overproduction of their inventories or to cut research and development expenditures. However, such firms may prefer to give a special discount in order to maximise short-term profit. Uncovering such substitutability or complementarity of three real manipulation techniques is important in terms of design for the governance system.

Forth, researchers have a conclusive view that governance mechanisms at the firm level and country level are an intertwined system (Aguilera, 2018; Martins, Schiehll and Terra, 2017; Kumar and Zattoni, 2013). However, the intertwined mechanisms in such governance bundles have seldom been identified. This research offers empirical evidence to support such a notion but it can be enlarged. Since there are several aspects of governance designed within the firm and country that this research has not covered.

Further research may try to replicate this work by applying different interactions between firm- and country-level governance. Specifically, the degree of accounting enforcement within the country may modify the link between auditors and earnings management because auditors are responsible for the assurance services. Their incentive to detect earnings management might be contingent on the strength of accounting enforcement in this regard. Similarly, the degree of competition within countries or industries might alter the link between ownership characteristics and real earnings management. Due to intense competition, real earnings management is costly (Zang, 2012).

Finally, there are criticisms of empirical proxies for institutional settings that have been used in literature (Preiato, Brown and Tarca, 2015). As mentioned earlier, complex phenomena such as institutional settings or earnings management will not be easily measured. For this reason, future research may complement the use of empirical proxies with primary data from interviews or surveys. The mixed-method approach in future research design would significantly contribute greater knowledge to governance and earnings management areas. For instance, the interview may uncover how different shareholders perceive the effect of institutional settings or how dimensions of institutional settings influence their behaviour towards accruals and real earnings management.

# 7.3 Contributions and Implications

## 7.3.1 Contributions

### 7.3.1.1 Theoretical Contributions

The theoretical framework and empirical findings in this research contribute valuable insight into governance and earnings management literature. More specifically, the theoretical argument mentioned in literature contends that agency theory, a dominant theoretical lens used to explain the governance phenomena, might not explain the effect of governance mechanisms on outcomes in different contexts conclusively (Boyd and Solarino, 2016; Dinh and Calabrò, 2018; Filatotchev, Nakajima and Jackson, 2012). The insufficiency of theoretical perspectives may limit the understanding of governance and its outcomes in this regard. Thus, an additional theory to complement agency theory, which together provides a holistic perspective, is needed (Aguilera, Florackis and Kim, 2016; Dinh and Calabrò, 2018; Filatotchev, Nakajima and Jackson, 2012).

In this case, agency theory is complemented by institutional theory, as suggested in literature (Aguilera, Florackis and Kim, 2016; Boyd and Solarino, 2016; Davis-Friday, 2010; Dinh and Calabrò, 2018; Filatotchev, Nakajima and Jackson, 2012; Rahman,Yammeesri and Perera, 2010a). Institutional theory would account for the effect of the external environment embedded within a particular context to shape organisational behaviour. In fact, the incentives of owners/managers, typically reliant on the concept of self-interest in agency theory, might be modified by the external environment surrounding the firm.

Overall, the empirical findings in this research verify such a theoretical argument. More specifically, it reveals that the effect of ownership characteristics on earnings management are altered by the formal institutional settings within the country. In other words, agency conflicts at the firm level are likely to be shaped or influenced by the external environment where organisations are embedded in. The integrated perspectives of agency theory and institutional theory allow researchers to better understand the interplay mechanisms between firm-level governance and country-level governance, which has been substantively disregarded in literature (Kumar and Zattoni, 2013). The integrated perspectives of theories as applied in this research, therefore, respond to an under- or over-contextualised framework[57] (Kumar and Zattoni, 2013). Overall, the holistic conceptual framework to explain the link between governance mechanisms and its outcomes is expanded in this research, which in turn yields a better understanding of governance mechanisms.

