THE IMPACT OF CORPORATE GOVERNANCE ON THE TRADE-OFF BETWEEN ACCRUAL-BASED AND REAL-BASED EARNINGS MANAGEMENT IN THE UK AND INDIA

By

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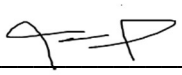
Signature of Candidate 

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ABSTRACT

This research aimed to investigate whether mechanisms of corporate governance affect the trade-off between methods of manipulation of earnings management (EM) that involve accrual-based earnings management (AEM) and methods of manipulation that involve real-based earnings management (REM) in the UK and India.

Mechanisms of corporate governance are considered to be the most important influences in monitoring the quality of financial reporting (Brown et al. 2014). This study identified the most important corporate governance mechanisms that have affected AEM and REM which managers' use to decrease or increase earnings in firms.

To achieve this, the study examines secondary data for the period 2006-2015, on FTSE 350 companies, in the non-financial sectors in the UK, and on 500 non-financial companies, listed on the Bombay Stock Exchange (BSE) in India. The absolute values of discretionary accruals were used as a proxy for AEM using the modified Jones model (Dechow et al. 1995) and REM_1 and REM_2, were used to estimate aggregate real activities, as a proxy for REM. Performance-matched Model (Kothari et al. 2005) was used as a proxy for AEM and Roychowdhury Model (2006) was used as a proxy for REM, when testing for robustness.

The results provide strong evidence that firms use AEM, REM_1 and REM_2 techniques as substitutes rather than as complements. The results also provide strong evidence that board characteristics, audit committee characteristics and ownership structures constrained either AEM, REM, both or neither in the UK and in India. The results suggest that some, but not all, corporate governance mechanisms play a role in managers' trade-off decisions between AEM and REM in the UK and India.

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TABLE OF CONTENTS

LIST OF TABLES

ABBREVIATIONS

FTSE 350	The Financial Times-Stock Exchange 350 Index
LSE	London Stock Exchange
BSE	Bombay Stock Exchange.
EM	Earnings Management
AEM	the absolute value of discretionary accruals
REM	aggregate real earnings management proxies
Unexpected REM	the estimated residual from REM equation
BSIZE	the total number of members on the board
BIND	independent directors to total board size
BMEET	the number of meetings held in the board
BFEM	female directors on the board of directors
ACSIZE	the total number of audit committee members existing at the year end
ACIND	the percentage of total independence non-executive directors on the audit committee
ACMEET	the number of audit committee meetings
ACEXP	the percentage of members with accounting and financial qualification and financial experts
MOWNE	the percentage of the total shares that were owned by the directors of a firm
INSTITU 3%	the proportion of common shares held by the institutions 3% or more
FSIZE	the natural log of the total assets
FLEVER	leverage ratio, measured by total liabilities divided by total assets
ROA	measured by ROA (net income before interest and taxes divided by total assets
FGROW	the change in total assets scaled by total assets
BIG 4	big 4 auditors
Altman's Z-Score	Measure of credit risk which reflects the possibility of default
FAME	Financial Analysis Made Easy
OSIRIS	Information on listed companies - global
Tat	Total accrual in year t
EBXt	Earnings before abnormal and extraordinary items in year t
CFOt	Cash flow from operating activities in year t
NDA	Non-discretionary accruals
DAt	Discretionary accruals
ΔREV	Change in revenue

ΔRCE	Change in accounts receivable
PPE	Gross property, plant and equipment
A	Total assets
At – 1	Total asset at the beginning of the year
T	Year; 1…N
ε	Error term
β0, β1 β 2	predicted coefficients from equation
CFO	operating cash flow
Salest	net sales during period t
(Δ) Salest	are the change in current sales
ProdCost	Production costs, calculated as the totality of costs of goods sold and changes in inventory
DiscExpt	discretionary expenses
R&D	Research and Development
SG&A	Selling, and general and administrative
Q-Q plot	Quantile-Quantile Test.
OLS	Ordinary Least Squares.
PPE	Gross property, plant and equipment
STATA	Statistical Analysis Package
LM test	Breusch and Pagan

CHAPTER ONE: INTRODUCTION

1.1. OVERVIEW

Over the last two decades, the world has witnessed a number of major corporate failures such as Enron, WorldCom and Barings Bank (Kiel and Nicholson 2003 and Bauwhede and Willekens 2008). The Asian financial crisis, during the 1990s, raised questions about whether companies with weak governance can survive (Rwegasira 2000, Ho and Wong 2001, Haniffa and Hudaib 2006). As a result of the financial crisis there have been both international and national initiatives to improve corporate governance and to promote greater transparency and accuracy in financial reporting (Weimer and Pape 1999 and Collett and Hrasky 2005), the goal of which was to help maintain stakeholder confidence and protect shareholder rights (Cadbury Report 1992). A common feature of most codes of corporate governance is that they mainly originated from the UK's influential 1992 Cadbury Report (Wymeersch 2006).

Given their voluntary nature, the ability of such codes to improve standards of corporate governance may be a function of the company's economic and regulatory frameworks and market traditions (Healy and Palepu 2001 and Core 2001). Most of these studies, however, have been conducted in established economies with similar institutional contexts; evidence from emerging countries is limited (Barako et al. 2006 and Ntim et al. 2012). Voluntary compliance with codes of corporate governance could be different in emerging economies from that reported in established economies, which partly points to the rationale for this research: comparing the impact of corporate governance in the UK and India (Haniffa and Hudaib 2006, Krambia and Psaros 2006 and Ntim et al. 2012). A better understanding of the manipulative motivations of managers, and how to secure improved compliance with standards of good governance in emerging economies, serves as both the motive and rationale for this research. It may be important not only in improving the returns and value gains of investors in established economies but also in reducing the perceived risk of investing in emerging economies when they are in need of investment (Hermalin and Weisbach 1991 and Ahunwan 2003).

The main methods of manipulating accounting information and the activities they purport to measure are referred to as AEM (accrual-based earnings management) and REM (real-based earnings management) (Schipper 1989). There is evidence that companies make choices between AEM and REM (Badertscher 2011, Cohen et al. 2008, Cohen and Zarowin 2010 and Zang 2012). It has been suggested that the distortion of reported earnings has reduced the value of accounting information in both developed and emerging economies and, thereby, the

relevance and usefulness of reported earnings when assessing risks and returns. This has the outcome of raising the threshold for the expected rate of return or the expected payback period (Biddle and Hilary 2006, Hope and Thomas 2008 and McNichols and Stubben 2008). Although manipulations may be permissible within a particular country's accounting standards and laws, they are materially misleading and, sometimes, fraudulent (Peng and Bewley 2010). This alone sufficiently justifies the aim of this research, which is also aimed at gauging the extent and incidence of manipulation. It also investigates the relative frequency of use of the methods uncovered and the relative effectiveness of various mechanisms of corporate governance in mitigating manipulation in India (an emerging market) and in the UK (an established economy). India, as a developing country is learning, from those developing and developed countries whose company laws are similar to these in India (e.g. the UK Company Law) (Paul and Gupta 2014).

Prior studies (Chen et al. 2007, Ching et al. 2006, Fama and Jensen 1983, Jensen and Meckling 1976 and Klein, 2002) have suggested that, among other things, effective corporate governance provides counter-control and monitoring mechanisms which help to minimise the conflict of interests that is inevitable between principals (owners and shareholders) and their appointed agents (the managers) (Okeahalam and Akinboade 2003). In a different paradigm, manipulations by managers might be seen as reasonable behaviour within generally accepted accounting principles (Davidson et al. 1987). Tsui (2001) argues that the primary goal of corporate governance is to better align the inherent conflict between the interests of the principals and their agents. Xie (2001) and Klein (2002) claim that corporate governance reduces managers' capability to manipulate reported earnings. None of the research provides strong evidence that there are sufficient financial gains to outweigh the financial costs of the monitoring and reporting involved in governance.

This research attaches importance in detecting AEM and REM for two reasons:

Firstly, companies may use AEM and REM simultaneously and this may mask or confuse the interpretation of their reported results (Fields et al. 2001 and Zang 2007). Secondly, although REM has been blamed for recent major scandals, such as Enron, it appears to have been largely undermined in the literature (Yaping 2005). One implied assumption in the literature is that manipulations are used opportunistically and typically upwards to serve the self-interests of managers. In other words, the switch from one method of manipulation to another is malevolent in its motivation and damaging in its consequences. This research examines the hypothesis that switching is a practical, pragmatic and predictable response to changing patterns of corporate

governance. AEM and REM have been examined in repeated studies, but usually separately. Researchers would naturally have found data in areas where they have chosen to look and may have missed compensatory or reciprocal changes that might have been picked up using a different method. This research thus narrows this gap by examining AEM and REM simultaneously. There is some recent empirical evidence that managers may be using AEM and REM simultaneously (Chen et al. 2012, Barton 2001 and Pincus and Rajgopal 2002). It will be interesting to see if this is the case in either the UK or India, both, or neither.

Data from the UK and Indian economies have been studied in order to discern and elucidate differences and similarities between these two countries. The implications of some identified differences are considered. India has become a global growth engine. India is the world's fastest economy growing and the fourth largest as measured by Purchasing Power Parity (Tiwari and Zaman 2010).

The UK Combined Code is currently now known as the UK corporate governance Code (London Stock Exchange, 1998 and Financial Reporting Council, 2013). However, in India Clause 49 draws on the UK Combined Code. India is one of the biggest developing markets in the world in terms of its market capitalization (with over a billion shareholders in 2015, according to the Financial Times). The Satyam crisis revealed the ineffective corporate governance framework in India. Theoretically, the Indian framework is based upon the international best practices of corporate governance. Clause 49 in the listing agreement of companies. It was amended in 2003 and again in 2013 to adjust it with the UK Combined Code Act of 2010 (Bhandari 2018).

On the other hand, the UK prides itself as one of the leaders in corporate governance. In view of this fact, this study has examined the UK FTSE 350, which houses the largest 350 firms listed on the London Stock Exchange (LSE), which enjoys the reputation of being one of the most attractive capital markets in the world (Alhadab 2016). Extant research shows that the UK has a higher level of corporate governance in its listed companies than India (Soltani and Maupetit 2015 and Young and Thyil 2014).

This research, therefore, explores the corporate governance impact trade-off between AEM and REM challenges for non-financial companies in the context of the UK and India. It explores these challenges from different perspectives, which previous studies have examined individually. Examining from approach offers a more robust analysis towards the challenges of different environments faced by the two companies. Based on the outcome of this study,

other countries may be motivated to employ a similar approach for different cultural contexts. This will not only lead to more convergence across the world, but also be more beneficial to investors who are worried about the manipulation of EM worldwide. Specifically, this approach should help investors to understand if there are distinctions to be made and whether differences in impact are linked to the different environments.

1.2. THEORETICAL FRAMEWORK

This study examines agency theory as a way of understanding the relationship, if any, between corporate governance and a possible trade-off between AEM and REM to distort reported earnings. In addition, agency theory hypothesises that boards will improve the integrity of their financial reporting through control management (Peasnell et al. 2005). Then again, institutional theory shows these components are lawmakers who force certain practices in order to improve organizational effectiveness, or as a result of imitation. The overarching interest of shareholders is assumed to be to maximise the value of their shareholding. Since share valuation often reflects reported earnings, the risk exists of complicity between shareholders and management, to manipulate either accrual, real earnings, or both, to distort reported earnings in ways that favour the shareholder value. One purpose of corporate governance is to minimise this risk. Testable hypotheses arise from the question of whether this purpose of corporate governance is being fulfilled. For details, see chapter 3.

1.3. RESEARCH QUESTION

The main aim of this research is to examine the impact of mechanisms of corporate governance on trade-offs between AEM and REM in the non-financial sectors of UK and Indian companies during the period 2006-2015. To achieve this, the primary research question will be as follows:

Do mechanisms of corporate governance impact the trade-off between AEM and REM in the UK and India?

1.4. RESEARCH MOTIVES

Beyond the expected motivation to learn the art and science of research by adding to an existing academic body of knowledge, this research is motivated by the following factors:

Firstly, corporate governance seeks to prevent managers making decisions in their own interests that are not in the interests of the owners of the company. Agency theory provides a pervasive working assumption that malevolent manipulation by managers, as agents, against the interests of investors, as owners, is inevitable. The pervasiveness of this presumption about

managers contrasts with working assumptions about managers that are found in paradigms other than the economic-man paradigm that is popular with accounting researchers (Prior et al. 2008 and Healy and Wahlen 1999). These presumptions about managers originate from agency theory and are prejudicial to the advancement of emerging economies (Jensen and Meckling 1976). One motive for this research is to challenge the effectiveness of agency theories in the context of AEM, REM, and possible trade-offs, using the UK and Indian economies as focal points.

Secondly, there have been attempts to mitigate the effects of earnings manipulations, in established and in emerging economies, by employing various mechanisms of corporate governance. There is insufficient evidence about which of these mechanisms, if any, actually reduce the overall level of distortion and misreporting of company earnings, in either established or in emerging economies. It is a secondary motive of this research to investigate this lack of consistency. The investigation will explore the assumption that this inconsistency may be caused, in part, by managers who trade-off between methods of manipulation when mechanisms of corporate governance make some methods of manipulation riskier, or potentially costlier, than others. Regarding this motivation, a particular concern of this research is to examine unintentional consequences of mechanisms of corporate governance, which can cause managers to the trade-off between AEM and REM (Zang 2012 and Cohen et al. 2008).

Thirdly, by studying the UK and Indian economies, another motivation of this study is to explore the implications of corporate governance on the trade-off between AEM and REM in each country. This will also extend to observing and explaining the differences and/or similarities between these two countries. As indicated previously, several studies have focused on AEM and REM as separate models. This study, therefore, narrows this gap by using the two concepts simultaneously in the context of the UK and India.

Fourthly, existing research has also found significant differences between the countries' economy (Ali and Hwang 2000, Leuz et al. 2003 and Francis and Wang 2008). This has given rise to the speculation that different governance mechanisms may be needed in different countries, due to their different institutional, economic, and financial contexts as well as their different enforcement regimes (Mensah 2002 and Rabelo and Vasconcelos 2002). While there is a substantial body of empirical research on established economies, little is known about the emerging market when compared with the established economy, represented in this study by India and the UK. This study is, therefore, an attempt to narrow this gap between these two countries, which also have different levels of corporate governance. Similarly, this study

considers the impact of corporate governance on the trade-off between these two environments (the UK and India) as an area that has been largely previously in the field of accounting and finance research.

Furthermore, empirical evidence shows that managers can switch between AEM and REM to distort reported earnings (Cohen and Zarowin 2010, Graham et al. 2005, Roychowdhury 2006 and Zang 2012). According to Zang (2012), when managers are constrained from AEM, which is easier to examine than REM, they naturally switch to the manipulation of REM. This switch is not without adverse effects on cash flow, sustainability and, liquidity in the development of new products and markets. In view of its potentially damaging impact on investors' confidence, when reported earnings are distorted or when the sustainability of companies is threatened, this research is motivated to evaluate the extent to which managers practice manipulation, including the practice of trade-off and the effectiveness, if any, of corporate governance, in trying to minimise these manipulations.

A gap in the existing literature also shows that the relationship between AEM and REM are both negative and positive. This makes it confusing. For instance, studies such as Braam et al. (2015), Anagnostopoulou and Tsekrekos (2017), Zang (2012), Cohen et al. (2008), Doukakis (2014) and Zhu et al. (2015) show that the relationship between AEM and REM are negative. On the other hand, Kuo et al. (2012) and Das et al. (2017) argue that the relationship between AEM and REM are positive. To add to the confusion therein, other studies (Hadani et al. 2011, Kang and Kim 2012, Zgarni et al. 2014, Omoye and Eriki 2014, Hoang et al. 2017 and Susanto and Pradipta 2016) found mixed evidence on the relationship between corporate governance and EM.

1.5. THE AIM AND OBJECTIVES OF THE RESEARCH

The main aim of this research is to examine the impact of mechanisms of corporate governance on the trade-off between AEM and REM in the non-financial sectors of UK and Indian companies during the period 2006-2015.

To fulfill this aim, the following objectives are examined:

- To examine the impact of mechanisms of corporate governance on the trade-off between AEM and REM in the UK non-financial sectors, as listed in the FTSE 350 during the period 2006-2015.

- To examine the impact of mechanisms of corporate governance on the trade-off between AEM and REM in the Indian non-financial sectors, as listed in the BSE 500 during the period 2006-2015.

1.6. THE RESEARCH METHOD

The details and specification of the methods, which were finally selected, including the justification for the selection, are set out in Chapter 5 (Methodology). Regarding the objectives of this research, the effect of mechanisms of corporate governance on the trade-off between AEM and REM are addressed in Chapter 6. This research builds on approaches used by Haniffa and Cooke (2005), Celik et al. (2013), Hassan and Harahap (2010), Mathuva (2012) and Athanasakou and Hussainey (2014), when the Modified Jones Model (1995) was used as a proxy for AEM and REM_1 and REM_2 were used as a proxy for REM. Furthermore, this study used robustness tests by using performance-matched model Kothari et al. (2005) as a proxy for AEM and Roychowdhury (2006) model as proxies for measurements of REM. These data were from secondary sources because they were easier to obtain and less expensive than other sources (Schmidt and Hollensen 2006).

The study used statistical methods, such as panel regression, of 2230 company-year observations in the UK, and a potential 2120 company-year observations in India over the period 2006-2015. In addition, two models were applied in this study; to measures, the effect of corporate governance on the trade-off between AEM and REM, applied in this study to measure the effect Multicollinearity problems can be tested using a correlation matrix and the variance inflation factor (VIF).

1.7. CONTRIBUTION OF THE RESEARCH

This study made some contribution to knowledge, theory, and method as highlighted below:

This research adds to the existing literature on the determinants of the relationship between mechanisms of corporate governance and AEM and REM (Habbash 2010, Ali et al. 2013, Peasnell et al. 2005, Anglin et al. 2013, Xie et al. 2003, Mulder 2017, Kumari and Pattanayak 2014, Ahmed et al. 2006, Almasarwah 2015 and Hassan and Ibrahim 2014). Moreover, only a limited number of studies have attempted to examine the possibility of trade-off by managers between AEM and REM (Janeth 2016, Das et al. 2017, Chi et al. 2011, Cohen and Zarowin 2010, Chen et al. 2012, Zang 2012, Abernathy et al. 2014 and Barton 2001). To the best of the author's knowledge, to date, there is no known empirical evidence regarding the effect of corporate governance mechanisms on any trade-off between AEM and REM. Enhanced

corporate governance is expected to contribute to reduced manipulation and increase a deeper understanding of the nature of the relationship between corporate governance mechanisms and trade-off decisions by managers.

This is the first study that the effect of corporate governance mechanisms on the trade-off between AEM and REM in both the UK and India. This might improve the transparency and credibility of financial reporting in developed and emerging economies, by providing evidence from an emerging country, such as India, which has various business laws or code of conducts. India is considered representative of other emerging economies, compared with evidence from an established economy such as that of the UK. The outcome of this study will, hopefully, motivate other studies in different environments, and thus lead to more convergence around the world. It will also be helpful to investors who are worried about manipulation in earnings management.

In terms of contribution to theory, unlike most existing studies (Clacher et al. 2008, Farag et al. 2014, Kamardin 2014 and Waweru 2014), which employed only agency theory, this study not only contributes, but extends previous corporate governance research by offering clearer insight into the agency, stakeholder, information symmetry, stewardship and institutional theoretical perspectives. This critically gauges the understanding of corporate governance compliance and helps to interpret empirical results relating to the trade-off between AEM and REM and corporate governance. This study, therefore, contributes to building a uniform theoretical framework that can be used to examine the impact of corporate governance on the trade-off between AEM and REM.

Corporate governance mechanisms are still in their nascent and transitional phase in India, a country that has recently emerged from its financial crisis. By comparing the monitoring mechanisms and the trade-off between AEM and REM in the UK and India, this study has expatiated on problems and possible impacts of external and internal monitoring in previous research. Additionally, this study has improved the awareness of the significant role of corporate governance in monitoring the transparency and credibility of financial reporting. By implication, this study is beneficial to regulators and legislators in the non-financial sector in their attempts to improve the quality of the available monitoring mechanisms.

In terms of methodology, the study has also made a contribution. A study by Geiger and Smith (2010), for instance, has advocated for a new approach or research method to examine the trade-off between AEM and REM. This study, therefore, responds to that call by using a mixed

research methods approach to address this critical issue in order to avoid the bias caused by a single method. Using mixed methods provided the study with reliable findings and interpretation of the results. Although other existing research has used two methods, no known study has approached the study of the Indian and UK environments with methods to examine the trade-off between AEM and REM. Again, the measurement of corporate governance could be the same, but the application offers different implications for different countries.

Finally, while previous research focused on shorter timeframes of less than ten years, this study examines a ten-year period spanning 2006 – 2015. This timeframe enriches the research with more data and provides it with a larger scope. Using a longer timeframe for this study has, therefore, provided a more in-depth explanation and, by extension, more accurate findings.

1.8. STRUCTURE OF THE RESEARCH

This thesis has eight chapters. Chapter One is an introduction that sets out the overview to, and rationale for, the planned research. It sets out aims, objectives, motivation, and potential research questions. Possible research methods and findings are outlined. Chapter Two is a review of the EM and briefly presents the external and internal corporate governance. Useful research questions emerge. Chapter Three extends the empirical literature review and hypotheses. Again, further research questions suggest themselves. The Fourth chapter of the thesis briefly presents the theoretical framework.

Chapter Five describes and justifies the Methodology, Methods and research design chosen to examine the researchable questions that emerged from chapters One, Two and Three. It addresses Research Philosophy and Sample Selection and postulates possible sources of data. It proposes an underlying model and possible procedures for analysing the data to be collected.

Chapter Six presents the results obtained when the research design, described in Chapter Five, was used to explore the questions about management manipulation, trade-off and corporate governance that had arisen in chapters One, Two and Three. Specifically, this investigated the behaviour of managers in the UK and India listed companies. Chapter Seven is a summary of the main conclusions of this research report. It attempts to attach meanings to the findings and research and suggests implications for practice and for further research.

CHAPTER TWO: REVIEW OF THE EM AND CORPORATE GOVERNANCE

2.1. INTRODUCTION

The present study framed the primary aim of the research; this chapter collects the appropriate prior reviews, and, from this, the research identifies the gaps. In general, the theoretical framework enables the reader and researcher to understand how the outcomes are associated accurately to the research aim. According to the literature review, it is noticed that there are four chiefs theoretical frameworks, which were utilised to analyse and explain the relationship between corporate governance and EM. Therefore, the present chapter reviews the previous studies, discusses the paradigm of EM and, furthermore, the chapter frames a suitable theoretical framework based on the objectives in Chapter 1. Hence, this chapter categorises the sections as follows; Section 2.2 shows the EM definition; Section 2.3 displays the motivations behind it and Section 2.4 shows the techniques involved in EM. Following this, Section 2.5 discusses the measurements of EM. The next section, 2.6, discusses the substitutability of EM techniques. Section 2.7 the different and constrain AEM and REM. After this, section 2.8 gives a brief view of theories covers EM and ends with analysing the past studies that are relevant to EM.

2.2. EM DEFINITION

EM is a multidimensional phenomenon aimed at influencing financial reporting upwards or downwards to meet various goals, for example meeting earnings benchmarks (Degeorge et al. 1999, Dechow and Dichev 2002 and Osma 2008), increasing share prices (Schipper 1989). Several studies have explored the motivations and consequences of EM practices (Dechow and Sloan 1991and Jones 1991), although there is a contradictory view as to what really constitutes EM and various techniques of EM.

According to Healy (1985 p. 368), EM encompasses “a manager’s judgment as to the financial position of the company and configuring transactions to change financial reports either to mislead stakeholders about the financial performance or influence contractual outcomes, which predicted upon reported accounting numbers”. In line with this perspective, other authors found evidence supporting that managers increased earnings to meet performance-based compensation (Bergstresser and Philippon 2006 and Cheng and Warfield 2005). On the other hand, Schipper (1989) argued that EM focuses on the private gain as the main motivation to manipulate reported earnings. The author maintained that EM is a “purposeful intervention in

the external financial reporting process, with the intent of obtaining some private gain (as opposed to say, merely facilitating the neutral operation of the process)".