#### 7.3.1.2 Methodological Contributions

In addition to the theoretical contributions, this research also complements existing literature with its methodology. Specifically, this research formulates the moderating regression analysis to examine the conditional effect, which ultimately reflects the interplay roles between firm- and country-level governance. This research design has been called for in existing literature (Boyd and Solarino, 2016; Kumar and Zattoni, 2013). Although there might be some studies that include the moderator(s) in their research design, further analysis, known as a probing interaction, to enhance a better

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[57] An under-contextualised framework is when researchers focus only on firm-level governance without considering the effect of external contexts. On the other hand, an over-contextualised framework is when researchers focus only on country-level governance, whereas firm-level governance is disregarded (Kumar and Zattoni, 2013).

understanding of the conditional effect is frequently disregarded. The empirical analysis is mostly limited to the significance of the interaction variable(s), and consequently, the interpretations of results are prone to misstatements (Kingsley, Noordewier and Vanden Bergh, 2017). Accordingly, the interpretation of the interaction effect in extant research is still challenging for researchers.

This research, on the other hand, conducts and presents a further analysis, a probing interaction in other words, where necessary. Additionally, the direct effect of variables of interest, which are ownership characteristics, is separately examined from the moderating model. Econometrically, this procedure is recommended to express the unconditional effect or the partial effect in general clearly from the conditional effect (Hayes, 2018). Such practice would help in terms of interpretation since the meanings of partial and conditional effect in statistical analysis are substantively different. However, existing studies that rely on the moderating effect analysis might focus on the moderating model exclusively and disregard the direct effect of variables of interest. Consequently, the improper design in the empirical analysis would influence the conclusion. The distinction between the direct effect of variables of interest and the moderating effect of the moderator is also essential in terms of theoretical justification (Andersson, Cuervo-Cazurra and Nielsen, 2014)[58]. Disregarding the direct effect of variables of interest would be problematic because the theoretical argument is unspecified to explain the baseline effect. The logical flow of how moderators alter such direct effect is somewhat ambiguous. This research attempts to address these aforementioned concerns in the empirical design.

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[58] This research follows the valuable suggestion written by Andersson, Cuervo-Cazurra and Nielsen (2014) that moderating analysis should be designed and explained.

### 7.3.2 Practical Implications

The key findings support that the effect of ownership characteristics, firm-level governance, on earnings management is contingent on country-level governance. Institutional settings, country-level governance, are significant foundations that alter the effect of firm-level governance on its outcomes. The findings reported in this research reveal the interplay roles of multilevel governance mechanisms and might be of interest to regulators who are responsible for designing and imposing governance mechanisms that improve the quality of financial reports. In general, the findings in this research disclose that the preference of shareholders for a certain technique of earnings management is likely to rely on their self-interest, which in turn influences their incentive, and such incentive is altered by institutional settings within the country. However, the findings point out these different dimensions of institutional settings studied in this research might have a dissimilar effect on shareholders' behaviour. The strictness of institutional settings might not always reduce the incentive of all shareholders for not engaging in all earnings management strategies. This is crucial information for regulators.

In particular, the findings suggest that the legal mechanisms for protecting minority shareholders reduce the influence of the largest shareholders over accruals and real earnings management. The findings confirm that granting rights to minority shareholders for participating in the matters of the firm and granting the legal right to fight against majority shareholders are a crucial institutional setting. Although improving such mechanisms is costly in nature, it can yield substantial benefits (La Porta *et al*., 2000). The conflict of interest between majority-minority shareholders is alleviated by the degree of minority protection within the country.

On the other hand, the efficacy of the legal environment, which captures a broader view of the regulatory environment in comparison with minority shareholders protection, would reinforce the incentive of foreign shareholders to monitor accruals and real earnings management. This dimension of institutional setting is necessary for encouraging foreign shareholders exercising their active monitoring. Therefore, improving the efficacy of the legal environment within the country is beneficial in this regard. However, the findings disclose that the efficacy of the legal environment strengthens the incentive of domestic institutional shareholders to engage more in real earnings manipulation, although their influence to reduce accruals earnings management is stronger. Implicitly, this type of shareholders substitutes real earnings management for accruals earnings management, thus they should not always be considered as an active monitoring mechanism to monitor accruals and real earnings management, according to the findings.

Finally, the findings support that managerial ownership is a governance mechanism for aligning the interests of principals and agents. Specifically, accruals and real earnings management are unlikely in firms with a high degree of managerial ownership. Nonetheless, this governance might not be necessary in the contexts where accounting enforcement is in place to govern accruals earnings management. On the other hand, the incentive of managerial shareholders to govern real earnings management is not contingent on the strength of this institutional setting.

Altogether, the findings implicitly indicate that the same sets of governance mechanisms might not be able to control all earnings management strategies. This contributes valuable insights to regulatory implications. According to the differences in accruals and real earnings management, different governance mechanisms might be needed. Therefore, understanding the nature of individual techniques of earnings management is necessary for regulators in order to design governance regulations. In addition, to design or reform governance regulations, regulators should consider firm-level and country-level governance together as an intertwined system.

## 7.4 Conclusion

Overall, the empirical findings reported in this research support the theoretical argument that the incentive of owners for engaging or not engaging in earnings manipulation is altered by the external environment. The findings, therefore, echo the concept of interplay roles in multilevel governance and bridge the gap regarding "an over- or under-contextualised view" mentioned in the literature (Kumar and Zattoni, 2013, p.199). A holistic theoretical framework used in this research by integrating agency theory and institutional theory offers a broader view to explain how governance mechanisms work as the intertwined system in a practical manner. It highlights that the effectiveness of corporate governance is likely to be contingent on contextual features (Oehmichen, 2018). The empirical findings also reveal unique mechanisms in relation to the interplay roles of multilevel governance that regulators might find it useful as a guideline for designing, reforming, and implementing governance regulations.

Additionally, the empirical findings implicitly indicate that the same set of governance may not limit all earnings management techniques due to differences in their natures. Thus, it highlights that the concept of "one size fits all" in governance may not be applicable for different techniques of earnings management, which are accruals and real earnings management in this case. Such findings contribute valuable insight to the body of knowledge regarding governance and earnings management. In addition, this research also underlines a fruitful avenue for future research to delve further into other dimensions of governance, which this research has not covered, in order to improve the understanding of the interplay roles between governance mechanisms. As a result, it would also help to improve the quality of financial information.

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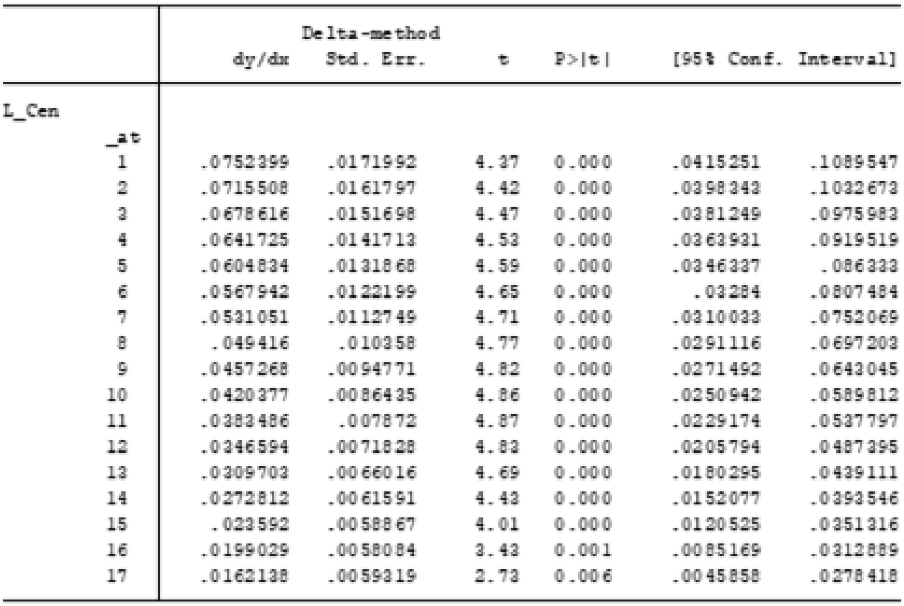
# Appendices