Different investigations have concentrated on the topic of whether EM exercises abuse or happens inside the limits of GAAP. For instance, Beneish (1999) focuses on EM exercises that disregard GAAP and, specifically, earnings overstatement. While accounting decisions happen within the limits of GAAP and towards the end of the monetary year, genuine earning decisions (REM) happen all through the financial year and have coordinating outcomes for present and future cash flows (Roychowdhury 2006). This notion was compatible with Dechow and Skinner (2000) and Roychowdhury (2006), who investigate various real activity-based cash flows. Roychowdhury (2006 p. 336) proposed REM as "management actions that deviate from normal business practices, undertaken with the primary objective of meeting certain earnings thresholds". In line with the above definition, a substantial collection of research, hypothetical and exact, has confirmed that managers engage in REM practices to improve financial performance (Ewert and Wagenhofer 2005, Cohen et al. 2008, Gunny 2010, Cohen and Zarowin 2010 and Zang 2012).

2.3. EM MOTIVATIONS

Existing studies have proven that managers have both personal and business reasons to report impressive and satisfactory earnings levels in their financial statements (DeFond and Park 1997 and Greenfield et al. 2008). A number of several other researchers have examined different drivers, which influence EM (Watts and Zimmerman 1986, Gaa and Dunmore 2007, Habbash and Alghamdi 2015 and Hsiao et al. 2016). This section discusses various drivers of EM and dimensions of EM, such as capital market expectations, management compensation, lending contracts, regulatory considerations, political cost and, tax avoidance.

2.3.1. CAPITAL MARKET EXPECTATIONS MOTIVATION

According to Alghamdi (2012), capital market expectations involve "the Investor's prospects on the risk and return of the firm's future performance". They facilitate the execution of EM practices. For that reason, numerous literatures have argued that engagement of managers in EM would enhance stock prices (Friedlan 1994, Burgstahler and Dichev 1997, Nelson et al. 2002 and Graham et al. 2005).

Some studies are in line with this perception, for instance, Nelson et al. (2002) and Graham et al. (2005). They revealed different drivers of EM practice such as forecasting achievement analysis, stock price influence, objectives of remuneration and increases in various future target

performances and motivational steps, which need to be taken by managers. They found this after examining data from 253 external auditors and 400 CEOs through questionnaires and interviews among selected US companies. Burgstahler and Eames (2006) and Ebaid (2012) interviewed managers of US and Egyptian listed companies and found that these companies are more likely to engage in EM behaviour to avoid reporting losses and earnings decreases. These findings are consistent with Glaum et al.'s (2004) study, who found that companies practice EM to avoid losses and a decrease in earnings in order to meet analysts' earnings forecasts.

Othman and Zeghal (2006) used comparative analysis and identified driving forces behind EM in 1,674 Canadian companies and 1,470 French companies for the sample observational period of 1996-2000. The researchers found that EM practiced in French companies related to the effective tax rates and contractual debt incentives, whereas market-related incentives, such as subsequent equity offerings and initial public offerings, are strong motivations for EM in Canadian companies.

Peek (2004) investigated the drivers for Dutch managers to engage in EM practices, using 134 non-financial companies listed on the Amsterdam Stock Exchange over the period 1989-2000 and using discretionary accruals as a proxy for EM. The researcher found that managers of Dutch companies tend to engage in EM before extraordinary items in order to reveal better performance. For the period 1995 – 1999, a sample of Brazilian public firms were evaluated for EM practices by Martinez (2005). This study revealed that EM practices in Brazilian companies are practiced preventing the reporting of loss for sustainable performance achievement and stable cash flow maintenance. Through data gathered from 464 questionnaires and 16 Egyptian interview surveys, Kamel and Elbanna (2009) found that the essential reasons managers engage in EM among managers are to improve their odds of getting financial resources from external sources, to report a manager's pay, to maintain performance of manager, to achieve high stock valuation and to abstain from revealing adverse.

On the other hand, Matsumoto's (2002) study focuses on a sample of non-financial US companies over the period 1993 to 1997 and found that firms with high growth tend to manage earnings to avoid a negative market response to bad earnings news. Moreover, Madhogarhia et al. (2009) investigated EM practices of growth versus value companies, using Compustat data on all US companies over the period 1997-2001. The researchers discovered that innovative companies are more likely to manage earnings upwards and downwards than low-value firms.

To summarise, capital market understanding has been considered a vital driver for managers to engage in EM practices. This notion is in line with Teoh et al. (1998), Noronha et al. (2008) and Habbash and Alghamdi (2015), who argued that managers become involved in income-increasing EM to avoid potential losses and a decrease in earnings. In order to retain an expected dividend level earnings are manipulated in either an upwards or downwards direction (Cohen et al. 2008, Atieh and Hussain 2012 and Ebaid 2012), for balancing or increasing share prices (Graham et al. 2005 and Ambrose and Bian 2010) and to achieve or exceed forecasted earnings (Burgstahler and Eames 2006 and Ebaid 2012).

2.3.2. MANAGEMENT COMPENSATION MOTIVATION

The relationship between managers and principals inspires executives to take part in EM practices (Cheng and Warfield 2005) since this agreement is linked to the company's financial performance. Thus, managers are encouraged to practice income-increasing EM to achieve competitive advantages. Bergstresser and Philippon (2006) reported observational outcomes, which demonstrate that utilising optional accruals to control the earning figure is more perceptible in organisations where the officials' reward is firmly connected to the estimation of choices and shareholdings. Several researchers have explored the impact of the earning-increasing practice on remuneration. For example, Healy (1985) reported that an expansion of bonus plans provides a significant incentive to extend and manipulate earnings. This suggested that the manager’s decision of accounting accumulations is connected with wage expanding inspirations for their extra designs. On the other hand, Healy discovered a strong interconnectedness between bonus plans and discretionary accruals, whereas Dye (1991) showed that applying accounting records in remuneration contracts is viewed as one of the most critical drivers for implementing EM practices. In this way, directors tend to utilise EM techniques to enhance remuneration as rewards attached to the organisation's earning.

Similarly, Guidry et al. (1999) investigated how managers of US companies control earnings to increase bonus arrangements. The study disclosed that bonus plans are a strong driver to make discretionary accrual decisions in order to enhance bonus schemes. Baker et al. (2003) examined management remuneration structures and, particularly, investment opportunities related to discretionary accruals as a proxy for EM conduct. The researchers discovered that higher performance choices are related to discretionary accrual choices in periods before option-award dates. Leuz et al. (2003) evaluated the impact of managers' remuneration designs, investment opportunity. They established that these compensation packages are related to the reported earnings figure, thus creating motivation. Kurniawan (2013) inspected the effect of

EM and deliberate revelations on information asymmetry. They indicated that, when the firm has a bonus plan, managers would shift earnings from the future into the present period in order to enhance current earnings. As a result, this increases their own compensation.

In short, most management remuneration and reward design strategies are linked to the organisation's performance. Besides this, managers have inward inspiration for controlling earnings utilising different methods. Watts and Zimmerman (1986) and Guidry et al. (1999) maintained that managers would probably move earnings from the future to the present period with the aim of improving profit-based bonus awards. Balachandran et al. (2008) added that managers might also use buyback strategies to raise the share price, therefore upgrading remuneration.

2.3.3. MOTIVATION FOR LENDING CONTRACTS

Avoiding breaching a liability arrangement is another consistent driver for EM. Leading agreement enables managers to share the wealth between shareholders and bondholders of a company sharing high dividends, raising a loan and causing the business's net profits to fall below the minimum level acceptable to shareholders (Aljifri 2007). In relation to the lending agreement, the financiers would enforce limits on the share buybacks, on dividend payment and accept more loans in order to guarantee the repayment of the business's liabilities (Beneish 2001 and Habbash and Alghamdi 2015). Consequently, in an organisation with a large financial leverage ratio, the chief executive has greater power to impact the earnings disclosure to prevent the breaching of the loan bond (Dichev and Skinner 2002). In contrast, DeFond and Jiambalvo (1994) studied the nature of working capital and abnormal accrual in firm's incapable of keeping to a lending agreement. They revealed that changes in management practices possibly result in negative violation-year accruals. The aggregate abnormal accrual indicates a positive relationship with firms that meet the necessary conditions; however, there is no significant effect from zero. More so, the researchers discovered a significant positive effect on working capital accrual, which suggested that the manipulation of accrual occurs at the breach of a contract period.

Accordingly, Schipper (1989) and Healy and Wahlen (1999) examined whether businesses are inclined to interrupt loan agreements on account of changes in earnings recognition, accounting of depreciation, inventory methods and accounting estimates, or engaging in other arrangements that may raise profits, thereby preventing violation of the lending contract. The researchers indicated no association with EM. Alternatively, DeFond and Park (1997) claimed

that firms breaching lending arrangements employed AEM to enhance performance prior to defaulting.

Jaggi and Lee (2002) used data from 216 US companies during 1989-1996 and investigated the influence of creditors' waivers of debt-covenant violations on the possibility of income-increasing or income-decreasing discretionary accruals. They show that chief executives use discretionary accruals when industries granted waivers after bankruptcy. Similarly, Cohen et al. (2008) found that companies utilise profit control to meet profit targets. Rodríguez-Pérez and van Hemmen (2010) recognised that bordering growths in loans drive managers to use EM. Studies have also found empirical evidence that managers are inclined to control for earnings to decrease the cost of external financing and avoid contract restrictions (Dechow and Skinner 2000).

Moreover, Daniel et al. (2008) discovered that companies use earnings manipulation to meet dividend expectations. They contended that only companies with a great level of debt similar. In conclusion, outside bonds stimulate managers to control the release of earnings using income-decreasing EM (Kanagaretnam et al. 2003).

2.3.4. REGULATORY MOTIVATION

Regulations provide an existing foundation for easier implementation of EM practices (Habbash and Alghamdi 2015). Many chief executives are tempted to raise earnings because of strong law or conducts and minimise reputational risk. A number of studies have shown that regulations might force managers to execute EM practices (Belski et al. 2008 and Lim and Matolcsy 1999). Lim and Matolcsy (1999) investigated the relationship between EM activities and product price controls. They discovered that companies are inclined to be involved in EM income increasing when they are going public to control the share price. Christensen et al. (1999) examined the relationship between EM and regulatory standards. The authors recognised that compliance with laws was a strong driver for managers to embrace EM practices.

On the other hand, Navissi (1999) explored the association between discretionary accruals of New Zealand companies and Price Freeze regulations. They found that income-decreasing discretionary accruals are applied for price increases. Thus, they opined that companies are more likely to involve in EM activities because of the monetary policy caused by price freeze regulation. This notion was consistent with Gill-de-Albornoz and Illueca's (2005) study; they argued that government price regulations encourage managers to participate in EM behaviour.

In addition, Haw et al. (2005) examined income-increasing EM as a reaction to new statutory regulations. They recognised that government regulations made robust help for EM practices.

In summary, regulatory pressure forces managers to maintain reported earnings upwards or downwards to prove they are acting in compliance with regulations. The organisation managers facing regulatory pressure have reasons to shape the statement of earnings in order to cause firms to appear less cost-effective and minimise public disclosure (Hsiao et al. 2016). Nevertheless, enterprises are prone to income-increasing EM when going public to increase the share price (Lim and Matolcsy 1999).

2.3.5. POLITICAL COST MOTIVATION

Political pressures are drivers for effective disclosure of earnings (Habbash and Alghamdi 2015 and Hsiao et al. 2016). An organisation might use financial statements to communicate lower or higher earnings to decrease political forces (Hsiao et al. 2016). Watts and Zimmerman (1986) argued that political pressure prompts many firms to administer income-decreasing EM. This is in order to prevent public forces due to high disclosure of earnings, which may eliminate the influence of opposing political movements and unforeseen budgets.

Han and Wang (1998) studied EM practices during the Gulf of Mexico oil and gas blast. They noted that the US oil and gas industries were more inclined to regulate for downwards earnings to decrease the influence of political costs due to antitrust government policies and regulations. As a consequence, diffusion of poorer earnings might reduce political resources (Key 1997). Similarly, Monem (2003) acknowledged that businesses in Australian carrying out income-decreasing EM to reduce political costs.

Kurniawan (2013) contended that multinational enterprises with greater political cost are expected to reschedule their disclosure of earnings for the year under review and declare the earnings in the future year to diminish political pressure. This is because political expenditures ascend while extraordinary effectiveness attracts the consumers' and the media's attention. Hsiao et al. (2016) investigated if the oil and gas enterprises in the US take part in EM practices. They demonstrated that some petroleum industries prepare income-decreasing EM reports in order to reduce public scrutiny and diminish political costs.

In summary, political pressure serves as a driving force for chief executives to make accounting adoptions to demonstrate low-level disclosure earnings, which eliminates potential political expenditures made during adverse government antitrust regulations and policies (Hsiao et al. 2016).

2.3.6. TAX AVOIDANCE MOTIVATION

An unexpected change in tax policy influences companies to manage earnings (Adhikari et al. 2005). As soon as financial ratios are a basis for computing tax, hedging for tax drives companies to use EM activities. Lemke and Page (1992) explored the economic factors of accounting policy choices of listed companies in the UK. They revealed that most of the companies to use elected income-decreasing accruals to stimulate tax rule. The author proposed that these companies are eager to disclose lower earnings as a hedge for tax. Additionally, Adhikari et al. (2005) studied the association between EM and the effective tax rate in a non-western context. They recommended that the influence of companies in Malaysia to report earnings might be related to changes in tax law.

Similarly, Othman and Zeghal (2006) compared the determinants of EM in Canadian and French companies. They indicated that EM practices in French companies are linked to effective tax rates and contractual debt incentives. In contrast, subsequent equity offerings and initial public offerings are strong drivers for EM in Canadian companies. In furtherance of these results, Goncharov and Zimmermann (2006) listed several companies in Russia, which were involved in EM to hedge for tax expenses. This finding was compatible with Coppens and Peek's (2005) study, which confirmed that in the countries with strict tax rules, companies are ready to disclose fraudulent net profit or even losses, which have a positive influence on tax policy. Rahman et al. (2013) advocated that opinions of multi-shareholders and tax laws encourage many firms to implement earnings. In conclusion, effective EM practices help numerous companies to hedge for tax. Many companies' managers aimed to achieve a sustainable competitive advantage via reduced tax cost earnings reports. The participation of firms in earning-decreasing EM practices significant effect on tax minimisation (Guenther 1994).

2.4. EM TECHNIQUES

This section discusses various EM techniques. In accordance with prior studies, it is appropriate to define EM as a method of selecting or violating GAAP in order to influence the reported earnings. Earlier researchers report that three techniques can be used in earnings manipulation: income smoothing, big bath, and accounting choices.

2.4.1. INCOME-SMOOTHING TECHNIQUE

According to Barnea et al. (1976), income smoothing entails "the deliberate dumping of fluctuations about some level of earnings, which considered normal for the firm". There are

two basic types of smooth-income streams; these are i) naturally smoothed earnings, resulting from an income-generating process; and ii) intentionally smoothed by managers, resulting from real smoothing techniques (Eckel 1981 and Albrecht and Richardson 1990).

Income smoothing technique is the same in different practices of EM. Sun and Rath (2010) argued that the income smoothing technique decreases variance in profit for some time. The company's executives could employ income-decreasing EM practices as soon as they learn about the change in additional earnings in order to reimburse net loss years. It can also be used to provide for depreciation allowance for doubtful debts in both periods of both profit and loss. Earnings smoothing technique is termed "cookie jar reserves". This may be because significant provisions are looked upon as cookies saved in a jar, to be used at the discretion of managers (Rahman et al. 2013). In this way, DeFond and Park (1997) argued that managers are forced to declare loss rather than profit in order to reduce earnings. For instance, assets may be recorded as expenditures, which must be recorded when incurred, such as research and development expenditure (R&D).

Markarian et al. (2008) looked at the effects of research and development expenditure on EM practices. They found that businesses in Italy employed to research and development expenditure to manipulate earnings reports. The authors claimed that a decrease in earnings might perhaps be caused by increases in research and development expenditure, even though increased earnings may be capitalised on lower research and development costs. Similarly, other studies have also found support for a positive relationship between research and development expenditure and EM actions. Gunny (2010) discovered that companies control for earnings to meet benchmarks through reducing the discretionary investment of R&D costs, and Selling, General and Administrative expenses (SG&A) to decrease expenses.

Moreover, Rusmin et al. (2012) found that managers are driven to reduce earnings after the current net profit outstrips the preceding period. In contrast, firms are expected to increase earnings if the current profits are lower than in the preceding period. Broadly, earnings smoothing is recognised as an important technique to misinform stakeholders regarding the firm's risk level, or financial performance, in order to reduce the cost of capital and gain private benefits (Shubita 2015).

2.4.2. BIG BATH TECHNIQUE

The big bath approach proposed that firms suffering a shortfall in earnings in the current period could employ a discretionary accrual to reduce profits in the current year (Jordan and Clark

2011). It is used if the company's profit specific period fails to meet estimated income or to reduce the number of current revenues to increase future earnings. Some studies contented that big bath accounting is employed to portray large profit reducing discounts or profit minimising EM within the profit and loss statement.

Similarly, Pourciau (1993) maintained that company executives adopt AEM decreases within unanticipated time or rises profits in the future period to maintain returns shrinking within the first period.

2.4.3. ACCOUNTING-CHOICE TECHNIQUE

An accounting-choice approach encompasses the flexibility of the manager to select the proper accounting technique, for example, investment and leases, revenue recognition, and depreciating costs using discretion in the financial statement to assess accruals and change the financial statement (Aljifri 2007, Healy and Wahlen 1999 and Nelson et al. 2002). In the same way, some studies concluded that an organisation might misuse the flexibility of GAAP provisions to alter earnings through assets depreciation and sale revenue practices.

Furthermore, several organisations choose to use a First-In-First-Out (FIFO) approach to recording inventory expenditure if they decide to account for profits. Other companies, on the other hand, employ the approach of Last-In-First-Out (LIFO) to display lower profits. Aljifri (2007) claimed that the techniques of FIFO or LIFO are mostly used to adjust inventory assessment. In addition, FIFO was employed if the chief executives elect to achieve greater profits, especially during a period of price increases. Many authors claimed that an organisation moves between inventory cost approaches to change profits as soon as there is a threat of bankruptcy (Nelson et al. 2002 and Sweeney 1994).

Moreover, Han and Wang (1998) recognised that numerous oil and gas industry firms adopted inventory assessment approaches to decrease the profit in their financial statements during the oil spill incident in the Gulf of Mexico. There are also other methods of depreciation, for instance, double-declining balance; sum-of-the-years digits and straight-line are accounting choices for managers. Even though the straight-line approach uses a very similar level of annual depreciation cost, companies' managers are more likely to employ depreciation techniques to achieve earnings targets for better performance. Likewise, the managers tend to choose the deferred tax to enhance earnings. They may likewise, decrease the expenses of the current year along with capitalising expenditure. It is clearly demonstrated from the above factor that managers utilise distinctive methods to oversee profit, which will not be easily recognisable by

outside persons. Consequently, numerous studies on EM have concentrated on the motivating forces of EM. The following section will discuss EM inspirations.

2.5. THE SUBSTITUTABILITY OF EM TECHNIQUES

Previous literature still exists which shows that methods of EM, REM and AEM, might be utilised by firms as supplements or substitutes. In other words, the management of earnings is not limited to being either REM or AEM, and the authors present confirmation of both happening at the same time in firms (Roychowdhury 2006, Zang 2012, Cohen and Zarowin 2010, Doukakis 2014 and Zhu et al. 2015).

Cohen and Zarowin (2010) observed that organisations utilise methods of EM, REM and AEM, throughout seasonal equity contributions and that the decision as to which procedure to use differs. This is typical as a result of their capacity to utilise accruals manipulation and, in addition, the expenses of doing so. Doukakis (2014) contends that accounting decisions are liable to examination by auditors. Zang (2012) contends that organisations experience diverse imperatives for these two techniques and gives affirmation that the choice of trade-off is reliant upon the correlating expenses of these two methodologies during the period 1987-2008. In addition, Zhu et al. (2015) explored the ways in which the Chinese reverse merger firms conduct trade-offs and EM by means of the two methods, REM and AEM, during the period of 1990-2011. They discovered that organisations substitute both techniques. With respect to the authors, organisations utilise REM instead of AEM because of the expenses and imperatives of using the AEM technique.

Ferentinou and Anagnostopoulou (2016) confirmed the effect of substitution among the EM strategies for US organisations during 1990-2009. This discovery is also corroborated by Cohen et al.'s work on US organisations during 1987-2005. As opposed to the discoveries of substitution impact, Kuo et al. (2014) show that the Chinese firms, during the period from 2002-2011, show a long-haul positive connection between REM and AEM strategies. This shows that organisations can, likewise, utilise both the procedures to accomplish profit targets.

Moreover, the evidence from the extant literature reveals that organisations are not confined to using EM methods such as REM or AEM and may utilise the two strategies as supplements or substitutes relying upon their relative expenses and the degree to which one technique is affected by with respect to the next.

2.5.1. CONSTRAINTS ON REM

Zang (2012) argued that the cost of applying REM is equal to the economic consequences for drifting away from the ideal business activities because the values of the company will be affected. Despite this fact, all these economic consequences would differ between various companies and all of these happen because of the working environment. To illustrate with an example, economically it is more costly to move away from traditional business practices for a company that encounters pressure from the competitors in their industry, because of this the competitive advantage over industry peers is reduced (Zang 2012).

For this purpose, the competition level within each industry has limited the usage of REM. Because of the higher degree of monitoring, Rowchowdhury (2006) has established that higher positions of institutional ownership have minimised the application of REM. Additionally, this increases the book earnings by applying REM instead of using AEM. Thus, it resulted in creating high taxable earnings. Consequently, high marginal tax rates have fixed certain limits for using REM to increase the reported earnings (Zang 2012). Finally, Zang (2012) has contended that firms in financial distress would be perceived to implement REM as a costly device for manipulating earnings because the main aim is to enhance the normal operational activities. Because of the high costs, which are related to REM, Gunny (2010) has acknowledged that REM is costly because of the economic concerns. Gunny states that the benefits of implementing REM exceed the costs of meeting the targeted earnings. Meeting the targeted signals positive future performance because it shows the result of not meeting the target is a decrease in stock value.

The best example of this is given by Skinner and Sloan (2002). Graham et al. (2005) explained, managers are eager to implement REM for meeting short-term earnings targets but, in the long run, it can be unfavourable. In addition, this can be observed in practice, so this can be understood as evidence for changing the company because it faces limited cash flow, which minimises the capital expenditure along with R&D expenditures (Fazzari et al. 2000, Himmelberg and Petersen 1994). Since Beaver (1966) has stated that financially distressed companies have less cash flow than healthy ones, he argues that financial distress is positively related to earnings that have been manipulated by activities such as R&D expenditures. Additionally, he revealed that 14 companies have financial difficulties that have been predicted accurately through the ratio of cash flow to total debts so, in this research, this ratio is a substitution for financial distress. This will be positively related to the determinants of REM. Consequently, the relationship between financial distress and REM is indefinite. Because of

the previous research Zang (2012), Rowchowdhury (2006) and Himmelberg and Petersen (1994) have not accepted the link existing between REM and financial distress. Furthermore, it is difficult to know the actual reason why the companies are financially distressed, so it is hard to examine the relationship more deeply. For a deeper understanding, the limitations on AEM and its outcomes are mentioned in the following section.

2.5.2. CONSTRAINTS ON AEM

AEM can be explained as the use of managers' preference for financial reports to manipulate earnings (Healy and Wahlen 1999). Conversely, this preference can be limited by various features. At first, the use of AEM is restricted by auditors' scrutiny. The reason for this is that Big 4 auditing firms have more experience and would not risk their reputation by failing to identify AEM (Becker et al. 1998). Secondly, the practices of AEM is limited by the company from having flexibility from accounting. Barton and Simko (2002) have exposed that a company's ability is to influence earnings through accruals; this is limited by measuring the accruals that were applied in the previous studies because they were reversed in other researches. Lagged net operating assets are the substitutes for AEM in all the previous periods. Therefore, a high value signifies less flexibility in accounting.