## Appendix A: The marginal effects of the largest shareholder on accruals earnings management as a function of minority investor protection.



```
------------------------------------------------------------------------------
             |            Delta-method
             |      dy/dx   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
L_Cen        |
         _at |
          1  |   .0752399   .0171992     4.37   0.000     .0415251    .1089547
          2  |   .0715508   .0161797     4.42   0.000     .0398343    .1032673
          3  |   .0678616   .0151698     4.47   0.000     .0381249    .0975983
          4  |   .0641725   .0141713     4.53   0.000     .0363931    .0919519
          5  |   .0604834   .0131868     4.59   0.000     .0346337     .086333
          6  |   .0567942   .0122199     4.65   0.000       .03284    .0807484
          7  |   .0531051   .0112749     4.71   0.000     .0310033    .0752069
          8  |    .049416    .010358     4.77   0.000     .0291116    .0697203
          9  |   .0457268   .0094771     4.82   0.000     .0271492    .0643045
         10  |   .0420377   .0086435     4.86   0.000     .0250942    .0589812
         11  |   .0383486    .007872     4.87   0.000     .0229174    .0537797
         12  |   .0346594   .0071828     4.83   0.000     .0205794    .0487395
         13  |   .0309703   .0066016     4.69   0.000     .0180295    .0439111
         14  |   .0272812   .0061591     4.43   0.000     .0152077    .0393546
         15  |    .023592   .0058867     4.01   0.000     .0120525    .0351316
         16  |   .0199029   .0058084     3.43   0.001     .0085169    .0312889
         17  |   .0162138   .0059319     2.73   0.006     .0045858    .0278418
------------------------------------------------------------------------------
```

## Appendix B: The marginal effects of domestic institutional shareholders on accruals earnings management as a function of the efficacy of the legal environment.

```
------------------------------------------------------------------------------
             |            Delta-method
             |      dy/dx   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
ISDOM_Cen    |
         _at |
          1  |    .001007   .0078424     0.13   0.898    -.0143661      .01638
          2  |  -.0013575   .0075734    -0.18   0.858    -.0162034    .0134883
          3  |  -.0037221   .0073276    -0.51   0.612    -.0180861     .010642
          4  |  -.0060866   .0071074    -0.86   0.392     -.020019    .0078459
          5  |  -.0084511   .0069153    -1.22   0.222    -.0220068    .0051047
          6  |  -.0108156   .0067535    -1.60   0.109    -.0240543    .0024231
          7  |  -.0131801   .0066245    -1.99   0.047    -.0261658   -.0001945
          8  |  -.0155446     .00653    -2.38   0.017    -.0283451   -.0027442
          9  |  -.0179092   .0064716    -2.77   0.006    -.0305951   -.0052232
         10  |  -.0202737   .0064503    -3.14   0.002    -.0329179   -.0076295
         11  |  -.0226382   .0064664    -3.50   0.000     -.035314   -.0099623
         12  |  -.0250027   .0065197    -3.83   0.000     -.037783   -.0122224
         13  |  -.0273672   .0066093    -4.14   0.000    -.0403232   -.0144112
         14  |  -.0297317   .0067337    -4.42   0.000    -.0429316   -.0165319
         15  |  -.0320962   .0068911    -4.66   0.000    -.0456045   -.0185879
         16  |  -.0344608   .0070792    -4.87   0.000    -.0483378   -.0205837
         17  |  -.0368253   .0072956    -5.05   0.000    -.0511266   -.0225239
         18  |  -.0391898    .007538    -5.20   0.000    -.0539663   -.0244133
         19  |  -.0415543   .0078039    -5.32   0.000     -.056852   -.0262566
```

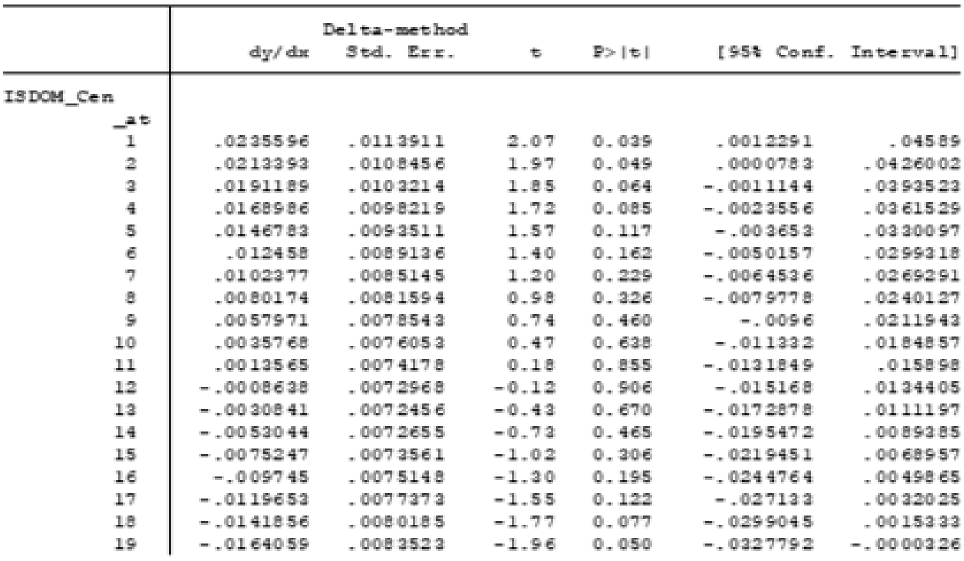
# Appendix C: The marginal effects of foreign shareholders on accruals earnings management as a function of the legal environment

```
             |            Delta-method
             |      dy/dx   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
FOR_Cen      |
         _at |
          1  |  -.0132532   .0073649    -1.80   0.072    -.0276903    .0011838
          2  |  -.0169561   .0072289    -2.35   0.019    -.0311267   -.0027855
          3  |  -.0206589   .0071144    -2.90   0.004    -.0346051   -.0067128
          4  |  -.0243618   .0070224    -3.47   0.001    -.0381275    -.010596
          5  |  -.0280646   .0069538    -4.04   0.000    -.0416958   -.0144334
          6  |  -.0317674   .0069092    -4.60   0.000    -.0453113   -.0182236
          7  |  -.0354703   .0068892    -5.15   0.000    -.0489749   -.0219656
          8  |  -.0391731   .0068939    -5.68   0.000    -.0526871   -.0256592
          9  |   -.042876   .0069234    -6.19   0.000    -.0564476   -.0293043
         10  |  -.0465788   .0069772    -6.68   0.000     -.060256   -.0329017
         11  |  -.0502817   .0070549    -7.13   0.000     -.064111   -.0364523
         12  |  -.0539845   .0071556    -7.54   0.000    -.0680113   -.0399577
         13  |  -.0576873   .0072784    -7.93   0.000    -.0719549   -.0434198
         14  |  -.0613902   .0074222    -8.27   0.000    -.0759397   -.0468407
         15  |   -.065093   .0075859    -8.58   0.000    -.0799633   -.0502228
         16  |  -.0687959    .007768    -8.86   0.000    -.0840232   -.0535685
         17  |  -.0724987   .0079675    -9.10   0.000    -.0881171   -.0568803
         18  |  -.0762016    .008183    -9.31   0.000    -.0922423   -.0601608
         19  |  -.0799044   .0084133    -9.50   0.000    -.0963966   -.0634122
```

# Appendix D: The marginal effects of managerial shareholders on accruals earnings management as a function of the accounting enforcement