The operating cycle of a company affects the flexibility in its accounting. In case the operating cycle was longer then accrual reversals will be procrastinated to a long time (Zang 2012). Additionally, the probability of using the preferred method of EM in financial reporting is minimised by the scrutiny of the regulator because it reveals that the level of AEM is used for decreasing the SOX 15 adoption (Cohen et al. 2008). Since SOX is a way of protecting the investors from outside influences, it can be stated that the protection of investors in the company, with general limitations, is potentially a reason to apply AEM. Leuz et al. (2003) have confirmed the negative relationship existing between AEM and investor protection. The reason they give is that investors are prepared to accept more difficulties to obtain private controlling benefits that remove the encouragement for covering the full true economic performance.

The application of AEM is restricted by the scrutiny of the auditors; this is considered to be for the investors' protection and accounting flexibility. Because of the various limitations in AEM and REM, these are discussed and explained fully in the subsequent section, together with the way these limitations have affected the European companies that were listed in the trade-off AEM and REM.

2.5.3. THE DIFFERENCE BETWEEN AEM and REM

Despite the possibility that AEM and REM happen with no violation of the GAAP regulations, where it must be prior to the literature which shows that these activities have various differences (Cheng and Warfield 2005, Roychowdhury 2006 and Cohen et al. 2008). To state an example, before issuance of the financial statements, the AEM indicates the choices, which were selected at the end of a financial year (Dechow and Skinner, 2000). Particularly during the final stage of a financial year, the managers are more likely to know whether earnings have missed or matched the expected limit, so the reported earnings should be modified accordingly by using AEM for meeting the desired threshold (Roychowdhury 2006 and Gunny 2010).

Additionally, AEM has no direct impact on operating cash flows, although it is very time-consuming (Healy 1996, Givoly and Hayn 2000 and Ahmed et al. 2002). Therefore, there are two situations in which AEM might be used to manipulate the reported earnings. The first situation, when the expected earnings were less than the expected limit, AEM must be used for ensuring the expected limit is met. In the second place, the difference between the expected earnings and the expected limit is greater than what it expects by AEM. In this case, the managers have shown their involvement level by decreasing AEM, which has been used to account for a difference for the future (Scott 1997, Levitt 1998 and Barton and Simko 2002). From another point of view, it is exactly contracted with AEM and REM providing the managers with elasticity for manipulating throughout the financial year (Roychowdhury 2006 and Gunny 2010). REM signifies the managerial decisions that deviate from normal business practices, for example, sudden reductions in R&D, general, administrative (SG&A) expenses and selling (Roychowdhury 2006). Thus, managers have decided that the time and volume of those activities with less risk and interference from regulators and auditors (Graham et al. 2005 and Cohen and Zarowin 2010).

Additionally, the managers are opting to use REM over AEM, whereas the accounting standard regulators and setters limit the regulations to weaken AEM (Graham et al. 2005 and Ewert and Wagenhofer 2005). To illustrate this, Cohen et al. (2008) have found that managers who have been using AEM prior to the Sarbanes-Oxley Act 2002 (SOX) in the past have swapped their respective accounts to REM post-SOX. Cohen et al. (2008) have suggested that managers are planning to switch because they have constraints on AEM.

In order to avoid the scrutiny of regulators and auditors, Graham et al. (2005) have found certain valid proofs that executives would prefer REM to AEM. From the studies of Graham

et al. (2005) and Chi et al. (2011), certain proofs were found in which SEO companies, which are audited by big N auditing companies would largely engage in the activities of REM to elude the detection of AEM.

2.6. CORPORATE GOVERNANCE IN THE UK

The UK's corporate governance system has grown since the early 1990s. It has a range of quasi-voluntary codes, which originated in the Cadbury Committee in 1992. The history of corporate governance regulation in the UK reflects a reactive approach. The Cadbury Report (1992) itself originated as a reaction to the Maxwell and Polly Peck crises. In 1995, the Greenbury Report focused on directors' remunerations, and the Hampel Report in 1998 amalgamated the Cadbury and Greenbury reports to form a Combined Code of corporate governance (1998) (Taylor et al. 2017). Companies must comply with 'The Code' or describe in their annual report their reasons for non-compliance. The Hampel Committee received the extent to which the objectives of the Cadbury and Greenbury Reports were being achieved (FRC, NDb). The Code was revised in 2003. The Higgs Report (2003) on Non-Executive Directors; the Tyson Report (2003) on Board diversity and the Smith Report (2003) on auditing were further reactions, in this case to WorldCom and Enron. In 2003, revisions to the code recommended:

• That at least half of the board (excluding the Chair) be comprised of non-executive directors;
• That non-executives should meet alone at least once a year to discuss company performance;
• That non-executive directors should have requisite information, time, knowledge, and skills;
• That there should be a senior independent director to whom concerns could be expressed.

Following the Turnbull Report in 1999, on internal controls later reviewed in 2004-5, the 2006 Combined Code incorporated changes:

• To allow the chair to sit on the remunerations committee;

• To allow shareholders who are voting by proxy to withhold their vote and to require publication of the proxies at the AGM;

• To allow companies to "make information available (provisions A4.1, B2.1, and C3.3)" on a website;

• To set out disclosure requirements in its listing rules (FRC, 2006). These 2006 changes in the Combined Code improved transparency. For example, allowing proxy shareholders to withhold their votes, helps the public to gauge the level of shareholder engagement. There was

a further review of the Combined Code in 2008 reflecting new EU requirements related to Audit Committees and Corporate Governance Statements. The 2008 changes were:

• To allow an individual to chair more than one FTSE 100 company;

• To allow the company chairman to be a member, but not the chair of the audit committee when the company is below the FTSE 350 (FRC, 2008).

These 2008 changes seem a mild reaction to events at the time, but they reflected a 2007 review, which pre-dated the 2008 financial crisis. Major changes were in fact, made in 2010, following the Walker Review of 2009. In 2010, the cumulative effects of these historical reactions meant that any changes were incorporated in a ready named 'The UK Code on corporate governance. In 2010 Changes to the Code included:

• The Chair became responsible for leading the Board;

• The Board became responsible for the long-term success of the company;

• Directors had to be elected annually;

• The Chair became accountable for a culture of openness in the company;

• The non-executive directors became responsible for developing strategy;

• The board was required to audit its balance of skills, experience, independence, and knowledge of the company and take corrective action through recruitment;

• Recruited directors must have time available for their responsibilities;

• Diversity of the board must be considered when making activities;

• The board must undertake risk assessments and put controls in place to mitigate the risks assessed;

• The chair is responsible for communicating shareholders' concerns to all directors (FRC, 2010b). Sanderson, Burgess, and Masters, (2010), expressed concern annual re-election of directors would increases short-term: This concern was shared mainly by institutional investors (FRC, 2010b).

This new UK Code on corporate governance was then reviewed in 2012, 2014 and 2016. The code relies on the Companies Act 2006, the Listing Regulations, the Takeover Panel, and the Stewardship Code 2012 for its legal and judicial force (Solomon, 2013). This research and thesis concentrate on the workings of 'The Code' and the Stewardship Code. The UK and the

US have an Anglo-Saxon style approach to law, which emphasises the owner's responsibility for governance. The UK approach is, however, less legalistic than that of the US. The principle of complying or explaining remains strong.

It is not assumed that one size fits all. In this respect, the UK is resisting a worldwide move to greater government interference in corporate governance. However, UK resistance has crumbled over concerns about the effect of auditors generally, and the Big 4 Auditors in particular, especially when these auditors take a vested interest in supplying lucrative consultancy services to the companies they audit (House of Commons Treasury Committee, 2009). The EU released a green paper on audit policy in October 2010, which led to EU audit reforms in 2014. (European Commission, N.D).

2.6.1. THE UK REGULATORY ENVIRONMENT

Governance systems have been categorised by the type of ownership structure. The UK has been described as having a dispersed ownership structure, similar to that commonly found in the US (Armour et al. 2003). The UK framework is primarily focused on shareholder wealth (Armour et al. 2003). A recent response to a UK green paper on corporate governance proposes attention to a wider range of stakeholders. For example, there is a suggestion that public register is kept of companies that have 20% or more votes against the pay of directors thus strengthening the monitoring of directors pays. In addition, the government proposes to continue monitoring the level of disclosure of voting by institutional investors (Taylor et al. 2017).

2.6.2. THE STEWARDSHIP CODE

This section discusses regulation related to institutional investors. Firstly, it considers the Hampel Report (1998) and the Myners Review (2001) and proceeds to examine the development of the Stewardship Code. The Hampel Report (1998) targeted funds. It suggested that pension funds should take a longer-term approach. Pension funds are the largest group of institutional investors. The actions of trustees bear on corporate governance. It was alleged that trustees put fund managers under undue pressure to maximise short-term gains in share value or to maximise dividend income at the expense of retained earnings.

Myners (2001) thought that evidence to support this was limited. In 2001, the Myners Review of institutional investment in the UK highlighted:

• A lack of skill amongst decision makers;

• A lack of constructive decision making;

• Perverse over-reliance on investment consultants, and a small group of conservative proxy advisors, who were not accountable for their advice.

• Alack of transparent aims and responsibility structures;

• A lack of specialist expertise Myners concluded that trustees should report annually on their investment strategies and returns in the hope that it would lessen herd-like behaviour (Myners, 2001 and HM Treasury 2004). The Stewardship Code was based on work by David Walker and the Institutional Shareholder Committee (ISC) code (Solomon 2013). In response to the Myners Review (2001), ISC made changes to some of these principles. In 2001, the ISC outlined the responsibilities of institutional investors in relation to shareholder activism.

In 2007, preceding engagement to activism the ISC 3 report recommended that voting policies should be disclosed and reviewed regularly. Finally, in late 2009 the ISC issued the ISC 3, which was incorporated into the Stewardship Code (Mallin 2007).

The Walker Review (2009) was in response to the financial crisis. It concluded that the Combined Code was fit for purpose. Weaknesses in board effectiveness were attributed to behaviour rather than to the organisation. The major problem seemed to be a lack of challenge before executive decisions were taken regarding risk and strategy. Boards have now allocated more time to risk management and engaging more effectively with the investee. Finally, concern was expressed about remuneration policies.

The recommendation in the Walker report was acted on by the FRC, which published the first Stewardship Code in July 2010. The stewardship Code highlighted the need for institutional investors to comply or explain and to play an active role in monitoring investments. The names of compliant institutional investors are published on the FRC's webpage. In 2012, the Stewardship Code was extended to cover proxy advisors. Many, however, questioned if this light-touch self-regulation was enough in a post-financial-crisis world (Edelman Trust Barometer 2017). Businesses, Government, Media, and NGOs, in particular; the UK government believed that a decrease in trust in UK business was partial because of excessive directors' remunerations (Department for Business, Energy Industrial Strategy, 2017b p8).

2.7. CORPORATE GOVERNANCE IN INDIA

India is one of the largest emerging markets in the world in terms of its market capitalization. It had over a billion shareholders in 2015 (Financial Times). The Satyam crisis revealed the

ineffectiveness of corporate governance in India. Theoretically, governance in India is based on international best practice. It is a mix of the Anglo-American and German models. There are three types of corporations in India: private companies, public companies, and public-sector undertakings, including statutory companies, government companies, banks, and other financial institutions. Each gives rise to a different type of share ownership. Private companies are usually under the complete control of a private owner and his family. The regulatory agencies are the Ministry of Corporate Affairs (MCA) and the Securities and Exchange Board of India (SEBI). The SEBI monitors the corporate governance for listed companies through Clause 49, of the listing agreement of the stock exchanges.

The SEBI has the highest number of trades in the world and stringent regulatory requirements. The MCA collaborates with the National Foundation for Corporate Governance (NFCG). Despite this framework, weak corporate governance results from weak enforcement. The consequences are slow, over-burdened courts, which are often corrupt.

The question of weak enforcement was addressed in the capstone project by Palak Bhandari. He classified a One-Person Company (OPC) as a private company. An OPC is considered a separate legal entity with individual protection of its personal assets from bankruptcy and succession. Currently, every listed company with a turnover of Rs. 300 crores (over $46 million) must have at least one female director, and every company with a net worth more than Rs. 5 crores (over $7.75 million), must have a Corporate Social Responsibility Committee comprising at least three directors including one independent director.

If a specified number of members and depositors believe that the management of a company is not conducting the affairs of the company rightfully, an application to the tribunal can be filed and the liability for any damages or compensation falls to the company and its partners. The Competition Act 2002, the Foreign Exchange Management Act 1999, and the Industries (Development and Regulation) Act 1951 give regulators additional powers. Clause 49 of the listing Agreement defines criteria for the composition of the board of directors, restricts a person from serving on more than seven listed companies as an independent director (three companies if serving full-time), defines a maximum tenure of 10 years (two 5-year terms) for a director, and requires companies to develop risk management teams. When a company is headed by an executive who is also the board chairman, 50% or more of the board of directors must be independent and there is protection for whistle-blowers. The compensation paid to executive directors (including independent directors) is fixed by the board of directors but does require authorisation by shareholders. The audit committee must have at least one financially

numerate normally a member, of either the Institute of Chartered Accountants of India (ICAI) or the Institute of Company Secretaries of India (ICSI). Although much has been learned by comparing Indian company law and UK firms' law, many laws and codes were heavily influenced by the local custom and practice.

The UK has been slow to revise its firm law and to some extent, it is able to learn from the experience of other countries. However, in India, the Companies Act 2013 has stepped ahead to meet rapid changes in its corporate world. In contrast, the UK change has come very slowly. The companies Act 2006 was a significant advance, following a long period of debate and consultation.

The Act modified the duties of managers and introduced the idea of 'enlightened shareholder value' to draw greater attention to stockholders other than shareholders and to encourage firms to adopt long-term perspectives. It is too early to review the effectiveness of implementing the 2003 UK firm law reforms and especially the stewardship code.

The 2013 Companies Act does close some loopholes in the Company Act 1956. It has introduced significant changes in provisions relating to governance, e-management, compliance, enforcement, disclosure, norms, auditors, mergers and acquisitions. Furthermore, it has introduced new concepts such as the one-person company, small companies, dormant companies, class action suits, registered values, and Corporate Social Responsibility.

2.7.1. CORPORATE GOVERNANCE CODE IN INDIA

Ancient Indian literature laid down principals of corporate governance. Here, an effort will be made to summarise the subsequent evolution of the corporate governance Code in India. The CII initiated the development and promotion of code for corporate governance. This initiative by the CII flowed from public concern to protect investors' interest, especially small investors' needs; for transparency within business and industry; for the need to move towards international standards of the disclosure; and for the need to raise public confidence in business and industry.

A National Task Force was set up, with Mr. Rahul Bajaj, as the Chairman. The task force presented the draft guidelines and a draft code of Corporate Governance in April 1997. In 1999, the Birla Committee on Corporate Governance was set up by SEBI to promote and raise standards of corporate governance. The Birla Committee's terms of reference included: suggesting suitable amendments to the listing agreement executed by the stock exchanges drafting a code of corporate best practices; and suggesting safeguards to deal with insider

information and insider trading. Several of the Birla Committee's recommendations were incorporated in Clause 49 of the listing agreement of stock exchanges. The Department of Corporate Affairs (DCA) set up the Naresh Chandra Committee to examine the issues arising from US corporate scandals. Many of the Narech Committee's recommendations were incorporated in the Companies (Amendment) Bill 2003. Narayana Murthy was asked by SEBI to review its performance. In 2004/5. Dr. J.J. Irani was asked to edit and revise the 1956 Companies Act to enable a timelier response to ever-evolving business models and to further protect the interests of the shareholders and investors.

2.8. INSTITUTIONAL FACTORS AND CORPORATE GOVERNANCE CODE

Corporate governance institutions seem to be weaker in developing than in developed economies, making it easier for managers to finance low return investment by raising equity. Where corporate governance is strong, managers are more often found to finance growth and investment by the governance of internal cash flows. Thus, differences in corporate governance structures will be seen to describe both differences in the sources of finance for investment across countries and differences in the returns on investment (Gugler 2003).

India's corporate governance institutions were poor but have developed somewhat since 1991. Capital markets have been liberalized, and a takeover code was adopted in 1994 (Goldman Sachs, 2003). Peng and Jiang (2006) provide evidence that concerted ownership is beneficial for company performance in cases where there are weaker developed regulatory and legal institutions to protect shareholders.

Lee and Oh (2007) have considered the relationship between corporate governance and the Perversions of corruption. Controversialley they have argued that pervasive corruption does not detract from growth and investment, in that it is predictable because it can be built into company calculations of cost. Investors, especially foreign investors are put off by corruption even at low levels when it appears to be arbitrary and unpredictable because it makes dealings more hazardous. In India, the most significant informal institutions, to interact with these formal governance institutions, are those related to business groups.

Douma et al. (2006) found positive effects on the performance of concentrated corporate ownership by foreign companies, specifically when associated with a business group. Peng and Jiang (2006) found that the balance of benefits and costs of ownership in large companies depended on the regulatory institutions for investor protection. High levels of ownership are beneficial when formal legal institutions are weak.

Heugens et al. (2009) support this result, that when there is less than perfect legal protection of minority shareholders, ownership is efficient corporate governance. They provided, however, that a certain threshold level of institutional governance has already been achieved. Where owners can excerpt benefits from the corporations they control, then a high level of family ownership tends not to benefit the company.

In 2017 Thapar warned against automatic liability, using humans and their cultural values to mitigate legal responsibility, arguing that some corporate cultures had led to rampant clandestinity and the general obliteration of the rights of minority shareholders and other stakeholders (Thapar and Sharma 2017). A change to all this was begun by integrating the Indian corporate system into a larger framework where the parochial traditions of local business slowly disintegrated under the manifold pressures of global integration (Chakrabarti et al. 2008).

This huge agenda involves more than the corporate sector. It includes a wide range of issues such as why the law enforcement is poorly developed in India, and why the culture of professionalism cannot take root and confront these issues (Mathur 2012). In India, there is insufficient legal protection for minority investors. The lack of liquidity reflects the absence of pension funds and life insurance money, common in more developed economies. Also, protections can trade in their shares in ways that are different (Helwege and Liang 2004). Related to the laws of the growth environment that determine whether or not crops will grow, the institutional environment impacts the health of corporate governance within a nation. Thus, understanding the institutional environment is essential to understanding corporate governance (Aguilera and Jackson, 2003). Comparative research into corporate governance can provide frameworks under which government legal systems can be influenced and improved (Whittington and Mayer, 2000).

2.9. REPUTATIONAL INDEPENDENT DIRECTORS

In general, Independent directors are predictable to act as monitors and give advice to executive directors on behalf of shareholders (Fama and Jensen, 1983). Independent directors represent an important corporate governance mechanism and their presence on the board of directors is a commonly suggested governance exercise (Zattoni and Cuomo, 2010).

Developing countries have weaker corporate governance than developed countries. Law enforcement agencies are often underfunded in developing countries and their personnel more willing to accept bribes. Gugler (2003) believes that the laws and regulations covering

corporate governance will be more consistently enforced in developed countries than in developing countries.

The Cadbury Committee in the UK recommended that the majority of a board should be independent (Cadbury, 11 1992), a principle endorsed by successive reviews of corporate governance (FRC, 2010: 12).

Corporate governance guiding principle elsewhere within the developed world echo the imperatives of independent directors and unbiased judgment on the part of the board. They particularly emphasise the necessity to insulate the boards from management selections and initiatives which will influence this concept of justice and equity to any or all shareholders, whether in operational management or not. In India, the imperatives of associated acceptable board balance were well articulated within the Committee Report on company governance. It suggested that "not but one-half of the Board (should comprise) non-executive directors". In cases where an organization has a non-executive chairman, this should comprise a minimum of one-third of the board. This was mandated on listed corporations through clause 49 of the listing agreements between the businesses and, therefore, the stock exchanges. Indian company legislation does not specifically mandate non-executive directors on boards of firms, however, though it implies such a demand through provisions with reference to audit committees.

In India, the surfacing of the problem in this modern or contemporary sense is certainly part of these worldwide trends and, in particular, of the cultural influence of Cadbury-style ideas of corporate reform (Banaji and Mody 2001). Prior studies exist to show that EM can be decreased through the adoption of good corporate governance, although the greatest part of these studies has been carried out in developed countries (Warfield et al. 1995, Alves 2012 and Bos et al. 2013). However, Rahman and Ali (2006) and Mangena and Chamisa (2008) argued that, differently to developed countries, most developing countries are characterised by weak legal protection of minority shareholders' interests and concentrated ownership structures (Black and Kim 2012). Independent directors are generally believed to play a significant role in corporate governance. Fama and Jensen (1983) recommend that independent directors can make distinct contributions in aligning managers with the interests of stockholders.

2.10. SUMMARY

This chapter presents the literature on the various definitions of EM and corporate governance and discussing those factors, which drive managers to manipulate reported earnings. Currently, managers use numerous accounting practices to meet earnings forecasts needs, without violating GAAP. This permit choosing other methods of accounting in order to estimate the company's performance during the period under review. Based on experiences from studies of companies in the western worlds, three incentives for conducting EM have been identified in the literature.

In the context of reviewing the literature of corporate governance, this chapter also started with the UK regulatory environment, the history of corporate governance in the UK, the stewardship code, the evolution of corporate governance code in India, Corporate Governance in India, institutional factors and corporate governance code and Reputational Independent Directors cost. This chapter reviewed the comparing corporate governance structure in developed and developing countries in order to show the differences and similarities.

Furthermore, the literature suggests that studies of EM in the UK and Indian firms are fairly recent extensions. Previous studies supported the notion that managers used either real activities or accounting choices. As Graham et al. (2005) and Chi et al. (2011) put it; managers prefer real activities to AEM to avoid the scrutiny of regulators and auditors. While there are few studies that examine the determinants of EM and the practice of REM, the majority of studies focus on the relationships between corporate governance variables and ownership structure and EM, without looking at the factors, which enable or hinder the interconnectedness between them. As such, there are insufficient studies, which investigate the influence of corporate governance variables on AEM and REM for firms in developed and developing countries. In furtherance, there are limited studies, which look together at how firms in the UK and India substitute and complement the two techniques or the combined influence of corporate governance variables on AEM and REM in the UK and India.

CHAPTER THREE: EMPIRICAL LITERATURE

3.1. INTRODUCTION

The purpose of this chapter is to display the relationship between AEM and REM by analysing the observations of research already carried out by other scholars. In addition, literature regarding the impact of corporate governance is also discussed in this chapter, alongside that focused on the aspects of reducing AEM and REM.

The topic distribution of the chapter is given below:

Section 3.2 reviews literature related to the trade-off between AEM and REM; Section 3.3 looks at the effect of board characteristics on EM; Section 3.4 looks at the effect of audit committee characteristics on EM; Section 3.5 the effect of ownership constraint on EM and the final section, 3.6, summaries this chapter.

3.2. TRADE-OFF BETWEEN AEM AND REM

The wide-ranging literature, which investigates EM mainly, highlight AEM (Zarowin 2015, Cassell et al. 2015, Yasser and Soliman 2018, Schipper 1989, Healy and Wahlen 1999 and Fields et al. 2001). Other literature examines the possibility that managers manipulate REM to distort reported earnings (Huang et al. 2018, Chen et al. 2015, Yuliana and Alim 2017, Cohen and Zarowin 2010, Hribar et al. 2006, Herrmann et al. 2003 and Jackson and Wilcox 2000). Nevertheless, the costs and constraints of each method are taken into account when deciding on which EM process is carried out. If the costs involved in using a particular method for EM are high, then there is a possibility that management will opt for a less restrained substitutionary method to manipulate the earnings.

A study by Zang (2012) and Abernathy et al. (2014) confirm that if a strategy of EM is costlier and constraining, then the managers will concentrate their attempts on finding other strategies of manipulation having lesser restraints and costs. On one hand, the managers can consider choosing AEM strategies, yet they can also consider REM methods. Nevertheless, the manipulation of earnings is not limited to being either AEM or REM. A study by Roychowdhury (2006) claims that companies completely depend on the manipulation of AEM, even though the expense concerning REM is high. There have been some mixed findings reported in this regard, as some firms have chosen for replaced relationship whereas others have accounted for a consistent association concerning a managerial preference for AEM or REM.

Chen et al. (2012) provided evidence that managers in Taiwan complement AEM and REM as Taiwan has a comparatively poor system of declaring accounts, weak asset protection laws and low legal action expenses. Mizik and Jacobson (2007) observed that managers practise both AEM and REM at the same time. However, Roychowdhury (2006) reveals that a greater extent of institutional ownership lessens the use of REM, as the monitoring levels are very high. Furthermore, it is also observed that the use of REM augments the taxable income level. Hence, a higher rate of tax would constrain the companies to employ REM (Zang 2012).

Cohen et al. (2008) found that the use of AEM was limited after the Sarbanes-Oxley Act (SOX) was approved in 2002. On the contrary, REM had increased significantly after SOX. This means that SOX approval had caused the managers to move from AEM to REM after SOX was enacted. Francis et al. (1999) found that companies which used more external auditors have reduced amounts of estimated AEM. For companies in the UK, Gore et al. (2001) explained that big auditing firms can constrain AEM better than smaller auditing firms. Additionally, the experiential outcomes from Myers et al. (2003) supported the theory that an extended duration of auditing in a company compels them to lessen the application of AEM. In addition to the analysis from auditors and managers, there is a restraint on AEM due to the flexibility of accounting systems in the company itself (Zang 2012; Abernathy et al. 2014). Cohen and Zarowin (2010) reported that an organisation chooses the manipulation method based on the cost of EM methods.

Zhu et al. (2015) reported that manager's trade-off between both methods in Chinese companies. According to them, decisions were made innately by the prudence and ability of management and, thus, REM is less likely to be constrained and examined by the auditors. They also stated that any company that had used AEM before is more likely to use REM in the present and future because of the constraints of AEM.

3.3. THE EFFECT OF CORPORATE GOVERNANCE ON EM

3.3.1. BOARD CHARACTERISTICS AND EM

Agency theory expects boards to enhance financial reporting by monitoring the behaviour of managers, those behaviours that affect reported performance, financial disclosure, and tasks delegated to the boards' sub-committees (Vafeas 2005). On the other hand, institutional theory cites these mechanisms as practices or regulations as an outcome of coercion from legislators who impose certain practices in order to improve organisational effectiveness, or as an outcome

of imitation. The following section reviews the researched relationship between board characteristics and EM.

3.3.1.1. BOARD SIZE AND EM

Previous research on corporate governance specifies that altering the board size affect its independence and efficiency (Elshandidy and Neri 2015 and Guest 2009). Oversize board size could negatively affect board effectiveness because of correspondence and coordination issues related with bigger gatherings. Larger than average boards may have lower levels of inspiration and fulfillment because of absence of participation in their decision-making (Ebrahim and Fattah, 2015).

A research sample, collected from 282 US companies by Xie et al. (2003), observed that EM might not occur in firms having bigger boards. According to Yu (2008) state that there is no link between EM and board size. Peasnell et al. (2000) observed that the size of the board is slightly linked to EM in pre- and post-Cadbury intervals in the UK companies. The Canadian investigation by Park and Shin (2004), the Australian research by Kent et al. (2010), Almasarwah (2015), in Jordan, and Jaggi et al. (2009) in Hong Kong, all observed insignificant evidence of an association between board size and the amount of constraint on AEM. Idris (2012), in Jordan, Visvanathan (2008) considering a US sample, and Susanto and Pradipta (2016), in Indonesia, observed that the manipulation of REM was not considerably influenced by the number of board directors.

A study carried out by Habbash (2010) used a sample of 471 UK companies covering the period between 2003 and 2006. This study stated that a large board is more likely to restrain EM. His observations support the argument of John and Senbet (1998) that an augmentation in board size augments the monitoring ability of the management. Likewise, Ebrahim (2007) suggests that the bigger size of the board is related to reduce the level of AEM. The negative link between bigger boards and the experiential indicator of EM is identical to the observations of Marrakchi et al. (2001). They found that board size is negatively linked with reduced EM.

Exclusively related to this study in the UK, the following researchers found that increasing the size of the board restrained manipulation that distorted reported earnings. Sun and Rath (2010) chose 245 UK non-fiscal firms over the interval of 2006 and 2007; Rahman et al. (2013) used the FTSE-350 index, covering an eight-year duration from 2004 to 2011; De Andres et al. (2005) and Yu (2015) used the data of the firms mentioned on the (LSE) between the years 1997 and 2011. These studies all observed that board size is linked to reducing REM.

Furthermore, Alhadab (2012) used a UK sample comprising 571 IPO companies between the years 1998 and 2008; he found that the board size has a negative association with REM.

Talbi et al. (2015), in the US, observed that augmenting the board size raised REM. Similarly, some inference from Asian markets presented by Kao and Chen (2004), using 1,097 Taiwanese companies in 2002, showed a positive association between the size of the board and the extent of AEM. They used a sample of 97 firms listed in Bursa Malaysia, during the years 2002-2003. In addition, Garven (2015) indicated that the board size has a positive link with REM. Furthermore, Ahmed et al. (2006), in Singapore and Malaysia, observed a significant positive relationship between the board size and AEM.

In the Indian market, Sarkar et al. (2006), Kumari and Pattanayak, (2014), Sarkar et al. (2008), Nagar and Sen (2016) found a positive link between board size and AEM practices. The research carried out in this regard, to find an association between board size, and EM need not be criticised since both the aspects, positive and negative, have been justified by evidence and they are logically satisfactory. Nevertheless, another point of view disputes that bigger board size is more effectual, as bigger boards have a multiplicity of experience and more independent members. Furthermore, a bigger board is likely to take better-informed decisions as compared to a small one.

3.3.1.2. BOARD MEETINGS AND EM

Various earlier studies described the number of board meetings conducted and the role of directors in board meetings. In this aspect, Ronen and Yaari (2008) stated that directors have the responsibility to conduct board meetings for the purpose of decision-making through voting, and it has been considered as one aspect of corporate governance. In addition, some studies, such as Carcello et al. (2002) and Letendre (2004), report that these board meetings act as one of the most efficient opportunities for directors to solve the issues raised both inside and outside the firm, helping them to make decisions rapidly. From the perspective of agency theory, a higher number of board meetings may enhance the role of board monitoring (Fama and Jensen 1983).

In Canada, the study by Anglin et al. (2013) showed a significant and negative relationship between AEM and the frequency of board meetings. However, the study in India by Jaiswall and Banerjee (2012) revealed that higher board meetings with a large attendance of board members lead to a decrease in the AEM. In Tunisia, Zgarni et al. (2014) and in the US, the studies of Visvanathan (2008) and Garven (2009) discovered that a higher frequency of board

meetings could decrease REM. In contrast, some prior studies reported that firms, which have a large, number of boards meetings, lead to an increase in EM, specifically if the firm has no qualified director. According to Awais and Wang (2011) and Gulzar (2011), in China, showed the board meeting has a significant and positive association with EM.

In India, the study of Nagar and Sen (2016) found a positive relationship between the REM level and the number of board meetings. However, the majority of the researchers do not show any significant association between EM and board meetings. The study of Ebrahim (2007), for example, identified that the number of meetings might not limit the practices of EM. According to Jouber and Fakhfakh (2011), there is no association between EM and board meetings. Similarly, according to Rahman et al. (2013), there is no specific relationship between EM and board meetings in the sample of 215 UK listed firms during 2004-2011. On the other hand,

3.3.1.3. BOARD INDEPENDENCE AND EM

Supporters of the agency theory, Zahra and Pearce (1989) proposed that the existence of independent directors might affect the quality of the information and decision-making, leading to better performance. Beasley (1996) proposed that the competency of the director's present on the board to constrain their accountability in firms was based on the separation of the board members from management. Furthermore, independent directors can augment board wealth in terms of competency, knowledge, and expertise (Kesner and Johnson 1990).

Another study, by Anglin et al. (2013), also observed that the independence of the board might reduce the extent of EM, based on data from 153 companies between 2004 and 2008 in the US. Moreover, Lo et al. (2010), Hsu and Petchsakulwong (2010), Benkel et al. (2006), Dimitropoulos and Asteriou (2010) and Kapoor and Goel (2017) in India report similar findings that board independence is negatively related to EM.

Osma (2008) in the UK and Talbi et al. (2015) in the US had observed that an increase in the number of independent directors could minimise the extent of REM. However, Kang and Kim (2012), in Korea, Zgarni et al. (2014) and Affes and Romdhane (2011), in Tunisia, observed that increasing the number of independent directors on the board minimised the REM.

Rahman and Ali (2006), however, using data collected from 97 Malaysian companies over the period 2002-2003, propose that there is an insignificant relationship between board independence and EM. Their reason for the insignificant relationship is that the responsibility of the board of directors is considered to be ineffective in carrying out their monitoring duties because of the management dominance in the matters of the firm. Similarly, Siregar and Utama

(2008) collected data from the companies present on the Jakarta Stock Exchange. Their observations did not prove that a company with a high ratio of independent directors is less likely to engage in EM.

According to Katmon and Al Farooque (2017) state that there is an insignificant relationship between board independence and EM, based on the data from UK listed companies between 2005 and 2008. Furthermore, Kumari and Pattanayak (2014), based on the data from 12 Indian companies between periods from 2007-08 to 2011-12, observed that there is no association between board independence and EM. Sarkar et al. (2008) observed that there is no link between board independence and EM, using 500 major Indian companies listed on BSE in a period during the years 2007 to 2012. Park and Shin (2004), using data from 539 Canadian firms for the period from 1991-1997, observed that the independent directors are not significantly related to EM, suggesting that the ratio of independent directors might not lead to the decline in EM. Additionally, Shah et al. (2009), in Pakistan, Almasarwah (2015), in Jordan, Rahman et al. (2013), Kent et al. (2010), in Australia, and Kam (2007), in China, observed an insignificant relationship between board independence and AEM. Visvanathan (2008), in the US and Yu (2015), in the UK, observed that the number of independent directors had no influence on REM.

Overall, a large number of prior experimental results have stated that boards with a high ratio of independent directors support the honesty of the financial accounting process and present a better guarantee to stakeholders on the creditability of earnings accounted. Nevertheless, some researchers have reported unusual observations, declaring that board independence might not lead to mitigating EM. Their observations could be different because of the data used, control variables used, and the institutional ownership structure and the corporate governance methods.

3.3.1.4. NUMBER OF FEMALES ON BOARD AND EM

As the female directors are more inclined to abide by the regulations and have principled values (Barua et al. 2010 and Ittonen et al. 2013), women directors might have less risk as compared to men directors (Watson and McNaughton 2007 and Rau 2014), and their difference in decision-making approaches (Bosquet et al. 2014). Nevertheless, research on Chinese companies by Ye et al. (2010) found that gender had no impact on earnings quality.

There are various possible explanations that increasing the number of females on the board does not mitigate the AEM. Firstly, the comparatively small ratio of women board members does not provide them with a strong platform to apply influence. Secondly, the imperviousness

of the male directors on the impact of females can be another factor (Sun et al. 2011). Thirdly, when there is homogeneity in principled values between the male and female directors, the increased number of women has no influence (Ye et al. 2010).

Zalata et al. (2018), used a sample of US companies over the period 1992–2014. They provide evidence that there is a difference in the behaviour of financial reporting between male and female CEOs. This is because female CEOs have a high level of risk-aversion. However, they are certainly not more ethical than men. Nevertheless, it is recommended that board diversity might augment modernisation in various processes by introducing varied ideas, experience, awareness of various aspects and business contracts (Goodstein et al. 1994) that can augment the decision-making process (Baranchuk and Dybvig 2008 and Ntim 2015).

On the contrary, board multiplicity might not essentially point the way to increased monitoring of management actions, as companies might recruit more women and ethnic minorities for symbolic reasons (Low et al. 2015). Riley and Chow (1992), Hinz et al. (1997) and Clikeman et al. (2001). They found that the females on the board of directors reduce deception and EM; the reason for that might be because women on the board have more risk aversion on decision-making or because female board directors are more ethical in their decisions than their male colleagues.

According to a study carried out by Krishnan and Parsons (2008), it was concluded that earnings quality has a positive relationship with gender difference. Additionally, Thiruvadi and Huang (2011) showed strong confirmation that more female members on the board account for a higher quality of earnings. Nevertheless, Lakhal et al. (2015) inspected the association between gender disparity on the board and EM by using the companies listed on the French stock exchange. They collected data from 170 companies and came to the conclusion that the ratio of females on the board reduces the EM. This result concludes with the fact that the female members on the board are efficient in the monitoring role and more likely to discover the EM. Gavious et al. (2012) and Peni and Vähämaa (2010), reported similar observations that an increased number of female board members is likely to lead to less use of EM practices. In the UK organisations, Arun et al. (2015) used data from the UK FTSE 350 index during the interval 2005–2011. They found that a larger number of females minimises EM. A study by Hoang et al. (2017), in Vietnam, found that the number of female members on the board has a considerable negative association. Alternatively, Mulder (2017) had used the data collected from four West-European companies and found no link between the gender of the board members and the levels of AEM.

3.3.2. AUDIT COMMITTEE CHARACTERISTICS AND EM

Much emphasis has been placed on the audit committee's role in preventing irregular or fraudulent accounting (Klein 2002). The audit committee plays a key role in overseeing, monitoring and advising managers on the implementation of internal accounting control systems and on the preparation of financial statements (Arun et al. 2015, Bédard and Gendron 2010 and Sun et al. 2011). The following section critically reviews research on the effectiveness of audit committees in reducing AEM and REM.

3.3.2.1. AUDIT COMMITTEE SIZE AND EM

A bigger audit committee can be important in raising the helpful status of the company in the eyes of its internal and external auditors (Braiotta et al. 2010, Abbott et al. 2004 and Vafeas 2005). However, audit committees with a large number of members have greater difficulty arriving at well-considered or insightful decisions and, in this sense, increasing the size may be detrimental to effective control of EM (Jensen 1993 and Yermack 1996). Nevertheless, there is a mixture of opinion, and the conclusions of prior researchers on the relationship between the size of the audit committee and EM differ.

For instance, the study carried out by Lin at al. (2006), which was based on a sample of 106 US companies, had found a negative relationship between the size of the audit committee and EM. Additionally, Mishra and Malhotra (2016) used a sample of 130 Indian firms for a duration of three years from 2013 to 2015. They found that the audit committee size has a negative influence on EM. Nevertheless, an encouraging association between audit committee size and quality of financial reports was also found by Hamdan and Mushtaha (2011) and Felo et al. (2003) who identified that powerful corporate governance, such as a large-sized audit committee, is definitely associated to the accounting quality. Lin and Hwang (2010) and Yang and Krishnan (2005) find that increasing the number of members on audit committees mitigates AEM effectively. It is predictable that large audit committees seem to have independent members who are able and capable of controlling opportunistic managerial behaviour in EM.

Nevertheless, by making use of a sample of 282 companies in the US, covering the period between 1992 and 1994, Xie et al. (2003) observed no prospective impact or association between the size of the audit committee and the extent of EM. Similarly, Bédard et al. (2004), using a sample of 300 firms in the US in the year 1996, observed an insignificant association between the size of the audit committee and EM. Furthermore, Baxter and Cotter (2009), using a sample of data gathered from Australian listed firms in 2001, had observed that the size of

the audit committee is linked to the quality of earnings. Their observations revealed that there is no link between the size of the audit committee and earnings quality. Abbott et al. (2004) concluded that the size of the audit committee had no considerable effect on the quality of financial reporting. Furthermore, Katmon and Al Farooque (2017) used the data collected from UK firms in the years from 2005 to 2008 and found an insignificant association between the audit committees' size and EM.

Yu (2015) asserted that there is an insignificant link between the size of the audit committee and AEM by making use of the data gathered from UK companies between the years 1997 and 2011. Likewise, Alghamdi (2012) proposed that the relationship between audit committee size and EM is negligible. Correspondingly, Visvanathan (2008) confirmed that there is an insignificant relationship between the size of the audit committee and REM, by making use of pre-SOX data. Additionally, Garven (2015) used the data of US firms, collected from 2005 to 2007, and concluded that the size of the audit committee is not related to REM.

3.3.2.2. AUDIT COMMITTEE MEETINGS AND EM

The number of meetings held by the audit committee is very significant in resolving conflicting issues to help organisations grow. This leads to the maintenance of the internal control mechanism within companies (Vovchenko et al. 2017). Nevertheless, Page and Spira (1999) asserted that such meetings are ineffective in augmenting financial reporting.

A sample data of 282 US firms, collected during the years 1992, 1994 and 1996 by Xie et al. (2003), found that the number of meetings of the audit committee could restrain the amount of AEM. Furthermore, based on a sample of US companies for the years 1999 and 2000, Ebrahim (2007) observed a negative association between audit committee meetings and EM. Additionally, a study by Adel Almasarwah (2015) found that a positive relationship between the number of audit committee meetings and EM, by collecting the data from the Amman stock market over the period 2005 to 2012. Katmon and Al Farooque (2017) used the data of UK firms during the years 2005 – 2008 and found a positive relationship between audit committee meetings and EM.

Thoopsamut and Jaikengkit (2009) asserted that, in Thai firms, there is no significant relationship observed between audit committee meetings and EM. Baxter and Cotter (2009) used the data of Australian firms in 2001. Their results illustrated that a lesser number of meetings does not reduce the EM. Habbash (2010) used the data obtained from the top 350 firms in the UK from 2003-2006 and concluded that there is an insignificant link between audit

committee meetings and EM. Bin-Muhamed (2013) asserted that there is an insignificant association between the audit committee holding many meetings and the extent of EM in Malaysian firms during the period 2004-2008.

Rahman et al. (2013) used a sample of 215 UK companies during the period 2004-2011 and observed an insignificant relationship between audit committee meetings and EM practice. Furthermore, Alghamdi (2012) illustrated that there is an insignificant link between audit committee meetings and the extent of AEM by making use of all companies listed on the Saudi Stock Exchange. Similarly, Mishra and Malhotra (2016) used a sample of 130 Indian firms and examined them for a three-year duration from 2013 to2015. They did not find any significant relationship between audit committee meetings and AEM.

3.3.2.3. AUDIT COMMITTEE INDEPENDENCE AND EM

Members of an audit committee might be able to increase the quality of financial reports, but if anything goes wrong with the reports; it might affect their reputation (Abbott et al. 2000). One of the studies carried out previously stated that the number of independent directors on an audit committee might lead to a reduction in the quality of financial reporting (Bédard et al. 2004).

Some of the previous studies suggest a negative relationship between the independence of an audit committee and the AEM level (Puat and Devi 2013, Hamdan et al. 2013 and Amar 2014). A study by Klein (2002), using a sample of 692 US companies, indicated a negative link between EM and the ratio of independent directors on the audit committee. Furthermore, research carried out by Piot and Janin (2007) investigated 120 French companies between 1999 and 2001 and observed that the number of independent directors on audit committees has a marked impact on restraining the extent of EM. Sharma and Kuang (2014) observed that the ratio of independent directors on the audit committee is related to a reduced possibility of aggressive EM.

Nevertheless, previous studies also suggest a positive relationship between the independence of an audit committee and EM. Lin et al. (2006) could not succeed in finding evidence, which supports the agency theory that independent audit committees can minimise EM. Their observations could be invalid as their amount of EM was not emphasised in AEM as a degree for earnings quality, and their sample only considered one year, which is not reliable. Similarly, taking a sample of 282 US companies for the years 1992, 1994 and 1996, Xie et al. (2003) found that audit committee independence is not significantly linked to decreased extents of

EM. Additionally, Rahman and Ali (2006) used a sample of 97 Malaysian companies and observed an insignificant relationship between independent audit committees and EM.

Alghamdi (2012) used a sample of data from Saudi firms to show that there is an insignificant relationship between audit committee independence and the amount of EM. Bin-Muhamed (2013) used information from Malaysian companies from the years 2004 and 2008 to show that audit committee independence has no effect on EM practice. Baxter and Cotter (2009) observed that the audit committee's independence is insignificant in reducing AEM. Katmon and Al Farooque (2017) used data from UK companies from the years 2005-2008. They found an insignificant link between independent audit committees and EM. Mishra and Malhotra (2016) used a sample of 130 Indian firms and studied a three-year period from 2013-2015. They stated that there is no measurable effect of an independent audit committee on the extent of AEM. In the UK, Peasnell et al. (2005) found that there is no relationship between independent directors on audit committees and EM. The conflicting observations of prior studies are not surprising since there are several factors, which might influence the role of the audit committee.

3.3.2.4. AUDIT COMMITTEE EXPERTISE AND EM

Audit committee expertise is a significant aspect of the corporate governance mechanism. Previous studies believe that the existence of at least one member with financial expertise on an audit committee is effectual in mitigating financial irregularities (Abbott et al. 2004). According to Raghunandan et al. (2001), audit committees that include at least one financial expert have significant interaction with their internal and external auditors. Furthermore, Song and Windram (2004) examined the impact of UK audit committees on managing financial reporting. Their observations support the agency theory that audit committees, which are comprised of members with financial expertise, are able to monitor the quality of financial reporting.

Another aspect that is considered by Lo et al. (2010), based on 266 listed companies in China in the year 2004, suggests that firms with a higher level of audit committee expertise possibly engage in minimal EM. Xie (2001) investigated the roles of the board members and audit committee concerning EM. They used a sample of 282 US firms, from 1992 to 1996, and asserted that a member with financial expertise on an audit committee is linked to a reduced level of AEM. Rahman et al. (2013) and Habbash (2010) using the FTSE-350 index, observed

that the frequency of an independent director with accounting expertise, or a financial manager, on an audit committee is negatively linked to the extent of EM.

Algamdi (2012) observed a negative association between an audit committee's expertise and the amount of AEM, by making use of a sample of all companies listed on the Saudi Stock Exchange. Similarly, Rahman and Ali (2006) found no evidence to support the assertion that the existence of financial experts on audit committees reduces EM. Their observations may be due to the weak role of the audit committees in Malaysia. Moreover, their study sample is small in comparison to other research.

Zalata et al. (2018) used data from US companies from 2007 to 2013. They examined the link between the audit committee's financial expertise and AEM. They found that a percentage of financial expertise on the audit committee mitigates AEM. However, the relationship was further analysed using multiple regression; the finding revealed that the percentage of the female experience on the audit committee has a negative relationship with AEM. On the other hand, there is no evidence of an association between male expertise on the audit committee and AEM.

Lin et al. (2006) maintain that there is no negative association between audit committee expertise and EM. Their observations might also be unreliable as their sample only considered a small sample of data from just one year. Katmon and Al Farooque (2017) used data from UK firms for the years 2004-2008. The observations revealed an insignificant association between audit committees' expertise and EM. However, Carcello et al. (2006) observed a positive relationship between audit committee financial expertise and REM. Basiruddin (2011) stated a positive relationship between audit committee financial proficiency and the extent of EM.

3.3.3. OWNERSHIP STRUCTURE AND EM

Previous studies have suggested that agency problems take place in two ways: vertical agency challenges, which take place between owners and managers, and horizontal agency challenges, which take place between majority and minority owners (Shleifer and Vishny 1997). A majority of the studies carried out in the domains of finance and economics have focused on corporate ownership structure decisions, which reveal attempts to reduce agency challenges between various stakeholders (Jensen and Meckling 1976). The disparities in corporate governance methods within different countries and various ownership structures play an essential role in augmenting corporate governance techniques (Wei 2007). Alternatively,

focused ownership contributes to augmenting the quality of corporate governance methods. A brief review of the present literature examining the association is given below.

3.3.3.1. MANAGERIAL OWNERSHIP AND EM

The majority of previous studies concluded that shares held by managers would lead to a suitable coalition of interests (Peasnell et al. 2005). Managerial ownership might not lead to allied interests of management and shareholders, as managers might focus on augmenting their profits by making use of insider information (McConnell and Servaes 1990). Hence, higher extents of ownership by managers might lessen the monitoring of management deeds, which might negatively impact the procedures of EM.

A greater number of shareholders has the prospect, resources, and ability to monitor, and impact, directors (Cornett et al. 2008). Reduced managerial ownership has enhanced enticements to manipulate accounting figures to reverse or alleviate the behavioural precepts imposed in accounting-based settlements (Warfield et al. 1995).