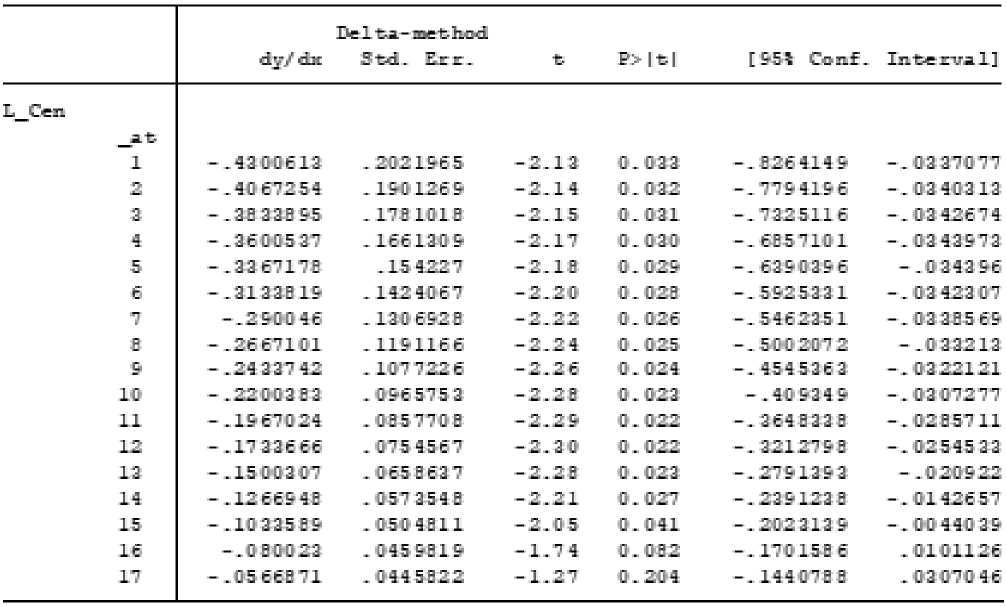
```
             |            Delta-method
             |      dy/dx   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
M_Cen        |
         _at |
          1  |  -.0463088   .0120269    -3.85   0.000    -.0698846   -.0227329
          2  |  -.0430768   .0130156    -3.31   0.001    -.0685907   -.0175629
          3  |  -.0398448   .0142065    -2.80   0.005    -.0676934   -.0119963
          4  |  -.0366129   .0155534    -2.35   0.019    -.0671016   -.0061242
          5  |  -.0333809   .0170192    -1.96   0.050    -.0667429   -.0000189
          6  |   -.030149   .0185757    -1.62   0.105    -.0665623    .0062643
          7  |   -.026917   .0202021    -1.33   0.183    -.0665185    .0126844
          8  |  -.0236851   .0218828    -1.08   0.279     -.066581    .0192108
          9  |  -.0204531   .0236061    -0.87   0.386    -.0667272    .0258209
         10  |  -.0172212   .0253634    -0.68   0.497    -.0669399    .0324976
         11  |  -.0139892    .027148    -0.52   0.606    -.0672064     .039228
```

# Appendix E: The marginal effects of domestic institutional shareholders on income-increasing accruals earnings management as a function of the legal environment



```
------------------------------------------------------------------------------
             |            Delta-method
             |      dy/dx   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
ISDOM_Cen    |
         _at |
          1  |   .0235596   .0113911     2.07   0.039     .0012291      .04589
          2  |   .0213393   .0108456     1.97   0.049     .0000783    .0426002
          3  |   .0191189   .0103214     1.85   0.064    -.0011144    .0393523
          4  |   .0168986   .0098219     1.72   0.085    -.0023556    .0361529
          5  |   .0146783   .0093511     1.57   0.117     -.003653    .0330097
          6  |    .012458   .0089136     1.40   0.162    -.0050157    .0299318
          7  |   .0102377   .0085145     1.20   0.229    -.0064536    .0269291
          8  |   .0080174   .0081594     0.98   0.326    -.0079778    .0240127
          9  |   .0057971   .0078543     0.74   0.460       -.0096    .0211943
         10  |   .0035768   .0076053     0.47   0.638     -.011332    .0184857
         11  |   .0013565   .0074178     0.18   0.855    -.0131849     .015898
         12  |  -.0008638   .0072968    -0.12   0.906     -.015168    .0134405
         13  |  -.0030841   .0072456    -0.43   0.670    -.0172878    .0111197
         14  |  -.0053044   .0072655    -0.73   0.465    -.0195472    .0089385
         15  |  -.0075247   .0073561    -1.02   0.306    -.0219451    .0068957
         16  |   -.009745   .0075148    -1.30   0.195    -.0244764    .0049865
         17  |  -.0119653   .0077373    -1.55   0.122     -.027133    .0032025
         18  |  -.0141856   .0080185    -1.77   0.077    -.0299045    .0015333
         19  |  -.0164059   .0083523    -1.96   0.050    -.0327792   -.0000326
```