Previous studies of the impact of managerial ownership on EM have a difference of observations on whether the association is positive or negative (Ruan et al. 2011, Biger and Hoang 2008, Banderlipe and Mc Reynald 2009, Idris 2012 and Mitani 2010). Alves (2012) used data collected from Portuguese firms and observed a negative association between managerial ownership and the extent of AEM. A study carried out by Habbash (2010), using the data from 471 UK firms spanning the period between 2003 and 2006, found that ownership structures have a negative effect on the extent of EM. Rebai (2011) also investigated the effect of managerial ownership concerning the REM. His findings concluded the links were significantly negative.

Nevertheless, the observations from the study by Isenmila and Afensimi (2012) also revealed a positive, considerable link between managerial ownership and EM. Furthermore, Klein (2002) used a sample of 687 companies in the US and observed a positive association between managerial ownership and EM. Hsu and Koh (2005) used the data from Australian companies, based on a sample of 201 companies for the period between 1993 and 1997. They suggested that managerial ownership is linked to income-reducing AEM but negatively linked to income-increasing AEM. Teshima and Shuto (2008) highlighted that there is a significant link between managerial ownership and AEM. Yang et al. (2008) show that there is a positive relationship between directors' ownership and AEM. In another research by Limpaphayom and Manmettakul (2004) conclude that there is a positive relationship between managerial

ownership and discretionary accrual as a proxy for EM, using a sample of listed companies in Thailand for the period from 1998 to 2000 which involved 207 firm-year observations.

Nevertheless, Almasarwah (2015) asserted there is an insignificant relationship between managerial ownership and the extent of EM. A study carried out by Peasnell et al. (2005) used data from UK firms and found no evidence to support the presumption that managerial ownership is related to the extent of EM. Demers and Wang (2010) stated that there is no significant relationship between managerial ownership and EM. Bos et al. (2013) showed that there is a non-linear association between managerial ownership and AEM in the UK. Alghamdi (2012) observed managerial ownership is expected to reduce the EM less in Saudi Arabia. Moreover, recent research by Spinos (2013), using US data spanning the period between 2004 and 2009, observed that there is an insignificant relationship between managerial ownership and EM. Overall, the study concluded that corporate governance is negatively associated with EM, thus evidencing that corporate governance is playing a major role in overcoming this issue. Therefore, they may be less willing to report losses or decreases in earnings.

3.3.3.2. INSTITUTIONAL OWNERSHIP AND EM

institutional ownership has the prospect, resources, and capability to monitor managers. It was challenged in a study that ownership structure is a significant technique impacting the structure of corporate governance systems, as it delineates the quality of agency problems (Konijn et al. 2011 and Salancik and Pfeffer 1980). Haniffa and Cooke (2002) disputed that ownership structure gauges the extent of monitoring over managers and, thereby, the quality of corporate governance.

A number of previous studies have shown that institutional ownership has a negative impact on EM. (Rajgopal and Venkatachalam 1999, Bushee 2001, Charitou et al. 2007, Hsu and Koh 2005, Park and Shin 2004 and Osma and Noguer 2007).

The study by Ajay and Madhumathi (2015) used the data from 393 Indian firms spanning the period 2008–2013; this indicated that companies with greater institutional ownership have lower levels of AEM. Furthermore, Velury and Jenkins (2006) collected data from 4,238 US firms, spanning the period between 1992 and1999, and concluded that there is a positive association between institutional ownership and earnings quality. Cornett et al. (2007) suggest that institutional ownership decreases the extent of AEM. Cornet et al. (2008) noted that EM is considerably lessened by institutional ownership, by making use of the top 100 US companies. Hassan and Ahmed (2012) concluded that there has been a negative relationship

between institutional ownership and EM, based on data from Nigerian firms spanning the period from 2008 to 2010.

Hadani et al. (2011) indicated that the highest levels of institutional ownership have no relationship with an organisation's EM. Elghuweel (2015) noted a negative relationship between institutional ownership and EM, by making use of the data of Omani firms in 2002.

Koh (2003), however, used a sample of 836 non-financial Australian listed companies during the period between 1993 and 1997. He observed a positive relationship between institutional ownership and EM. Almasarwah (2015) noted that a greater percentage of institutional ownership could possibly augment EM. Isenmila and Elijah (2012), based on samples from Nigeria, found a considerably positive association between institutional ownership and EM.

A practical explanation for this outcome might be that most institutional stakeholders are short-term investors as there is a deficit of protection that does not provide sufficient monitoring. Al-fayoumi et al. (2010) inspected the effect of managerial ownership on EM by using the data of firms listed on the Amman stock exchange in the period of 2001–2005. They asserted that there is an absence of any association between managerial ownership and EM.

Overall, it can be seen that the power of institutional shareholders emphasises the extent of mean stakeholders playing a major role in monitoring and reducing opportunistic management behaviour such as EM techniques.

3.4. SUMMARY

Chapter three reviewed those empirical studies which were relatively close to this study. This study divided this literature into four sections. Since this study used data from the UK and Indian capital markets, it was undoubtedly important to start this chapter with a brief review of Trade-off between AEM and REM.

In the second section, it explored the role of the effectiveness of board characteristics on EM. The third section presented a review of the effectiveness of audit committee characteristics on EM. In the fourth section, we explored the effect of ownership structures on EM. These sections will be employed to help the further processes of this thesis.

For instance, as mentioned before, Shen and Chih (2007) and Cornett et al. (2009) demonstrated that good corporate governance could reduce the level of EM, implying a relationship between these two items. In contrast, Abed et al. (2012) indicated that corporate governance has a weak effect on EM. This evidence can assist in developing the thesis' aim to investigate whether a relationship between AEM and REM on the one hand, and corporate governance and the trade-off between AEM and REM, on the other hand, exists or not. Moreover, this chapter also introduces some prior literature, which investigates the important specific items of corporate governance.

CHAPTER FOUR: THEORETICAL FRAMEWORK

4.1 INTRODUCTION

Chapter Four will present a theoretical framework for the development of corporate governance, embracing such factors as regulation, culture, religion, and ownership structure. Principals and agents must balance an intricate relationship between agency, empowerment, stewardship, and responsibility. Agents are motivated by the nature of their relationship with their principals. They can help improve performance. However, factors can lead to manipulations of reported results that do not improve performance (Albrecht et al. 2004). The theoretical framework will need to link original expectations to what was finally discovered. The theoretical framework may need to be refined modified or even rejected if it is challenged by what is found. The theoretical framework must relate corporate governance to the practice of manipulation of reported results to distort reported earnings (Dean and Clarke 2003). The starting points for the development of a theoretical framework will be institutional theories and agency theories.

4.2 THEORIES OF CORPORATE GOVERNANCE

Theories of which framework is relevant to corporate governance vary from country to country (Mallin 2007). Theories include agency theory, information asymmetry stakeholder theory, stewardship theory and institutional theory (Mallin 2007). These theories differ mainly in their approach to property rights and corporate objectives (Hoque 2006).

Agency theory concentrates on the relationship between principals (owners) and the agents (managers) to whom the principals give authority to act and make decisions which benefit the principals. Under stewardship theories, managers, as stewards, are motivated by reasons other than say-interest, to act in the best interests of the owners (Clark, 2004). Stakeholder theory expects corporations to behave in a manner which is socially and economically responsible, yet also beneficial. Institutional theories are more concerned with organisational change and accounting practice. Mallin (2007) argues that, in general, useful theories need to map corporate governance, agency, and institutional theories and the hegemony of stakeholders and managers. In particular, she argues that directors see themselves as the elite at the top of the firm and that existing directors recruit and promote new directors according to how well new appointments will fit in with their elite (Mallin, 2007).

Corbetta and Salvato (2004) agree that boards "increasingly to perpetuate elite and class power, rather than provide genuinely diverse resources and insight".

Despite the fact that the literature review in chapter three found no consensus on the best theoretical base to use to underpin corporate governance. The literature review did uncover many studies, which had employed agency theories in their examination of the relationship between mechanisms of corporate governance and the manipulations used by managers to distort reported earnings, allegedly to serve their own interests.

4.2.1 AGENCY THEORY

The interrelation between the principal and agent depends on agency theory. The background for agency theory activities is offered by segregating the proprietorship from the organisation in new business. The proprietorship is distributed through stakeholders where they do not participate in the organisation's management.

Thus, managers were employed to administer the organisation's routine activities in these cases. There are possibilities of conflicts arising between the owners and managers because of the differences between proprietorship and leadership, which leads to explaining these disagreements, which are connected with cost (Jensen and Meckling 1976 and Eisenhardt 1989). The agents are inspired by individual benefits; they start working by manipulating for their personal welfare without thinking of stakeholders' benefits or of increasing the profits of the stakeholders. This is the major foundation of agency theory. Agency theory focuses on the major difficulty that agents have with shareholders, that they seek the benefits of stakeholders besides their personal aims. The beginning of the agency issues, as discussed by Eisenhardt (1989, p. 58), is that "The goals of the principal and agent conflict and it is difficult and costly for the principal to verify what the agent is actually doing". The inability of owners to supervise the manager's productivity leads to conflicts (Jensen and Meckling 1976). The company's expenses increase, including expenses related to outsourcing, choices of agents, which lead to financial loss, and the expense of monitoring and supervising the managers' activities because of the self-centered nature of the mangers. The profitability of the organisation is affected by these activities, as stated by Leuz et al. (2003).

Therefore, incentives introduced by the management, which supervises the revenue generated by the organisation, which can fulfill or exceed the expected revenue and the increments, are coupled with revenue of the organisation. Agents are not trustworthy. The company requires an approach, which segregates the decision control from the decision management, this will

minimise the cost for the organisation as a result of proprietorship and management separation, as stated by Fama and Jensen (1983, p.309). By using this method of organisation, expenses can be minimised by regulating the management's power and assuring the benefits of the stakeholders.

This can be seen in the Corporate Governance system. The opportunistic activities of the management can be restricted by the process of corporate governance and implementing the corporate governance process both inside and outside the corporation can diminish the expenses of the company, as asserted by Fama (1980), Fama and Jensen (1983b) and Williamson (1988). That the expenses of the company can be minimised by the corporate governance process is also accepted by McKnight and Weir (2009).

The fundamentals of governing the company by different internal and external processes are offered by the agency theory (Weir et al. 2002 and Roberts et al. 2005). The process of governing is devised to assure the grouping of both the owner's and the agent's benefits; stakeholder benefits are protected, thereby reducing the company expenses (Davis et al. 1997, p.23).

The main aim of corporate governance is not to enhance the productivity of the corporation directly; however, the company's issues are solved by overseeing the managerial activities and evaluating the economic reporting mechanism; this was upheld by the statements of Demsetz and Lehn (1985). The process of corporate governance is capable of diminishing the company expenses and protects the benefits of the stakeholders by supervising the actions of management so that the benefits of both the management and stakeholders are coordinated.

The process included in corporate governance is the auditing board; members of the board allow stakeholders to regulate the agent's activities carefully. The self-centered nature of the agent can be favoured like increasing the earning by poor management. However, successful supervision of the company can be achieved by corporate governance, which diminishes any dishonest attitude. Utilising agency theory as a model, which narrates the reduction of EM by corporate governance, is a proper method for the present research.

4.2.2. INFORMATIONAL ASYMMETRY

The main issues in an organisation's communication are the informational asymmetry between the agents and stakeholders, which is indicated in the ideas behind of agency theory. The owner and the agent can get into a sensible relationship where the agents, who possess the ability to complete activity when the owner is incapable of an activity, can do it more cheaply (Clark

1985 and Saam 2007). Competence, motivation, skill and agent activities cannot be supervised without spending a greater amount of money, which results in informational asymmetries. However, the owner requires this data to remunerate the managers based on their performance. Agency theory believes that asymmetry information supports the managers (Saam 2007).

Ethical risk issues may arise in informational asymmetry. The invisible activities are connected with ethical risk issues when the managers follow their aims regarding incentives. The agents can outsource and indulge in abnormal work, do less work or claim to be working effectively in ways, which cannot be examined by the owner (Saam 2007, Voigt 2011 and Fama and Jensen 1983b). Furthermore, agents can possess certain valuable information and skills, which give them advantages they can exploit. Thus, the owners have placed information asymmetry in a non-beneficial place (Voigt 2011 and Schillhofer 2003). The information asymmetry can be reduced by the corporate report when it is controlled effectively; this is commonly considered a corporate governance process. Without this, agents can use the corporate report to maximise information asymmetry by providing data, which misleads the stakeholders' and funding partners' view of the company.

Management revenue is a risk associated with ethics where the agents can exploit the information asymmetry thus affecting the stakeholders' opinions of the company's worth. The agents are believed to be self-inspired, according to the agency theory, therefore there are possibilities to utilise EM to extend the information asymmetry by taking advantages of other people's viewpoints to accomplish their own goals. This shows that the funding partners are misguided by the agents in order to realise their management's personal benefits (Beneish 2001). The agents are using the increment through EM where they cleverly plan for a bonus, which increases their remuneration; this was found through the experimental study of Healy (1985). Agents can make use of the increment earnings of management, which impacts the company's market value; this was confirmed by the further studies conducted by Sloan (1996) and Collins and Hribar (2000).

A clear incremental abnormality in the economic market has been discovered by these writers; magnifying the continuity of increment earning elements by the market and thereby paying agents more (Bergstresser and Philippon 2006). This implies that the funding partners are overconfident, and they are not able to detect the misleading reason behind in increment earnings. The funding partners are innocently speculating the pre-issue earnings by not completely understanding the shrewd influence of the incentives earned, as stated by Teoh et al. (1998). The stakeholders cannot supervise the agent's activities because of the high-level

asymmetric information, which provides flexibility for the agents to misuse foresight in the economic report.

This was additionally debated by Jiraporn et al. (2008). The analysts' earnings errors and the dispersion of analysts' earnings are used by the writers as a precautionary step for information asymmetry. The institutional investor is gradually acquiring more shares in a company. Thus, the information asymmetry that exists between the agents and stakeholders will be eradicated because the institutional investors are experienced and make better decisions than just one partner thereby the level of EM will be reduced; this has also been debated by Al-Fayoumi et al. (2010).

4.2.3. STEWARDSHIP THEORY

The benefits of the firm's management and stakeholders are linked to each; this is the basis of stewardship theory and is in contrast to agency theory (Albrecht et al. 2004). It is believed that management is loyal as far as their benefits are linked to the company and shareholders. The expense for supervision is not required because the management will not profit from a self-centered attitude.

The members of management and administrator's heads were good to improve the stakeholders' assets by providing a friendly atmosphere to execute the business operations and gain proficiency in business functionalities under the theory of stewardship. The administrative heads perceive the responsibility of board members, especially the CEO, as a complementary device rather than a supervisory body within the management process (Albrecht et al. 2004). However, the stakeholders believe that loyal management may be drawn into a situation where they can become involved in wrongful activities (Albrecht et al. 2004). Choo and Tan (2007) they facilitate a suitable environment for the management to act on their own initiative and follow their self-interest because their interests may not be compatible with that of the stakeholders in certain situations.

The description of management attitude instead of conflicting perception (Muth and Donaldson, 1998) can be demonstrated by both the agency theory and stewardship theory, as claimed by Clark (2004). The pros and cons of the executive board's dualism and productivity cannot be explained adequately by ignoring the stewardship theory while describing the agency theory, and vice versa. There is a similarity between the stewardship and agency theories in the ideology of identification, motivation, and use of power in spite of disagreement (Clark 2004).

This dissertation supports the stewardship theory, where it provides another approach, which describes the favourable consequences of corporate governance in an economic report.

Thus, the supervision of management by the directors is aided because the director acts as a guarantor to protect the benefits of the stakeholders. The deceptive plan to generate additional earnings for the management is reduced by a high degree of supervision, thus advocating the unfavourable link of corporate governance with the managements' additional earnings.

In summary, stewardship theory attempts to find explanations and results in the principal-agent relationship where agency theory seems looking or unhelpful. Stewardship theory is a social psychology model of managerial behaviour and motivation (Clark, 2004). Common distinctions between agency theory and a stewardship theory of motivation, identification, and power, are presented by Clark, (2004).

Table (4.1) DIFFERENCES BETWEEN STEWARDSHIP AND AGENCY THEORIES

	Agency theory	Stewardship theory
Behaviour	Individual	Collective
Motivation	Extrinsic value	Intrinsic value
Governance	Monitoring	Trust
Time frame	Short term	Long term
Power	High power	Low power

Source: Based on Davis et al. (1997) and Sundaramurthy and Lewis (2003).

4.2.4. STAKEHOLDERS THEORY

There are requirements for theoretical views, as a result of previous criminal acts by companies, to completely understand the complex nature of the corporate governance process and, also, the reason behind it for additional EM. The connection between the stakeholders (principal) and the management (agent) is only understood by comparing the agency and stewardship theories. At the same time, however, the stakeholders' theory is engaged in a range of elements rather than focusing on a single community and it is not less significant when compared to

principal rights (Mallin 2004). The social group anticipates a corporate attitude towards social or economic advantages, which is the idea in this theory.

Lee et al.'s (2012) explanation of poor management, where they do not allow the general part of company's activities, also asserted that the current crimes have not created any serious consequence for the individual investor, but they have affected individual partners. The partners thus encourage the various models of corporate governance and the supervising process. Thus, an important role is played by a partner who remains independent of the directors in influencing the administrating process (Mallin 2004).

The connection between the partners and the company must be flexible so the issues can be curbed, as advised by Alpaslan (2009). Thus, the framework of partnership can be more advantageous to the corporate governance framework of the company during a complicated situation, in spite of difficult conditions. Hence, the organisation must consider the benefits and needs of all partners and manage them fairly. The agency theory is useful in clearly explaining the immoral exercise aspects of accounting and economy problems, whereas the stakeholder theory is helpful in describing the immoral activities that may harm workers, investors, financiers, society, and government. This was confirmed by Culpan and Trussel (2005).

The connection of the stakeholder theory with additional management earnings is introduced by Hoque (2006). He demonstrated that enhancing personal benefits, which is done by managers to gain additional earnings, occurs by exploiting the money of investors and other partners. The study of the relationship of corporate governance with managements' additional earning benefits from looking at both agency and stakeholder theories. The partners can supervise their agents by providing their sources so that the agents' demands can be met; this was proposed by the agency and stakeholder theories. The companies' partner management was linked with better corporate governance, quality of additional earnings and low additional EM as discovered by Mattingly et al. (2009).

In summary, the combination of agency and stakeholder theory is possible to envisage a responsibility of management to mitigate information asymmetry in order to safeguard the interests of multiple stakeholders.

Table (4.2) DIFFERENCES BETWEEN STAKEHOLDER AND AGENCY HEORIES

	Agency Theory	Stakeholder Theory
Objective	Maximise wealth of shareholder	Multiple objectives; different parties have different interests
Governance structure	Managers as agents of the shareholders	Team model
Governance	Monitoring	Coordination, cooperation and conflict resolution
Performance metrics	Shareholder value	Fair distribution of value
Residual hazard holder	Shareholders	All Stakeholders

Source: Ayuso and Argandoña (2009)

4.2.5. INSTITUTIONAL THEORY

The institutional theory originated within management studies and social science. It also appears in accounting literature (Scott, 1995). The institutional theory attempts to model economic phenomena within an environment that comprises social, political, cultural, religious, civil and technological factors.

The institutional theory provides a complementary approach to both stakeholder theory and legitimacy theory (Clark, 2004). It offers mechanisms by which governments may seek to align perceptions of their practices and characteristics with prevailing social and cultural values in order to obtain legitimacy (DiMaggio and Powell, 1983). According to the institutional theory developed by DiMaggio and Powell (1983) firms, embrace rules or practices because of "coercive", "mimetic" or "normative" isomorphism. Coercive isomorphism occurs when organisations change their institutional practices solely due to pressure from stakeholders (Meyer and Rowan, 1977). Mimetic isomorphism occurs when organisations try to imitate institutional practices of other organizations to achieve a competitive advantage in terms of legitimacy (DiMaggio and Powell 1983).

The final isomorphism is normative isomorphism, which models' pressure from groups to adopt praise-worthy institutional practices (DiMaggio and Powell 1983 and Clark 2004), such as presenting recognised standards. According to NIS theory, the role of corporate governance

is to change organisational processes over time “fulfill ritualistic roles that help legitimize the interactions between the various actors within the corporate governance mosaic” (Cohen et al. 2008). The institutional theory presents a picture of corporations that elucidate and define their goals to accommodate the expectations of their environment (Judge et al. 1985). Therefore, according to institutional theory, corporate governance should demand to define the managerial aims of the corporation in the situation of an existing value system within companies. The institutional theory claims that historical, social and political issues are relevant to the adoption or rejection of new systems of the regulation (Cohen et al. 2008). Thus, corporate governance as a new system will succeed in the area where there is a broad similarity between the new instructions and current routines in the corporation (Yazdifar 2003).

Stedham and Beekun (2000) declare that allowing for institutional theory, the board of management has two main roles: relationship and administration. In the linkage role, the board of management is interested in creating a relationship between the corporation and the external environment in order to enhance legitimacy share value; while, in the administrative role, the board of directors is increasing share value by enhancing the performance of top management, in particular, the CEO. The linking roles and the administrative role may conflict, where management practices are adopted regardless of their effectiveness (Saudagaran 1997). When organisations apply effectiveness, mimetic isomorphism causes best practices to become more similar over time (Braiotta and Zhou 2006, DiMaggio and Powell 1983 and Cohen et al. 2008). Therefore, the use of both structures as a framework might be helpful in extending the understanding of corporate governance and board purposes. Allowing for institutional theory, EM incentives may be impacted by formal or informal compression, and variation may be created by an administration in order to model itself on other groups.

Kury (2007) concluded that institutional theory delivers the best perception for examining EM practices. He offers the institutional argument to describe how EM is helpful to comprehend the view of agency theory. He further proposes that visions for EM comprise the combination of agency and institutional theory viewpoints to obtain a more complete understanding of the behaviour and the posting of a field of earnings management.

4.3. SUMMARY

This chapter has reviewed the relevance of several theories in corporate governance and trade-off between AEM and REM research. The argument has discovered that there is no one specific theory emerges which can fully elucidate the practice of corporate governance in relation to management manipulations that distort reported earnings. Several theories in corporate governance such as Agency theory, stewardship theory, information asymmetry, stakeholder theory and institutional theory (Mallin, 2004). The relationship between principals and agents is ambiguous in the UK and India because of the lack of research into the motivations of managers who manipulate reported earnings. Agency theory was the final pragmatic choice.

Agency theory expects that the board of managers and its committees will enhance the honesty of their financial reporting by monitoring managers (Peasnell et al. 2005). Presnell prediction will be tested empirically. Institutional theory recommends that companies might adopt performances or rules as a result of coercion from legislators (Stedham and Beekun 2000) Institutional theory and agency theory appear complementary. Accordingly, hypotheses will be formulated and tested based on agency theory, and institutional theory will be used to interpret the test results.

Agency theory and institutional theory are the most used theories in discovering EM practices. However, agency theory and institutional theory alone may not be sufficiently accomplished to adequately describe or justify the incentives and methods of earnings management; thus, convergence between agency theory and institutional theory may be helpful, since institutional theory also provides a precise interpretation of EM practices.

Stedham and Beekun (2000) suggest that institutional theory and agency theory are complementary approaches to corporate governance. Consequently, using both as a framework might be supportive in deepening the understanding of corporate governance and board functions. Therefore, hypotheses will be formulated based on agency theory; however, institutional theory will be used in the interpretation of findings if they are necessary as interpretations complementary

CHAPTER FIVE: RESEARCH HYPOTHESES AND RESEARCH METHODOLOGY

5.1. INTRODUCTION

After discussing the theoretical framework and presenting a review of literature in the preceding chapter, which presented the theories relevant to this study, the research design and methodology used to test the hypotheses developed in Chapter 3 will now be discussed. As mentioned previously, this study aims to obtain impact corporate governance on the trade-off between AEM and REM. in the UK and India. The aim of this chapter is to review the formulation of the research hypotheses based on theoretical and empirical literature is discussed in section two and the research methodology used. In addition, this study discusses the sample selection and data collection. The chapter is organised as follows:

Section 5.2 presents a Hypotheses Development. 5.3 presents a Research Design. Section 5.4 presents and discusses a Sample Selection and Data Collection. Section 5.5 contains the Measurement of Dependent Variables. Section 5.6 contains the Measurement of Independent Variables. Section 5.7 contains the Measurement of control variables. Section 5.8 describes the empirical Research Model. Section 5.9 presents and discusses Analytical Procedures. Section 5.10 contains Multivariate Analysis. Finally, Section 5.11 contains the chapter summary.

5.2 RESEARCH HYPOTHESES DEVELOPMENT

A hypothesis is formulated to fill the gap between the more abstractly stated research problem and purpose and the detailed design for analysis and data collection. Moreover, a hypothesis is a formal statement of the estimated relationship between two or more variables in a specified population and it interprets the research problem and purpose into a clear justification for, or prediction of, the estimated results of the study.

This study includes four sets of hypotheses. The first set represents the trade-off between AEM and REM. The second set represents the board characteristics and AEM and REM. The third set represents the audit committee and AEM and REM. The last set represents the ownership structure and AEM and REM.

5.2.1 HYPOTHESES DEVELOPMENT OF THE TRADE-OFF BETWEEN AEM AND REM

As discussed in Chapter 3, EM is an important topic which contributes to effective financial reporting. Thus, this section develops the arguments for the hypotheses of the study which relate to the relationship between AEM and REM.

the costs and constraints of each method are taken into account when deciding on which EM process is carried out. If the costs involved in using a particular method for EM are high, then there is a possibility that management will opt for a less restrained substitutionary method to manipulate the earnings.

A study by Zang (2012) and Abernathy et al. (2014) confirm that if a strategy of EM is costlier and constraining, then the managers will concentrate their attempts on finding other strategies of manipulation having lesser restraints and costs. On one hand, the managers can consider choosing AEM strategies, yet they can also consider REM methods. Nevertheless, the manipulation of earnings is not limited to being either AEM or REM.

Barton (2001) claimed that there is a substitute association between AEM and REM when he investigated a sample of non-financial, non-regulated fortune 500 US companies. Likewise, Pincus and Rajgopal (2002) observed a substitute relationship between AEM and REM by assessing the organisations that mainly deal with the oil and gas sector in the USA. However, Zang (2012) provided evidence from the perspective of the USA. She employed the modified Jones model (1995) to check for AEM, and for REM she used Roychowdhury's (2006) model. She considered how directors choose to substitute between AEM and REM. She further argued that REM decisions are usually made in the early part of the financial year, whereas AEM decisions are taken at, or after, the end of the fiscal year.

They further explained that the cost of AEM includes a possible penalty in the proceedings and the analysis of managers and auditors. Doukakis (2014) argues in agreement with this, stating that accounting options are based on the analysis of the auditor. However, REM decisions are less likely to be reviewed by the auditors. This supported the observations made by Zang (2012) in showing an inclination of managers to switch between AEM and REM around SEOs. Nevertheless, it was noted that there was a decline in the performance of REM as compared to AEM around SEO.

Das et al. (2017) conducted research into 673 listed non-financial Indian companies for the period 2009–2013. The outcomes propose that Indian firms consider both the approaches, with a considerable inclination towards AEM. Chi et al. (2011) observed that the companies are less likely to choose AEM if expert auditors audit them, as their ability to manipulate AEM will be constrained. Furthermore, Badertscher (2011) observed that overrated companies switched from AEM to REM, as they did not have many AEM options to support their overrated equity. Fan et al. (2010) found that AEM is restrained by positive reporting in earlier times. McInnis

and Collins (2011) confirmed that AEM reduces due to the estimation of cash flow by trade analysts. Therefore, this study examines whether UK and Indian firms do substitute AEM for REM. Consequently, the first hypothesis is as follows:

H1: Firms use REM and AEM methods as substitutes.

5.2.2 HYPOTHESES DEVELOPMENT OF THE BOARD CHARACTERISTICS AND EM

Board characteristics is a very important aspect of corporate governance, given the complex nature of financial reporting. This section will discuss the development of the next hypotheses for the relationship between board characteristics and the trade-off between AEM and REM. Agency theory expects boards to enhance financial reporting by monitoring the behaviour of managers, those behaviours that affect reported performance, financial disclosure, and tasks delegated to the boards' sub-committees (Vafeas 2005).

5.2.2.1. BOARD SIZE AND EM

Board size is considered another essential constituent in board characteristics, which might affect the practice of EM. Agency theory assumes that a bigger board size might result in lesser manipulation that distorts the accounted earnings (Fama and Jensen 1983 and Jensen and Meckling 1976). Previous research on corporate governance specifies that altering the board size affect its independence and efficiency (Elshandidy and Neri 2015 and Guest 2009). Oversize board size could negatively affect board effectiveness because of correspondence and coordination issues related with bigger gatherings. Larger than average boards may have lower levels of inspiration and fulfillment because of absence of participation in their decision-making (Ebrahim and Fattah 2015).

Goodstein et al. (1994) and Jensen (1993) assert that a small board size, consisting of around four to six members, might be able to make better decisions and monitor the behaviour of the CEO. Haniffa and Hudaib (2006) found that small board size is preferable as, according to them, monitoring and decision-making become easier with a smaller board.

Other viewpoints disputed that smaller boards would be successful in monitoring the actions of top management (Zahra and Pearce 1989). However, most research states that bigger boards, having wide expertise, can develop enhanced monitoring and thereby lessen the occurrence of EM (Peasnell et al. 2005). A reasonable explanation of this viewpoint is that smaller boards are dominated by the senior executives, whereas bigger boards have members from various

positions. Yermack (1996) proposed that a bigger board size does not limit the speculatory behaviour of the managers, and that increasing the board size does not control the opportunistic behaviours of managers, which distort the accounted earnings. This could be because a bigger board size might create challenges of communication and harmonisation (Beasley 1996). Ntim and Soobaroyen (2013) indicate that larger boards were more competent in identifying the opportunistic activities of managers who distorted reported earnings, as bigger boards have diversity in competency, knowledge, independence, and expertise to solve problems.

Adversaries of the bigger size of the board's argument that they showed a lack of harmony and communication amongst members. For instance, Rahman and Ali (2006), Obigbemi et al. (2016) and Gonzalez and González and Garcia-Meca (2014) found that there is a positive link between EM and board size.

Overall, the prior studies emphasised the strength of corporate governance in constraining the tendency of managers to manage the earnings of companies. This may recommend that regulators identify the importance of board size as internal corporate governance. Following the mixed practical and theoretical recommendations, the study expects a significant relationship between board size and the trade-off between AEM and REM without specifying the direction of the coefficient. Thus, the second hypothesis proposed in this study is:

H2: There is significant relationship between the board size and trade-off between AEM and REM.

5.2.2.2. BOARD MEETINGS AND EM

Board meetings are another key characteristic of effective monitoring of the financial reporting process. In this section, board meetings are another key characteristic hypothesis of the effect of board meetings on the trade-off between AEM and REM.

That the board of directors should conduct regular meetings to achieve their responsibilities was recommended (Conger et al. 1998). It is broadly considered that the regular attendance of directors at the time of board meetings reflects their diligence in their duties (Sonnenfeld 2002). As a result, such a regular board meeting might improve the performance of corporates. In contrast to this, the study of Donaldson and Davis (1991), considered frequently conducted board meetings might not improve the performance of corporates. Similarly, the study of Vafeas (1999) stated that recurrent board meetings might negatively influence the profitability of corporates since they can increase the agency costs, especially meeting and traveling costs.

According to Lipton and Lorsch (1992), frequent board meetings may decrease the time which non-executive directors can efficiently spend monitoring insider directors.

Some provincial researchers have also conducted research into the effect of board meetings on EM, be it positively, negatively or insignificantly (Sarkar et al. 2006, Alghamdi 2012 and Almasarwah 2015). According to the study of Xie et al. (2003), boards that conduct meetings for the main purpose of discussing the issues of EM was found among 282 firms. They concluded that EM is negatively and significantly related to the number of board meetings. Similar, in a study by Bin-Muhamed (2013), a significant and negative relationship was noted between EM and the number of board meetings in the firms of Bursa Malaysia during the period of 2004 – 2008.

Habbash (2010) conducted a study, which showed the insignificant relationship between the number of board meetings and EM in a sample of the top 350 firms listed on the (LSE) for the period 2003-2006. Similar to this finding, Katmon and Al Farooque (2017), Marrakchi et al. (2001) and Kent et al. (2010) stated an insignificant association between AEM and board meeting frequency. A recent study by Singh et al. (2017), in India, reported an insignificant relationship between the frequency of board meetings and AEM. Their study mainly explained that this association at first is a corporate governance weakness: the board has fewer meetings and, secondly, the skills and education of directors on the board is less (Vafeas 1999).

Thus, there is mixed evidence in terms of the association between EM and the number of board meetings in studies of both developed and developing economies. Consequently, firms would prefer REM over AEM since REM activities could be masked in the form of everyday transactions to avoid being detected. Based on this argument, the following hypothesis is stated:

H3: There is no significant relationship between the larger frequency of board meetings and trade-off between AEM and REM.

5.2.2.3. BOARD INDEPENDENCE AND EM

Board independence is another key characteristic of effective monitoring of the financial reporting process. In this section, hypotheses of the effect of board independence on the trade-off between AEM and REM.

Supporters of the agency theory, Fama and Jensen (1983) and Brickley et al. (1994), argue that independent directors might decrease agency costs and increase organisational performance.

They assert that the independent directors can monitor and control the activities of the organisation and decrease the opportunistic behaviour of the managers and appropriation of organisational resources.

In general, a huge number of researchers have documented a negative relationship between independent directors and EM, hence supporting agency theory. Xie et al. (2003) observed that the presence of a large number of independent directors would lead to decreased EM. This was based on data from US companies collected between the years 1992 and 1994. A study carried out by Klein (2002), using data from 687 US firms between the years 1991 to 1993, records a negative relationship between AEM and the number of independent director's present on the board. Similarly, based on the data of Canadian organisations during the years 2001-2004, Niu (2006) observed that the extent of the number of independent members on the board is negatively linked to the extent of AEM. Furthermore, Peasnell et al. (2005), using data from the UK, and Jouber and Fakhfakh (2012), using data from France and Canada, showed that boards with more independent director's leads to reduced EM.

Overall, a large number of prior experimental results have stated that boards with a high ratio of independent directors support the honesty of the financial accounting process and present a better guarantee to stakeholders on the creditability of earnings accounted. Nevertheless, some researchers have reported unusual observations, declaring that board independence might not lead to mitigating EM. Their observations could be different because of the data used, control variables used, and the institutional ownership structure and the corporate governance methods.

Agency theory supposes that the inclusion of independent members on boards of directors will improve boards' ability to monitor management (Young, 2008). However, based on the research results, which show a negative relationship between AEM; and independent directors, it could be hypothesised that independent directors mitigate AEM behaviour, thus leading managers to resort to REM. Therefore, the fourth hypothesis proposed is:

H4: There is significant relationship between the high proportion of independent board members and trade-off between AEM and REM.

5.2.2.4. NUMBER OF FEMALES ON BOARD AND EM

The number of females on the board is an important attribute of good corporate governance as it contributes to the effectiveness of the board function, which affects the company's financial reporting quality. This section will discuss the hypotheses of the relationship between the number of females on the board and trade-off between AEM and REM

Differences in gender are likely to create exclusive information that facilitates the management to take better decisions, as different directors might have access to significant communities in the external environment (Carter et al. 2003). It is a general observation that men are more likely to use unethical means to achieve their goals, compared to women (Hazari et al. 2007). Additionally, Betz et al. (1989) observed that men are more liable, compared to women, to break the regulations in business and abuse organisational approaches with regard to cost reports to gain personal profit.

The studies carried out previously indicate that female board director presents a high level of monitoring actions, reduce agency costs and agreement between balance manager's welfare with that of the investors. A study by Gul et al. (2011) concluded that the female board directors in US companies have high levels of earnings quality. Lückerath-Rovers (2010) found that when a board has at least three female members it leads to better decision-making. The female board directors make it more active and dynamic.

Women are more careful and less assertive than men in several decision-making situations (Byrnes et al. 1999), and are less prone to risks, specifically in taking decisions concerning finances (Powell and Ansic 1997). They also are inclined to act more resolutely than men to augment earnings quality because they are extremely responsive to loss of reputation and the risk of lawsuits (Srinidhi et al. 2011). Omoye and Eriki (2014) noted that the gender difference on the board of directors has a negative impact on EM.

According to a study carried out by Lakhal et al. (2015) inspected the association between gender disparity on the board and EM by using the companies listed on the French stock exchange. They collected data from 170 companies and came to the conclusion that the ratio of females on the board reduces the EM. This result concludes with the fact that the female members on the board are efficient in the monitoring role and more likely to discover the EM. Gavious et al. (2012) and Peni and Vähämaa (2010), reported similar observations that an increased number of female board members is likely to lead to less use of EM practices. In the UK organisations, Arun et al. (2015) used data from the UK FTSE 350 index during the interval 2005–2011. They found that a larger number of females minimises EM.

Awais and Wang (2011), Gulzar (2011) and Shawver et al. (2006), in China, had found a positive relationship between AEM and the presence of female members on the board of directors. A number of female board members might be less willing to report the loss. Thus, an

increased number of female board members may lead firms to engage in a greater extent of AEM and REM. Based on this argument, the fifth hypothesis proposed in this study is:

H5: There is significant relationship between the higher percentage of females on their boards and trade-off between AEM and REM.

5.2.3 HYPOTHESES DEVELOPMENT OF THE AUDIT COMMITTEE AND EM

As discussed in Chapter 3, the audit committee plays a key role in overseeing, monitoring and advising managers on the implementation of internal accounting control systems and on the preparation of financial statements (Arun et al. 2015, Bédard and Gendron 2010 and Sun et al. 2011).

5.2.3.1. AUDIT COMMITTEE SIZE AND EM

Audit committee size is a very important aspect of corporate governance, given the complex nature of financial reporting. This section will discuss the development hypotheses for the relationship between audit committee size and the trade-off between AEM and REM.

The theory of Resource Dependence proposes that the board of a firm offers a number of resources, and additional directors on the board will augment the existing resources of the board (Hillman and Dalziel 2003). Primarily, additional directors on the audit committee might make certain that the board has got the minimum knowledge source (Vafeas 2005). The board provides a number of resources, and a large number of members will augment the principal sources of the board (Habbash 2010). A bigger audit committee can be important in raising the helpful status of the company in the eyes of its internal and external auditors (Braiotta et al. 2010, Abbott et al. 2004 and Vafeas 2005). However, audit committees with a large number of members have greater difficulty arriving at well-considered or insightful decisions and, in this sense, increasing the size may be detrimental to effective control of EM (Jensen 1993 and Yermack 1996). Nevertheless, there is a mixture of opinion, and the conclusions of prior researchers on the relationship between the size of the audit committee and EM differ.

Several studies have also concluded there is a negative association between audit committee size and EM, such as the ones carried out by Almasarwah (2015), Yang and Krishnan (2005), Ghosh et al. (2010) and Saleh et al. (2007). Furthermore, Baxter and Cotter (2009), using a sample of data gathered from Australian listed firms in 2001, had observed that the size of the audit committee is linked to the quality of earnings. Their observations revealed that there is no link between the size of the audit committee and earnings quality. Abbott et al. (2004)

concluded that the size of the audit committee had no considerable effect on the quality of financial reporting. Furthermore, Katmon and Al Farooque (2017) used the data collected from UK firms in the years from 2005 to 2008 and found an insignificant association between the audit committees' size and EM.

Habbash (2010) used the data of 350 top UK firms, covering four years of reporting from 2003 to 2006, and stated that there is an insignificant relationship between the size of the audit committee and the level of EM. A study by Bin-Muhamed (2013), using a sample of listed firms in Malaysia between 2004 and 2008, found an insignificant relationship between the audit committee and EM.

A study by Katmon and Al Farooque (2017) in the UK found that audit committee size has an insignificant effect on EM. In a study carried out by Davidson et al. (2005) on 434 listed Australian companies, they did not observe any relationship between the extent of AEM and the size of the audit committee. However, Saleh et al. (2007) found that there is a positive association between audit committee size and levels of EM.

Therefore, if firms use AEM and REM methods as substitutes and trade off one method for the other depending on the relative costs and constraints of each, then it can be expected that audit committee size would reduce the extent of AEM, thereby leading firms to shift toward REM. Therefore, the following sixth hypothesis has been developed:

H6: There is significant relationship between the large size of audit committee and trade-off between AEM and REM.

5.2.3.2. AUDIT COMMITTEE MEETINGS AND EM

The audit committee meetings are another key characteristic of effective monitoring of the financial reporting process. In this section, hypotheses of the effect of audit committee meetings on the trade-off between AEM and REM.

Page and Spira (1999) asserted that such meetings are ineffective in augmenting financial reporting. Abbott et al. (2000) explained that the companies with very independent audit committees, which hold their meetings only twice a year, had less financial reporting challenges. Inaam et al. (2012) specify that the reduced number of audit committee meetings provide a better chance of detecting EM. Onukwuli (2014) showed that a strong corporate governance mechanism (e.g. audit committee meetings) is linked to the quality of accounting in Jordanian firms during the period from 1997 to 2007. The studies carried out previously to

investigate the link between EM and the number of meetings of the audit committee present mixed opinions.

Visvanathan (2008) found that the number of meetings held by the audit committee reduce the practise of REM in abnormal discretionary expenses. Similarly, Garven (2015) concluded that audit committee meetings have a significant negative relationship with REM, by making use of a sample of US firms during the years 2005 to 2007. Nevertheless, the relationship between audit committee meetings and EM is positively associated, as confirmed by Saleh et al. (2007) and Rahman and Ali (2006). A study by Adel Almasarwah (2015) found that a positive relationship between the number of audit committee meetings and EM, by collecting the data from the Amman stock market over the period 2005 to 2012. Katmon and Al Farooque (2017) used the data of UK firms during the years 2005 – 2008 and found a positive relationship between audit committee meetings and EM.

Even though several studies showed a relationship between audit committee meetings and aggressive EM practices, many other studies were unable to find any association between audit committee meetings and EM (Beasley et al. 2000, Lin et al. 2006 and Bédard et al. 2004).

Katmon and Al Farooque (2017), using the data of UK firms over the period 2004 to 2008, observed that the number of audit committee meetings is insignificantly linked to EM. Furthermore, Alghamdi (2012) illustrated that there is an insignificant link between audit committee meetings and the extent of AEM by making use of all companies listed on the Saudi Stock Exchange. Similarly, Mishra and Malhotra (2016) used a sample of 130 Indian firms and examined them for a three-year duration from 2013 to2015. They did not find any significant relationship between audit committee meetings and AEM. Singh et al. (2017) used a sample of 36 large capitalisation firms listed on the Bombay Stock Exchange for the duration of 2005 to 2015. He found that the frequency of audit committee meeting is insignificantly related to EM.

Thus, there is mixed evidence in terms of the relationship between EM and audit committee meetings in studies of both developed and developing economies. However, firms would prefer REM over AEM. Firms use AEM and REM methods as substitutes and trade-off one method for the other depending on the relative costs and constraints of each. Thus, it can be expected that more frequent audit committee meetings would reduce the extent of AEM, thereby leading firms to shift toward REM. Based on this argument, the seventh hypothesis proposed in this study is:

H7: There is significant relationship between the high frequency of audit committee meeting and trade-off between AEM and REM.

5.2.3.3. AUDIT COMMITTEE INDEPENDENCE AND EM

The independence of the audit committee is another key characteristic of effective monitoring of the financial reporting process. In this section, hypotheses of the effect of audit committee independence on the trade-off between AEM and REM.

Agency theory proposed that non-executive directors are more independent than the executive directors are; hence, they can monitor more efficiently (Fama and Jensen 1983 and Elshandidy and Hassanein 2014). Independent audit committee members, as non-executive directors, might seek to enhance their reputations as experts in decision-making by joining the audit committee (Fama and Jensen 1983). Members of an audit committee might be able to increase the quality of financial reports but if anything goes wrong with the reports, it might affect their reputation (Abbott et al. 2000).

Some of the previous studies suggest a negative relationship between the independence of an audit committee and the AEM level (Puat and Devi 2013, Hamdan et al. 2013 and Amar 2014). A study by Vafeas (2005) reported that the ratio of internal members on the audit committee is related to a lower quality of reporting. The setup of independent board committees is accounted as a significant technique to improve governance performance (Hearn 2011 and Vafeas 1999).

Chang and Sun (2009) show that audit committee independence is significant in restraining EM in the post-Sarbanes–Oxley Act (SOX) period, but insignificant in the pre-SOX period (during the years 2002–2003). Kapoor and Goel (2017) used the data of 297 Indian companies over six years (2007–2012). The outcomes demonstrate a negative relationship between audit committee independence and AEM. Taking a sample of 194 New Zealand companies during 2004-2005.

Nevertheless, previous studies also suggest a positive relationship between the independence of an audit committee and EM. For example, Singh et al. (2017) used a sample of 36 large Indian capitalisation firms listed on the Bombay Stock Exchange for the period from 2005-06 to 2014-15. They observed that audit committee independence is positively related to EM.

Siregar and Utama (2008) chose Indonesian companies on the Jakarta Stock Exchange. Their sample comprised 144 companies and spanned the periods 1995–1996, and 1999–2002, but

they could not succeed in finding any relationship between audit committees' independence and EM.

The conflicting observations of prior studies are not surprising since there are several factors, which might influence the role of the audit committee. These include ownership structure or the prevalence of an audit committee that cannot make sure the skills of the monitoring process or its efficacy to find out and restrain manipulation. However, independent directors on an audit committee incur a higher marginal cost of deviating from optimal business strategies. In this case, managers might perceive AEM as relatively costly since their primary goal is to improve operations. Therefore, independent directors on an audit committee lead to higher AEM and REM Based on this argument, accordingly, the eighth hypothesis proposed in this study is:

H8: There is significant relationship between the high percentage of audit committee independence and trade-off between AEM and REM.

5.2.3.4. AUDIT COMMITTEE EXPERTISE AND EM

Audit committee financial expertise is a very important aspect of corporate governance, given the complex nature of financial reporting. This section will discuss the development of the next hypotheses for the relationship between audit committee financial expertise, and trade-0ff between AEM and REM.

The degree of expertise in the audit committee might lead to an augmentation in the quality of financial reports (Baxter and Cotter 2009). This is in conjunction with audit committee members having the essential qualifications, proficiency certificates, competencies and expertise in accounting and financial issues that would help augment the efficacy of the audit procedures and guarantee the precision of fiscal reports (Hamdan et al. 2013). Xie et al. (2003) confirm that an independent director with a corporate or financial background is experienced with the diverse types of EM. Previous studies believe that the existence of at least one member with financial expertise on an audit committee is effectual in mitigating financial irregularities (Abbott et al. 2004).

Previous literature proposed a negative link between audit committee financial expertise and EM (Badolato et al. 2014, Almasarwah 2015, Baxter and Cotter 2009, Dhaliwal et al. 2010 and Bin-Muhamed 2013). Considering a sample of 300 US firms in the year 1996, Bédard et al.'s (2004) observations report tentatively that audit committees' financial experts are negatively related to AEM. Another aspect that is considered by Lo et al. (2010), based on 266 listed

companies in China in the year 2004, suggests that firms with a higher level of audit committee expertise possibly engage in minimal EM. Research by Qi and Tian (2012) presented investigated that audit committees having expert directors are observed to be highly successful in reducing the extent of EM.

Garven (2015) and Krishnan and Visvanathan (2008) demonstrated a negative association between audit committee expertise and the degree of REM. Nevertheless, based on data gathered from the 97 top companies for a period of two years 2002-2003, Rahman and Ali (2006) found no evidence to support the assertion that the existence of financial experts on audit committees reduces EM.

A study carried out by Mishra and Malhotra (2016) used a sample of 130 Indian firms and researched a period of three years; 2013-2015. The study indicated that the existence of at least one financial expert on the audit committee has no significant effect on EM. Katmon and Al Farooque (2017) used data from UK firms for the years 2004-2008. The observations revealed an insignificant association between audit committees' expertise and EM.