# Appendix F: The marginal effects of the largest shareholder on real earnings management as a function of minority investor protection.

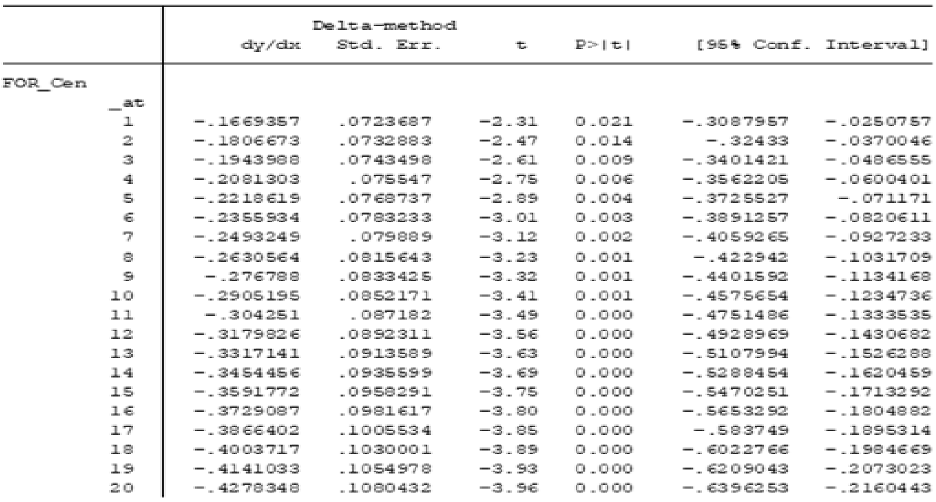


```
             |            Delta-method
             |      dy/dx   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
L_Cen        |
         _at |
          1  |  -.4300613   .2021965    -2.13   0.033    -.8264149   -.0337077
          2  |  -.4067254   .1901269    -2.14   0.032    -.7794196   -.0340313
          3  |  -.3833895   .1781018    -2.15   0.031    -.7325116   -.0342674
          4  |  -.3600537   .1661309    -2.17   0.030    -.6857101   -.0343973
          5  |  -.3367178    .154227    -2.18   0.029    -.6390396    -.034396
          6  |  -.3133819   .1424067    -2.20   0.028    -.5925331   -.0342307
          7  |   -.290046   .1306928    -2.22   0.026    -.5462351   -.0338569
          8  |  -.2667101   .1191166    -2.24   0.025    -.5002072    -.033213
          9  |  -.2433742   .1077226    -2.26   0.024    -.4545363   -.0322121
         10  |  -.2200383   .0965753    -2.28   0.023     -.409349   -.0307277
         11  |  -.1967024   .0857708    -2.29   0.022    -.3648338   -.0285711
         12  |  -.1733666   .0754567    -2.30   0.022    -.3212798   -.0254533
         13  |  -.1500307   .0658637    -2.28   0.023    -.2791393    -.020922
         14  |  -.1266948   .0573548    -2.21   0.027    -.2391238   -.0142657
         15  |  -.1033589   .0504811    -2.05   0.041    -.2023139   -.0044039
         16  |   -.080023   .0459819    -1.74   0.082    -.1701586    .0101126
         17  |  -.0566871   .0445822    -1.27   0.204    -.1440788    .0307046
------------------------------------------------------------------------------
```