Thus, on the evidence stated by Bédard and Gendron (2010), the effectiveness of financial and accounting expertise in limiting financial reporting abuse is mixed. There are several possible causes for the contradictory outcomes on the efficacy of the audit committee. Possible variables could be the sample size, the tactical method used, duration and place of study. Thus, there is mixed evidence in terms of the relationship between EM and audit committee expertise of both developed and developing economies. Thus, firms would have a preference for REM over AEM since REM activities can be masked in the form of everyday transactions to avoid being detected. Therefore, in line with prior studies, the ninth hypothesis in this study is:

H9: There is significant relationship between the high percentage of audit committee expertise and trade-off between AEM and REM.

5.2.4 HYPOTHESES DEVELOPMENT OF THE OWNERSHIP STRUCTURE AND EM

As discussed in Chapter 3. According to prior research evidence from developed and developing countries, previous studies have suggested that agency problems take place in two ways: vertical agency challenges, which take place between owners and managers, and horizontal agency challenges, which take place between majority and minority owners (Shleifer and Vishny 1997).

5.2.4.1. MANAGERIAL OWNERSHIP AND EM

The arrangement of management and shareholder interests can be increased along with a rise in director's ownership (Jensen and Meckling 1976 and Samaha et al. 2012), and that might restrict the need to take on good corporate governance. Companies with larger managerial ownership will be less accountable to the general public because outsiders (shareholders) in those companies are inclined to have comparatively small interests (Eng and Mak 2003 and Khan et al. 2013). Conversely, managerial ownership might not lead to allied interests of management and shareholders, as managers might focus on augmenting their profits by making use of insider information (McConnell and Servaes 1990). Hence, higher extents of ownership by managers might lessen the monitoring of management deeds, which might negatively impact the procedures of EM.

Veprauskaitė and Adams (2013) also recorded that managerial ownership is negatively related to the financial performance of firms in the UK. A study carried out by Alves (2012), using a sample of 34 non-financial Portuguese firms, also observed a negative link between AEM and managerial ownership. A study carried out by Rebai (2011) also investigated the effect of managerial ownership concerning the REM. His findings concluded the links were significantly negative.

In another research by Limpaphayom and Manmettakul (2004) conclude that there is a positive relationship between managerial ownership and discretionary accrual as a proxy for EM, using a sample of listed companies in Thailand for the period from 1998 to 2000 which involved 207 firm-year observations. A study by Al-Fayoumi et al. (2010) showed that there is a significant and positive relationship between managerial ownership and EM, by collecting data from 195 Jordanian industrial companies covering the period 2001-2005. Additionally, Rauf et al. (2012) used the data collected from 598 Malaysian listed firms, for the period of 2002 and 2003, and concluded that a positive relationship exists between managerial ownership and the extent of EM. Bin-Muhamed (2013) showed a positive association between managerial ownership and EM based on data collected from Bursa Malaysia firms spanning the period 2004 – 2008.

Agency theory advises that high insider ownership provide improved corporate governance structure that leads to a high quality in financial reporting (Sanchez and Meca, 2005). Overall, the studies highlighted the power of corporate governance in constraining the tendency of managers to manage earnings of firms and thus, ensuring the integrity of the financial reporting process. Overall, the study concluded that corporate governance is negatively associated with

EM, thus evidencing that corporate governance is playing a major role in overcoming this issue. Therefore, they may be less willing to report losses or decreases in earnings. Thus, greater managerial ownership may lead firms to engage in a greater extent of AEM and REM. Based on this argument, the tenth hypothesis in this study is:

H10: There is significant relationship between the high percentage of managerial ownership and trade-off between AEM and REM.

5.2.4.2. INSTITUTIONAL OWNERSHIP AND EM

Institutional owners have a considerable role in reducing agency problems, as they are inclined to have a better motivation to monitor the opportunistic conduct of management and reinforce the corporate governance arrangement of their companies (Barako et al. 2006 and Dong and Ozkan 2008).

Marrakchi et al. (2001) noted that firms having an elevated ratio of institutional ownership generally have a reduced level of AEM. Alternatively, an increase in the volume of institutional ownership in the companies could impact the directors and provide them with private contracts at the cost of other shareholders (Ahmed and Duellman 2007).

This shows that instructional ownership is powerful enough to monitor the decisions taken by corporate managers and directors (Ping and Wing 2011 and Rose 2007). Institutional ownership has a considerable role in effecting EM. For example, when institutional stakeholders own a high number of shares of the firms, which would permit them to monitor the company, this would motivate them to augment earnings and fulfil the pre-requisites of institutional ownership (Koh 2003). It is hard for board members to manipulate REM when they have a greater percentage of institutional ownership as there is a greater extent of monitoring. Roychowdhury (2006) concluded a negative relationship between institutional ownership and REM to overcome accounting of negative earnings.

Li and Zhang (2010) found that greater levels of institutional ownership are considerably related to lower levels of abnormal cash flow from operations and raised extents of production expenses.

However, Rahman et al. (2013) found that institutional ownership is not significantly related to EM alternatives. The insignificant effect of institutional shareholders might be credited to the type of institutional stakeholder in the UK. These observations are similar to those in

research carried out by Alghamdi (2012), Rebai (2011), Peasnell et al. (2000) and Peasnell et al. (2005) who state that there is no association between EM and institutional investors. A practical explanation for this outcome might be that most institutional stakeholders are short-term investors as there is a deficit of protection that does not provide sufficient monitoring.

Overall, it can be seen that the power of institutional shareholders emphasises the extent of mean stakeholders playing a major role in monitoring and reducing opportunistic management behaviour such as EM techniques. Alternatively, a large percentage of institutional stakeholders might be effectual, but this is not the case when the institutional ownership share is lower (Cheng and Warfield 2005). Thus, there is mixed evidence in terms of the relationship between EM and institutional ownership in studies of both developed and developing economies. Firms would prefer REM over AEM since REM activities could be masked in the form of everyday transactions to avoid being detected. Based on this argument, accordingly, the eleventh hypothesis proposed in this study is:

H11: There is significant relationship between the high percentage of institutional ownership and trade-off between AEM and REM.

5.3. RESERACH DESIGN

Saunders et al. (2012) offered the research onion model, which is the main influence on the methodology of this research. The research onion model explains metaphorically the way different basics involved in the research need to be tested.

5.3.1. RESEARCH PHILOSOPHY

The first point of any study is to orient a study question to a particular philosophy. Hudson and Ozanne (1998) described ontology as the role of reality, and Carson et al. (2001) defined epistemology as the relationship between this certainty and the researcher. The philosophical attitude of this research is located in the outermost layer of Saunders, onion. According to Saunders et al. (2012) in the outer layer there are four different philosophical types that can usefully be considered: the first is positivism, the second is realism, the third is interpretivism and the fourth is pragmatism.

Positivism: Carson et al. (2001) claim that a positivist ontology will consider the world to be only what is extrinsic, while; Hudson and Ozanne (1988) add to positivist judge that there is only one truth regarding the researcher's experience or finding. Positivist researchers require a

basic and disciplined approach to monitoring research (Churchill, 1996 and Carson et al. 2001). This can be achieved by selecting a clear theme, formulating an appropriate theory and then selecting a suitable method. Carson et al. (2001) believe that numerical methods are paramount in positivist research and that researchers must be participants having no control over the each other.

Positivism: is mainly based on outcomes and seeks to relate cause to effect. Positivist researchers typically emphasise their use of 'scientific method' for proposing and testing theories using measurable structured data. Typically, positivist designs induce large samples of quantitative data, which are subject to statistical analysis.

Realism: Realism is similar to Positivism. Realism asserts that the existence of realism is not dependent on the awareness and the senses of the researcher. Realism researchers worry that researchers can be influenced by their past experience and world view. Philosophers categorise realism in two ways: the first is direct realism and the second is critical realism. Direct realism assumes that an accurate representation can be obtained from what is experienced through the senses. Critical realists believe that what is experienced through the senses is later processed subjectively by the mind. As a result, Saunders et al. (2012) identify that, under this philosophy, the various analysis procedures and gathering techniques will vary using either or both qualitative data and quantitative data.

Interpretivism: According to Hudson and Ozanne (1988) interpreters believe that there are numerous realities, which; Lincoln and Guba (1985) contend are dependent on the different connotations of different observers. Defining permanent reality is challenging (Neuman 2006). Carson et al. (2001) contend that all knowledge is partial and socially forged. Interactive research adopts an empathic stance to understand the world-view of the people involved.

Pragmatism: Pragmatic researchers seek research findings, which can lead to practical consequences. They believe that multiple realities may need to be considered. Pragmatic research design facilitates relevant, reliable and credible data collection so that constructive action can be taken. Typically, pragmatic knowledge claims emerge from consequences pragmatism is concerned with applying new knowledge to solve problems (Patton 1990).

5.3.2. RESEARCH APPROACHES

According to Babbie (2010), it is the research approach that leads to the formulation of the research strategy, which in turn leads to the choice of research methods. Research approaches can be differentiated into two types: the first is deductive and the second is inductive.

Deductive: According to Saunders et al. (2012), in a deductive approach, previous theories are used to formulate hypotheses relevant to the research inside. This study uses a deductive approach to investigate the effect of corporate governance on any trade-off between AEM and REM.

Inductive approach: Additionally, non-numerical data is used in this research to substantiate the numerical analysis. The inductive approach includes building theories based on data collected through interviews (Bell et al. 2018).

5.3.3. RESEARCH METHODS

Research methods are the next layer of the research onion. There are different ways of selecting research methods (Punch, 2013). The first method is the mono method, which employs a single data collection technique, followed by a consistent qualitative or quantitative analysis process (Bryson et al. 2014). The second method is multimethod, wherein several methods are used during the analysis.

Multimethods arise either by employing various data collection methods within a given type of data analysis or by employing mixed methods of research (i.e. both quantitative and qualitative). Here, multiple quantitative data (e.g. from structured observations or questionnaires) can be analysed statistically (Collis and Hussey 2013). According to Saunders et al. (2012), in the case of mixed methods research, different quantitative (e.g. questionnaire data collection) and qualitative (e.g. semi-structured interview) data collection methods can be used. The rise in the popularity of mixed paradigm between quantitative and qualitative approaches (Creswell 2013). Campbell and Fiske (1959) pioneered the concept of mixing various methods while studying the validity of psychological traits. They developed a "multimethod matrix" in which the biases of one method could be cancelled or neutralised by the biases in others (Sieber 1973).

Mixed method designs can start with either data collection or interviews and then be followed by the other method (Collis and Hussey 2013).

5.3.3.1 RESEARCH PHILOSOPHY AND RESEARCH APPROACH FOR CURRENT RESEARCH

The choice of research philosophy and strategy is based on the objectives of the current literature. The research philosophy points to the methods that can be used in gathering data, analysing it and then using this data (Collis and Hussey 2003). In the current study, positivism was followed, since it is investigating the actuality of a phenomenon which already exists between corporate governance and trade-off between methods of manipulation of EM in the UK and Indian listed companies. This study also requires the use of existing theories in developing hypotheses, which can be rejected or confirmed according to the study results (Saunders et al. 2009). Furthermore, the research method used in the present study is consistent with the quantitative strategy, based on the positivism philosophy. This strategy uses theories that help the researcher to find a link between study variables and achieves the research aims (Crotty 1998). In addition, Babbie (2010) argues that there are two main research approaches, which are inductive and deductive approaches. Inductive reasoning is used through moving from specific observations to wider generalisations, hence forming theories. The deductive approach, on the other hand, hinges on theories in order to develop an appropriate hypothesis, meaning that the study hypothesis is built based on the theories. Thus, the research strategy is planned to examine the hypothesis through the collected data. The current literature applied the deductive approach, since the study's hypotheses were built according to the existing literature and theories. Furthermore, in line with the positivists' approach, statistical analysis techniques were used to examine these hypotheses. This method is in line with the main aim of this research, which is to investigate whether mechanisms of corporate governance affect the trade-off between methods of manipulation of EM.

5.3.3.2 TIME HORIZON

The last layer of the research onion, just before the core, emphasises the time horizon within which research is undertaken. According to Bell et al. (2018), the research design can be of two types, longitudinal or cross-sectional, involving successive independent sampling. The majority of surveys found in the literature review were cross-sectional and linked by being converged to the point in time.

5.4. DATA COLLECTION AND SAMPLE SELECTION

5.4.1. DATA COLLECTION

To test the hypotheses developed in Chapter 3, firms' accounting data is collected, which will be secondary data. Collection of secondary is easy, efficient and economical (Schmidt and Hollensen 2006). The main database used will be FAME (Financial Analysis Made Easy), the OSIRIS Database, Annual Reports, and Company Websites. Data on corporate governance have been collected directly from company reports published between 2006 and 2015. Most were available online. Chang and Most (1985) and Jizi et al. (2014) found them easier to compare than press releases or analysts' reviews.

5.4.2. SAMPLE SELECTION

The primary sample for this study will be a balanced panel of UK non-financial companies, listed in the Financial Times Stock Exchange FTSE 350. The FTSE 350 includes FTSE 100 and FTSE 250 companies. The FTSE 350 represents approximately 90% of UK market capitalisation (Hawas and Tse 2016). This sample has been selected because of the following considerations:

Firstly, the sample contains a broad range of manufacturing and commercial activities and accounts for a significant proportion of UK economic output.

Secondly, FTSE 350 companies make available extensive data, which are amenable to statistical analyses.

Thirdly, FTSE 350 firms are characterised by similar codified features of corporate governance, whereas smaller companies outside the FTSE 350, exhibit lower levels of compliance with the UK code of corporate governance (Habbash 2013).

This leaves data to be analysed on 223 private sector manufacturing companies spanning 12 main industries, producing 2230 firm-year observations.

In India, the sample includes the top 500 private sector manufacturing companies listed on the Bombay Stock Exchange (BSE) for the period from 2006 to 2015. This selection takes into account the most recent data available. The main justification for selecting this sample is that these companies account for more than 90% of Indian market capitalisation, as at March 2010 (Rudra and Bhattacharjee 2011). The sample excluded:

Firstly, financial services companies, banks, insurance and other financial companies that were subject to tighter regulatory control and which had unique characteristics and specific regulations (Burgstahler and Dichev 1997, French et al. 2004 and Sun and Rath 2010).

Secondly, the sample excluded government-owned and utilities firms, because their governance mechanisms are not thought reliable (Sarkar et al. 2008). Utilities companies are much regulated by the government, have devious incentives, and manipulate reported earnings (Peasnell et al. 2001, Klein 2002 and Daske et al. 2008). Thirdly, the sample excluded firms whose data are incomplete.

Fourthly, firms established after 2006 were excluded.

Finally, in India, the sample excluded foreign owned, or foreign affiliated, companies, because they have differing regimes for corporate governance (Beuselinck and Deloof 2014 and Chen and Zhang 2014). This leaves data to be analysed on 212 private sector manufacturing companies spanning 12 main industries, producing 2120 firm-year observations.

In the research, data are used that cover the period from 2006 to 2015. A main motivation for choosing this period is that spans several economic cycles. Up to 2015, the data required are uniformly available for all FTSE 350 companies and top 500 private Indian companies.

India has emerged as the fastest growing telecom market in the world. Indian teledensity was 1.4 percent in 1995 and 60 percent in 2010. In big cities, like Delhi, Mumbai, Kolkata, and Bengaluru, teledensity is much the same as in Europe and North America. However, teledensity in rural India hovers around 28 percent. India is the second largest telecom market in the world. The total number of telecom subscribers in India increased from 6.4 million in March 2002 to 812 million in March 2011 (Muruganandam 2012).

As the fastest growing telecommunications industry in the world, it is projected that India had 1.159 billion telecom subscribers by 2013. It is the fastest growing telecom market in the world (Muruganandam 2012).

On the other hand, developed service sectors in the UK in 2013, for example the maritime business services sector, made a £1.6 billion gross value-added to the UK economy. This comprises £890 million contributed through the output of shipping insurance activities and £388 million contributed through shipbroking. To give a sense of scale, the maritime business services sector's gross value-added contribution to GDP is larger than taxi operations, cargo handling and freight air transport. Compared to 2011, the direct value-added contribution of the UK maritime business services sector has increased by 15% in real terms (Storey 2016).

TABLE (5.1) UK AND INDIA SAMPLE SECLECTION

Description	UK sample		Indian sample	
	Number of firms	**Percentage**	**Number of firms**	**Percentage**
Initial sample	350	100%	500	100%
Excluded:				
Financial, insurance and investment companies	(57)	16%	(94)	19%
Utilities firms	(13)	4%	(43)	9%
Missing data and unavailable annual reports	(17)	5%	(61)	12%
Established after 2006	(40)	11%	(25)	5%
Foreign majority-owned and foreign affiliates firms	----------	--------	(65)	13%
Final sample	**223**	**64%**	**212**	**42%**

TABLE (5.2) INDUSTRY CLASSIFICATION

Code	Industry group	UK sample		Indian sample	
		Number	Percentage	Number	Percentage
1	Oil & Gas	11	5%	11	5%
2	Telecommunication	19	8%	32	15%
3	Health	13	6%	19	9%
4	Manufacturing & service	16	7%	24	11%
5	Travel & leisure	25	11%	14	7%
6	General Retailers	17	8%	16	8%
7	Personal & household goods	14	6%	12	6%
8	Food Producers & Processors	17	8%	11	5%
9	Construction & Building Materials	25	11%	18	9%
10	Chemicals	16	7%	24	11%
11	Support services	33	15%	13	6%
12	Electronic & Electrical Equipment	17	8%	18	8%
	Total	**223**	**100%**	**212**	**100%**

5.5. MEASUREMENT OF DEPENDENT VARIABLES (EM)

According to Burgstahler and Dichev (1997) the EM approaches are used to avoid detection by outsiders.

5.5.1. MEASUREMENT OF EM

Kiattikulwattana (2014) classified measurement of EM to include accounting action and real economic action. Roychowdhury (2006) dropping discretionary expenses (such as maintenance and advertising, research and development), changes in sales and overproduction activities may be identified from abnormal production costs. Whereas Roychowdhury (2006) adopted abnormal discretionary expenses, abnormal cash flow and abnormal production as REM

measurements, other studies used increased production, the change in shipment schedules, acceleration of sales, and the delay of R&D and maintenance expenses as REM techniques which managers might deploy (Roychowdhury 2006, Healy et al. 1999 and Dechow and Skinner, 2000). Gunny (2010) adapted Roychowdhury's (2006) model to improve other methods and recognise abnormal production costs, abnormal SG&A, abnormal gains on sale of assets and abnormal R&D. Similarly, the accounting practices of EM are described as AEM; certain accruals are changed with no direct effect on the cash flow (Kiattikulwattana 2014). Most of the studies on EM proposed that managers tend to use AEM because it may be subject to alteration and difficult for external participants to observe. Thus, abnormal accrual values are employed as a proxy for EM. Overall, Bowman and Navissi (2003), Kothari et al. (2005) and many others have used aggregate accruals methods, while Beneish (2001), Beatty et al. (2002) and Beaver et al. (2003) adopted specific accruals (loan-loss provisions and the loss reserve) and frequency distribution of earnings to investigate the presence of EM (Degeorge et al. 1999 and Burgstahler and Dichev 1997). As such, each of these approaches will be briefly discussed in the following sections.

5.5.1.1. AGGREGATE ACCRUALS APPROACH

Various techniques are used for estimating EM; however, the aggregate accruals approach is the most widely recognised in accounting studies (Dechow et al. 1995). Aggregate accruals have two parts: Discretionary Accruals (DA) and Non-Discretionary Accruals (NDA). The DA is managed by the managers, which means that EM and NDA are impacted by outer variables and, therefore, outside the managers' control. The most widely recognised models in the aggregate accrual's method are discussed in the following sub-sections.

5.5.1.1.1. THE HEALY (1985) MODEL

The model proposed by Healy (1985) was the principal endeavour to measure discretionary accruals utilising total accruals in proportion to the slacked value of total resources in a particular year (van Praag 2001). This model endeavours to calculate the total accruals by withdrawing the reported earnings from the operational cash flow. It presumes that the aggregate accruals include DA and NDA, and it does not isolate them. This model is shown below:

$$EDA_{it} = TA_{it} / A_{it-1} \qquad [5.1]$$

Where

EDAit: Estimated discretionary accruals for the firm i in year t.

TAit: Total accruals, defined as the difference between reported earnings and operating cash.

Ait – 1: The lagged value of total assets at the beginning of the year.

The Healy model's primary theory is that the NDA volume is evaluated to be zero during the period of estimation. This supposition has been criticised for a few reasons: Kaplan (1985) stated that the volume will vary based on the economic conditions of the firm, but it should not be zero for any given time-period. Perry and Williams (1994) stated that the total accruals level, including NDA, is typically negative for some organisations because of the depreciation expenditure impact.

5.5.1.1.2. THE DEANGELO (1986) MODEL

DeAngelo (1986) introduced the second endeavour to evaluate DAs; this expelled the Healy model's shortcomings by not perceiving a standard for the foreseen accruals (Aljifri 2007). This model characterises total accruals as the entirety of NDA and DA and measures aggregate accruals as the variation emanated from the net earnings deducted from the operational cash flow. NDA is estimated as the total accrual of the previous period scaled by the lagged value of total assets.

$$\mathbf{EDA_{it} = (TA_{it} - TA_{it-1}) / A_{it-1}} \qquad \mathbf{[5.2]}$$

Where

EDAit: Estimated non-discretionary accruals for the firm i in year t, measured as the difference between total accruals in the event year and total accruals in the estimated year.

TA**it**: Total accruals, defined as the difference between net earnings and operating cash

A**it – 1**: Lagged value of total assets at the beginning of the year.

The model proposed by DeAngelo (1986) operates on the supposition that NDA follow a random walk and some of the changes are consistent over the long haul and is, thus, zero (approximately) in the period of estimation. A few researchers of EM have condemned this because the NDA must change in light of changes in the company's conditions and should not be consistent after some time (Aljifri 2007). Because of the denial of the fact that the company's economic conditions influence the NDA, researchers are not willing to compute DA using the models of Healy (1985) and DeAngelo (1986), but these are known as the simplest models (Dechow and Sloan 1991 and Jones 1991).

5.5.1.1.3. THE INDUSTRY (DECHOW AND SLOAN 1991) MODEL

Because of the defects of DeAngelo's (1986) and Healy's (1985) models, which expect the NDA to be constant after some time, Dechow and Sloan (1991) acquainted 'the industry model' to detect EM. They contended that organisations in a similar division have the same NDA variations and, accordingly, they are equivalent to the mean of total accruals in a particular year separated by the slacked estimation of total resources for all non-test organisations in the same industry sector. Subsequently, NDA estimated for the industry model is computed as follows:

$$\mathbf{NDA_{it} = \alpha 1 + \alpha 2\ Median\ j\ (TA_{it-1}) / A_{it-1}} \qquad \mathbf{[5.3]}$$

Where:

NDAit: Non-discretionary accruals for the firm i in the year t, measured by using the difference between total accruals in the event year and total accruals in the estimated year.

Median j (TA**it – 1**) / Ait: Median value of overall industry accruals, firm i in year t scaled by lagged value of total assets.

Tait: Total accruals, resulting from the difference between net earnings and operating cash flows.

A**it – 1**: Lagged value of total assets at the beginning of the year

α1 **it** and α2**it**: Firm-specific parameters as estimated by using Ordinary Least Squares (OLS) on observations in the estimated period.

Despite the fact that the industry model endeavours to keep away from the inadequacies of the models of DeAngelo (1986) and Healy (1985), it has two shortcomings. To begin with, it disregards the NDA variation that is basic in the very same organisation. Hence, if NDA changes reflect reactions for the fragile economic conditions of the organisation, at that point DA might be classified incorrectly as NDA. Secondly, it disregards the DA changes, which indicate correlation with organisations in the similar sector. Consequently, the model cannot legitimately differentiate DA from NDA (Jones 1991 and Dechow et al. 1995).