# Appendix G: The marginal effects of the domestic institutional shareholder on real earnings management as a function of legal environment efficacy

```
  .
------------------------------------------------------------------------------
             |            Delta-method
             |      dy/dx   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
ISDOM_Cen    |
         _at |
          1  |   .3861785   .0612392     6.31   0.000      .266135    .5062219
          2  |   .3947324   .0611019     6.46   0.000     .2749581    .5145067
          3  |   .4032863   .0612015     6.59   0.000     .2833166     .523256
          4  |   .4118402    .061537     6.69   0.000     .2912129    .5324675
          5  |   .4203941   .0621045     6.77   0.000     .2986545    .5421338
          6  |   .4289481   .0628977     6.82   0.000     .3056535    .5522426
          7  |    .437502   .0639082     6.85   0.000     .3122266    .5627774
          8  |   .4460559   .0651259     6.85   0.000     .3183935    .5737183
          9  |   .4546098   .0665395     6.83   0.000     .3241766    .5850431
         10  |   .4631637   .0681366     6.80   0.000     .3295996    .5967278
         11  |   .4717177   .0699049     6.75   0.000     .3346874    .6087479
         12  |   .4802716   .0718315     6.69   0.000     .3394646    .6210785
         13  |   .4888255   .0739042     6.61   0.000     .3439556    .6336954
         14  |   .4973794    .076111     6.53   0.000     .3481837    .6465751
         15  |   .5059333   .0784405     6.45   0.000     .3521711    .6596956
         16  |   .5144873   .0808823     6.36   0.000     .3559386    .6730359
         17  |   .5230412   .0834264     6.27   0.000     .3595055    .6865768
         18  |   .5315951   .0860637     6.18   0.000     .3628897    .7003005
         19  |    .540149    .088786     6.08   0.000     .3661073    .7141908
         20  |   .5487029   .0915856     5.99   0.000     .3691732    .7282327
```

# Appendix H: The marginal effects of the foreign shareholder on real earnings management as a function of legal environment efficacy



```
------------------------------------------------------------------------------
             |            Delta-method
             |      dy/dx   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
FOR_Cen      |
         _at |
          1  |  -.1669357   .0723687    -2.31   0.021    -.3087957   -.0250757
          2  |  -.1806673   .0732883    -2.47   0.014      -.32433   -.0370046
          3  |  -.1943988   .0743498    -2.61   0.009    -.3401421   -.0486555
          4  |  -.2081303    .075547    -2.75   0.006    -.3562205   -.0600401
          5  |  -.2218619   .0768737    -2.89   0.004    -.3725527    -.071171
          6  |  -.2355934   .0783233    -3.01   0.003    -.3891257   -.0820611
          7  |  -.2493249    .079889    -3.12   0.002    -.4059265   -.0927233
          8  |  -.2630564   .0815643    -3.23   0.001     -.422942   -.1031709
          9  |   -.276788   .0833425    -3.32   0.001    -.4401592   -.1134168
         10  |  -.2905195   .0852171    -3.41   0.001    -.4575654   -.1234736
         11  |   -.304251    .087182    -3.49   0.000    -.4751486   -.1333535
         12  |  -.3179826   .0892311    -3.56   0.000    -.4928969   -.1430682
         13  |  -.3317141   .0913589    -3.63   0.000    -.5107994   -.1526288
         14  |  -.3454456   .0935599    -3.69   0.000    -.5288454   -.1620459
         15  |  -.3591772   .0958291    -3.75   0.000    -.5470251   -.1713292
         16  |  -.3729087   .0981617    -3.80   0.000    -.5653292   -.1804882
         17  |  -.3866402   .1005534    -3.85   0.000     -.583749   -.1895314
         18  |  -.4003717   .1030001    -3.89   0.000    -.6022766   -.1984669
         19  |  -.4141033   .1054978    -3.93   0.000    -.6209043   -.2073023
         20  |  -.4278348   .1080432    -3.96   0.000    -.6396253   -.2160443
```