5.5.1.1.4. THE JONES (1991) MODEL

This model is the most widely recognised and utilised as part of investigations of aggregate accruals because it can separate accruals into NDA and DA (Peek et al. 2013 and Islam et al. 2011). It is believed by Jones (1991) that revenue changes would cause operating capital changes, resulting in an accruals variation. Jones proposes a direct model based on regression,

which controls for the earning changes and deterioration to evaluate DA. The author utilises a two-stage marker to segment total accruals into two segments: NDA and DA (Xiong 2006). At the preliminary stage, Jones correlates NDA to gross property and revenue change (ΔREV), plant and hardware, all institutionalised by the slacked estimation of aggregate resources utilising time-series information as follows:

$$\mathbf{DA_{it} = \alpha 1\ (1 / A_{it-1}) + \alpha 2\ (\Delta REV_{it} / A_{it-1}) + \alpha 3\ (PPE_{it} / A_{it-1}) + \varepsilon_{it}} \quad \mathbf{[5.4]}$$

Where

Tait: Total accruals for the firm i in year t.

ΔREVit: Change in revenue for the firm i in year t scaled by total assets.

PPEit: Gross property, plant and equipment for the firm i in year t scaled by assets.

Ait – 1: Lagged value of total assets at the beginning of the year.

α1, α2, and α3: Firm-specific parameters.

εit: The residual.

The parameters such as α1, α2, and α3 from the (5.4) equation are utilised to examine the information from the given year t, in the succeeding stage of DA evaluation. The equation below is utilised to appraise DA:

$$\mathbf{NDA_{it} = [TA_{it} / A_{it-1}] - [\alpha 1\ (1 / A_{it-1}) + \alpha 2(\Delta REV_{it} / A_{it-1}) + \alpha 3\ (PPE_{it} / A_{it-1}) + \varepsilon_{it}]} \quad \mathbf{[5.5]}$$

Where

NDAit: Non-discretionary accruals for the firm i in period t.

The model proposed by Jones incorporates fixed assets (PPE) and revenue changes (ΔREV) to influence deterioration and the organisation's circumstances respectively. Hoang et al. (2014) stated that controlling the revenue changes and fixed assets depreciation without incorporating the adjustments in accounting receivables prompts missing an element that managers could utilise to change the profit. The model proposed by Jones depends on the supposition that the earnings are NDA, because earnings are probably going to be controlled by managers (e.g. for expanding sales acknowledgment close to the year-end period). Utilising the Jones model causes some DA removal. Thus, Islam et al. (2011) stated that the Jones' model does not consider the accruals discretionary component. Regardless of the model's prevalence, it has been censured for giving non-reliable and biased DA evaluations (Stubben 2010).

5.5.1.1.5. THE MODIFIED JONES (1995) MODEL

Levels of discretionary accruals are used as a proxy to gauge AEM (Zang 2012). The proxy models range from simple models, in which total accruals are used as a measure of discretionary accruals, to more sophisticated models, which utilise regression analysis to deconstruct accruals into their discretionary and non-discretionary components (Bartov et al. 2000). This thesis will employ the Modified Jones Model as proposed by Dechow et al. (1995). This is the most common model used to capture EM (Dechow et al. 1995, Kasznik 1999, Jha 2013 and Doukakis 2014). The Modified Jones Model is found to provide a more powerful test of EM as compared to the standard Jones Models (Islam et al. 2011, Swai and Mbogela 2016 and Doukakis 2014).

There are two approaches to predicting total accruals: Firstly, balance sheet approaches (Healy 1985 and Dechow et al. 1995). Secondly, cash flow approaches (Becker et al. 1998, Subramaniam 1996 and Xie et al. 2003). Both approaches are extensively described in the literature. Previous studies have preferred cash flow approaches (Becker et al. 1998, Kim et al. 2012 and Pyo and Lee 2013). It is claimed that using the cash flow approach results in a greatly reduced rate of error, using cash flow approaches, is significantly better than when using balance sheet approaches (Hribar and Collins 2002).

Dechow et al. (1995) argue that the implicit assumption, which underlies the Jones Model, is that all revenues are non-discretionary and that this leaves out some of the revenues. The modified Jones Model adjusts the revenues by the net receivables.

Dechow et al. (1995) go along with the first stage of the unmodified Jones Model in which revenues are used to control for working capital non-discretionary accruals and property, plant and equipment are used to control for the depreciation of non-discretionary accrual.

The Modified Jones Model differs from the Jones Model by the extent of change in the accounts receivable from revenue. The hypothesis is based on the assumption that the manipulation of earnings using credit sales is easier than the manipulation of cash sales.

While trying to overcome the inadequacies of the real Jones model, it accepts that earnings cannot be determined by administrators and, accordingly, NDA. Dechow et al. (1995) put forwarded an improved version to limit the estimation error in DA by means of deduction of the debtors' accruals change (ΔREC) from the revenue change (ΔREV) to exclude the component in revenue change. That is required to be administered at the discretion of managers (the modified model of Jones challenges' the presumption that earnings are exogenous).

Therefore, this model utilises cash revenue changes, as opposed to total revenue changes, because some credit earnings may be optional in the period (Stubben 2010).

This study used cash flow methods for estimating total accruals, by using the following equation by Jo and Kim (2007, p. 572).

$$\mathbf{TA_{it} = EBXA_{it} - CFO_{it}} \quad \mathbf{[5.6]}$$

Where

TA_{it} = Total accrual for the firm i in period t.

EBXAit = Earnings before abnormal and extraordinary items for the firm i in period t.

CFO_{it} = Cash flow from operational activities for the firm i in period t.

The estimation of non-discretionary accruals (NDA) is calculated by:

$$\mathbf{DA_{it} = \beta 0\ (1 / A_{it-1}) + \beta 1\ (\Delta REV_{it}/A_{it-1}) - (\Delta RCE_{it} / A_{it-1}) + \beta 2\ (PPE_{it} / A_{it-1}) + \varepsilon_{it}} \quad \mathbf{[5.7]}$$

Where

DA_{it} = Ddiscretionary accruals for the firm i in period t.

ΔREV_{it} = Change in revenue for the firm i in period t.

ΔRCE_{it} = Change in accounts receivable for the firm i in period t.

PPE_{it} = Gross property, plant and equipment for the firm i in period t.

A_{it} = Total assets for the firm i in period t.

A_{it-1} = Total assets at the beginning of year for the firm i in period t.

T = Year; 1…N

i = firm; i…. N

ε_{it} = Error term for the firm i in period t.

β0, β1 β 2 are predicted coefficients from the equation.

Estimating Discretionary Accruals (DA)

$$\mathbf{DA_{it} = TA_{it} - NDA_{it}} \quad \mathbf{[5.8]}$$

Where

TA_{it} = is total accruals for the firm i in period t.

DA_{it} = Discretionary accruals for the firm i in period t.

NDA**it** = Non-discretionary accruals for the firm i in period t.

Dechow et al. (1995) assumed that the accounts receivable variation in the given year is completely due to DA since it is the outcome of managers' discretion to use credit sales instead of cash sales. The standard Jones (1991) model was initially built using the method of time-series, which thus needs an adequately prolonged period of information (e.g. a minimum of 8-10 years) to give powerful estimator coefficients. In any case, utilising a time-series strategy has many restrictions. In the first place, (DeFond and Jiambalvo 1994 and Peasnell et al. 2000) stated that it has the possibility to cause survivorship inclination issues. Secondly, the supposition that the evaluation of net PPE changes and earnings are consistent over time is not suitable. By resolving equation 5.7 (stage one) for each industry on a year-specific, rather than a company-specific, basis and then estimating the coefficients of predicted DA for each company through equation 5.8 (stage two) to control for year and industry-specific the outcome showed.

While trying to avoid these issues, DeFond and Jiambalvo (1994), Subramanyam (1996) and Becker et al. (1998) utilised the cross-sectional version of the Jones (1991) model. Nowadays, investigations have preferred to utilise the cross-sectional method rather than the time-series method to avoid the constraints embedded in the last method (Xie et al. 2003, Bergstresser and Philippon 2006, Haniffa and Hudaib 2006, Iqbal et al. 2009, Chen et al. 2010, Katmun 2012, Peek et al. 2013 and Islam et al. 2011).

5.5.1.1.6. THE PERFORMANCE-MATCHED (KOTHARI et al. 2005) MODEL

Further development of the Jones model is recommended by Kothari et al. (2005). Numerous accruals studies have raised the importance of performance level as a variable when EM is computed. For instance, Dechow et al. (1996) and Kasznik (1999) recommend that the results estimated by the Jones model suggest that discretionary accruals are significantly positively associated with the return on assets (ROA). To investigate this matter of performance, several studies were conducted by Kasznik (1999), Bartov et al. (2001) and Kothari et al. (2005). They found that they could exclude the influence of any correlation between discretionary accruals and earnings performance by using a matched-firm method to adjust the discretionary accruals.

Kothari et al. (2005) were the pioneers of the matched firm methods. They argued that discretionary accruals, as measured by both the Jones and the modified Jones models, might be erroneous when these models disregarded the performance of the firm. Thus, the discretionary accruals are measured by the residuals of the following cross-sectional model:

$$\mathbf{NDA_{it} = [TA\ it/A_{it-1}] - [\alpha 1\ (1/A_{it-1}) + \alpha 2\ (\Delta REV_{it}/A_{it-1} - \Delta REC_{it}/A_{it}) + \alpha 3\ (PPE_{it}/A_{it-1}) + \alpha 4\ ROA_{it-1}]} \quad \mathbf{[5.9]}$$

Where

ROAit – 1: Lagged value of return on assets for the firm i in year t.

Kothari et al. (2005) also include the constant term in their model for numerous reasons. First, they argue that it offers additional control for heteroscedasticity not alleviated by using assets as a deflator. Second, they claim that it decreases the problems arising from an omitted scale variable. Lastly, they contend that models of discretionary accruals which reject a constant term are less symmetric, which causes the control of the test comparisons to be less clear cut. The addition of a constant term in the Kothari et al. (2005) model is an additional distinction from the modified Jones model.

5.5.1.1.7. KASZNIK MODEL

In the past literature, extreme financial performance has led to type 1 errors, when there were changes in accruals, which had been wrongfully attributed to EM. Among others, Kasznik (1999) and Kothari et al. (2005) mention performance matching as a possible remedy for type 1 errors. Furthermore, Kothari et al. (2005) advocated an alternative way to control for performance, and Kasznik (1999) included changes in cash flow as a variable in the modified Jones model. Dechow et al. (1996) found that cash flow was negatively correlated with total accruals. According to Jeter and Shivakumar (1999), including cash flow from operations in the regression model not only raises precision but also grows the power to detect EM, particularly at minor levels of EM. Therefore, Kasznik adds the change in cash flows to the modified Jones model as a driver of the accrual process following Kasznik's (1999) model:

$$\mathbf{NDA_{it} = [TA\ it/A_{it-1}] - [\alpha 1\ (1/A_{it-1}) + \alpha 2\ (\Delta REV_{it}/A_{it-1} - \Delta REC_{it}/A_{it}) + \alpha 3\ (PPE_{it}/A_{it-1}) + \alpha 4\ \Delta CFO_{t}/it-1]} \quad \mathbf{[5.10]}$$

Where ΔCFOit = change in cash flows from operations

Consistent with earlier studies all variables have been scaled by lagged total assets to reduce heteroscedasticity.

5.5.1.2. THE SPECIFIC ACCRUALS APPROACH

Many EM scholars, such as Beneish (2001), Sun and Rath (2010) and Kashmiri (2014) discovered that aggregate accruals models are better than the specific-accruals method as a substitute to find EM. Healy et al. (1999, p.372) highlighted the importance of more research

in view of specific accruals. They contend that, "generally, there is small-scale of proof on EM utilising specific accruals, proposing this is probably going to be a productive region for the researches in future. By examining specific accruals, researchers can offer direct evidence for standard setters in areas where standards work well and where there may be room for improvement". Beneish (2001) identified that the specific-accruals method was needed because of the challenges associated with utilising the methods of total-accruals. Specific accrual is utilised to measure EM in some studies, including arrangements for depreciation (Teoh et al. 1998), deferred tax (Phillips et al. 2003) and bad debt (McNichols and Wilson 1988). Other studies, for example Sun and Rath (2010), stated that only a small number of firms are using specific accruals, whereas aggregate accruals are used by many companies, which will affect the reputation of researches on specific-accruals. Similarly, Ali et al. (2015), utilising an example of 35 nations including 291 banks during 2003-2010, utilised the provisions of loan loss to assess DA as an intermediary for EM. They revealed the fact that Islamic banks take part in EM less frequently than ordinary banks, perhaps in light of the fact that they are restricted to additional monitoring by more governance layers.

5.5.1.3. FREQUENCY DISTRIBUTION APPROACH

The frequency distribution approach makes efforts to identify EM. As a result, it tests the reported earnings distribution. A number of the researchers have discovered the trace of EM practices (Burgstahler and Dichev 1997 and Degeorge et al. 1999). As Burgstahler and Dichev (1997) revealed, to hedge for losses, EM can be practiced using low frequencies of slight losses and high frequencies of slight profits. The author added that avoiding a reduction in earnings might be accomplished through low frequencies of minor earnings decreases and high frequencies of minor earnings increases. As such, an organisation with low pre-managed earnings takes part in improving their profits in the financial statement, whereas those with negative pre-managed profits embrace earnings increase to disclose greater profits in their financial statements (Burgstahler and Dichev 1997). The author identified that changes in working capital and cash flow from operations are the main tools for earnings manipulation. Consistent with this notion, Degeorge et al. (1999) argued that managers might wish to avoid reporting losses and seek to disclose a profit related to the preceding profits. However, Healy and Wahlen (1999) indicated that the practices might not assess the amount of EM. According to Beatty et al. (2002), most banks have demonstrated that poorer growth in earnings and levels of decrease were valued, because only a few slight modifications in the earnings were reported.

Xiong (2006) stated that the distribution reported earnings approach would be more effective while identifying the practices of EM.

In accordance with the reasons stated above, one can conclude that there are no significant benefits to using the total-accrual approach for detecting EM, instead of the two other approaches. The main advantage is the justification why a large number of EM researchers were used for total-accruals methods for detecting EM.

5.5.2. MEASUREMENT OF REM

According to Cohen and Zarowin (2010), companies may prefer to manipulate relativities in order to distort reported earnings, because the manipulation of accruals may be scrutinised by regulators and auditors in order to meet an earnings target. A number of studies demonstrate the way reported earnings might mislead in minimising the cost of products sold through the overproduction of inventory and decreasing discretionary expenditures. These include items such as research and development (R&D), advertising, selling, general, and administrative expenditures (Zang 2012, Roychowdhury 2006 and Zamri et al. 2013). The amount of abnormal production costs is used to measure the decrease in the cost of goods sold using the overproduction of inventory, since the fixed cost per unit reduces with growth in production volume (Kuo et al. 2014), while the abnormal level of discretionary expenditures is used to measure the reduction in discretionary expenditures.

Currently, it is more significant to emphasise that the data set of Roychowdhury (2006) is based on various firms, which have reported earnings that are more or less equal to zero. In other words, the data contains companies, which were suspected of practicing REM to exclude their losses completely. Despite the fact that usage of signed residuals that permits to examine the managerial invectives for engaging the EM to a particular direction also it does not allow anyone to test the general propensity for managing the earnings. To act accordingly, unsigned residuals were used for measuring the success of the company by properly handling the earnings as per the requirement (Reynolds and Francis, 2000). Simultaneously, the studies have estimated that signed residuals, using Roychowdhury's model for investigating the relationship existing between corporate governance mechanisms and EM, show the outcomes, which show earning-increasing or earning-decreasing effects, not the potentiality of these mechanisms in an uncomfortable EM practice. A few examples of these studies, for instance Cohen and Zarowin (2010), have confirmed that SEO companies were engaged in increasing REM, while Demers and Wang (2010) show a negative association between REM and younger managers.

This explains that this type of outcome shows limited application for future research. Additionally, Roychowdhury's (2006) model suffers from a key limitation that is associated with the substitution of sales manipulating activities. The sales growth is continually boosted by giving price discounts and different credit terms, all of which increases the current earnings period, so it results in lower cash flows in the current period (Cohen and Zarowin, 2010). Subsequently, the contributions, which are made by Roychowdhury, have been widely acknowledged for this model in the subsequent chapters of the study. Consequently, the model is accepted by this thesis for a suitable estimation model, which constrains REM.

This research follows Roychowdhury (2006), Gunny (2010) and Athanasakou et al. (2011) to examine sales manipulation or abnormal operating cash flow, discretionary expenses (advertising, R&D and SG&A), and production costs (overproduction) as proxy of REM.

5.5.2.1. SALES MANIPULATION OR ABNORMAL OPERATING CASH FLOW (CFO)

In order to create an abnormal boost in sales, managers may reduce prices or offer lenient credit terms (Camara and Henderson 2009). Margins will be lower for the additional sales, resulting in a decrease in the cash flow per sale, but total earnings in the discounted period may rise, as a result of the increased volume of sales. Payment leniency reduces each flow (Roychowdhury 2006).

To detect sales-based manipulation, normal levels of cash flows from operations are estimated, for each industry and year, using the equation.

$$CFO_{it}/A_{it-1} = \beta\,0 + \beta 1\,(1/A_{it-1}) + \beta 2\,(Sales_{it}/A_{it-1}) + \beta 3\,(\Delta Sales_{it}/A_{it-1}) + \varepsilon_{it} \quad [5.11]$$

Where

CFO_{it}: operating cash flow for the firm i in period t.

A_{it-1}: total assets at the beginning of year Sales for the firm i in period t.

$Sales_{it}$: net sales for the firm i in period t.

(Δ) $Sales_{it}$: change in current sales for the firm i in period t.

ε_{it} = Error term for the firm i in period t.

5.5.2.2. PRODUCTION COSTS (OVERPRODUCTION) (PROD)

The manager uses overproduction to raise earnings by bringing down the fixed costs per unit and, thereby, reducing the cost of sales (Roychowdhury 2006). This study describes production costs as the sum of the cost of goods sold and the change in the value of inventory (Roychowdhury 2006). To measure abnormal production costs, following Roychowdhury (2006), this study will use the question:

$$ProdCos_{it}/A_{it-1} = \beta 0 + \beta 1\ (1/A_{it-1}) + \beta 2\ (Sales_{it}/A_{it-1}) + \beta 3\ (\Delta Sales_{it}/A_{it-1}) + \beta 4\ (\Delta Sales_{it-1}/A_{it-1}) + \varepsilon_{it} \quad [5.12]$$

Where:

ProdCos**it**: is production costs, calculated as the totality of costs of goods sold and changes of inventory for the firm i in period t.

Abnormal production costs are measured as the residual value of equation (5.12).

5.5.2.3. DISCRETIONARY EXPENSES (DEXP)

Managers can adjust discretionary expenditures, including advertising expenses, R&D expenses and selling, general and administrative expenses, to raise earnings (Roychowdhury 2006 and Cohen et al. 2008). Companies that opportunistically cut discretionary expenditures will have unusually low reported sales costs and correspondingly higher reported earnings. Roychowdhury (2006), takes discretionary expenditure to include expenditures on research and development (R&D), advertising, selling, and general and administrative (SG&A) expenditure. Roychowdhurys' Model (2006) assumes that discretionary expenditure is a linear function of sales.

To measure discretionary expenses, following Roychowdhury (2006), the following equation is used:

$$DiscExp_{it}/A_{it-1} = \beta\ 0 + \beta 1\ (1/A_{it-1}) + \beta 2\ (Sales_{it-1}/A_{it-1}) + \varepsilon_{it} \quad [5.13]$$

Where:

DiscExp**it**: is discretionary expenses, calculated as research and development (R&D), plus advertising, selling, and general and administrative (SG&A) expenses for the firm i in period t.

Abnormal discretionary expenses are detected using the residual value of equation (5.13) and used as a marker for the extent to which manipulation of discretionary expenses are being used to distort reports earnings.

5.5.3. AGGREGATE REM MEASURES

This examination consolidates the three different measures, which can be used to determine the widespread activities of REM. According to Zang (2006), this investigation multiples abnormal cash flows from operations and abnormal discretionary expenses by negative one and includes it in abnormal production costs. Furthermore, it consolidates them into a single measure, since, at the time of handling sales and/or discretionary expenses. Actual operating cash flows and actual discretionary expenses are not lower than operating cash flows and discretionary expenses estimated. The greater the aggregate measure amount, the more probable it is that the organization is involved in the activities of REM.

In order to capture the total effects of REM, the measurement of aggregate REM has been developed. Gunny (2010) figures a variable aggregate REM as the sum of the residuals from the abnormal cash flows from operations, abnormal discretionary expenses, and abnormal production costs multiplied by negative one.

In current literature, Cohen and Zarowin (2010) and Zang (2012) develop and combine the three measures of REM to compute an aggregate measure of REM activities. By using the same metrics, they provide further evidence that these measures capture REM. For the First measure, RM_1, consistent with Zang (2006), multiply abnormal discretionary expenses by negative one and add it to abnormal production costs.[1] A higher amount of this aggregate measure implies that suspect firm-years are more likely to be cutting discretionary expenses and overproduction to increase reported earnings. Thus,

$$REM\_1 = Ab\_DISEX * (-1) + Ab\_PROD \qquad (5.14)$$

For the second measure, REM_2 – again, consistent with Cohen and Zarowin (2010) and Zang (2012) – abnormal cash flows from operations and the abnormal discretionary expenses are

[1] Following Cohen and Zarowin (2010) and Zang (2012), I do not multiply abnormal production costs by negative one because higher production costs are indicative of overproduction to reduce the cost of goods sold. I do not combine abnormal production costs and abnormal cash flows from operations because the same activities that lead to abnormally high production costs also lead to abnormally low cash flow; thus, adding these two amounts leads to double counting of REM.

multiplied by negative one and then aggregated into one measure.[2] As for REM_1, I multiply it by negative one so that, the higher these amounts, the more likely it is that the firm is engaging in sales-based manipulation and cutting discretionary expenses to manage reported earnings upwards. Thus,

REM_2 = Ab_CFO * (-1) + Ab_DISEX * (-1) (5.15)

Even though single REM proxies have different implications for earnings, aggregating these measures may dilute the empirical results.

5.6. MEASUREMENT OF INDEPENDENT VARIABLES (MECHANISMS OF CORPORATE GOVERNANCE)

This research has examined the effect of the following mechanisms of corporate governance as independent variables in models, which have been chosen to represent the way manipulation of AEM and REM can be used to distort reported earnings: board characteristics, audit committee characteristics and ownership structures.

5.6.1. BOARD CHARACTERISTICS

This research contains the variables: board size, number of board meetings, board independence, and number of females on the board.

5.6.1.2. BOARD SIZE (BSIZE)

Following Abbott et al. (2004), Peasnell et al. (2000), Xie et al. (2003) and Badolato et al. (2014), this research measured board size as the total number of members of the board at the year-end.

5.6.1.3. BOARD MEETINGS (BMEET)

Following Vafeas (1999), Beasley et al. (2000) and Xie et al. (2003), this research measured the number of board meetings as the number of meetings held during the year.

[2] Following the approach of Cohen and Zarowin (2010) and Zang (2012) I multiply abnormal discretionary expenses and abnormal cash flows from operations by (-1) so that positive values represent income increasing REM to allow all measures of REM to have the same interpretation and consistency with other REM measures as the measure of production costs.

5.6.1.4. BOARD INDEPENDENCE (BIND)

Following Klein (2002), Xie et al. (2003), Peasnell et al. (2005) and Davidson et al. (2005), this research measured board independence as the proportion of independent directors on the board.

5.6.1.5. FEMALES ON THE BOARD (BFEM)

Following Velte (2016), this research measured the number of female directors on the board as a percentage of the total number of directors on the board.

5.6.2. AUDIT COMMMITTEE CHARACTERISTICS

This research contains the following variables: audit committee size, number of audit committee meetings, audit committee independence, audit committee expertise and number of females on the audit committee.

5.6.2.1. AUDIT COMMMITTEE SIZE (ACSIZE)

Following Xie et al. (2003), Davidson (2005) and Farber (2005), the size of the audit committee is measured by the total number of audit committee members existing at the year end.

5.6.2.2. AUDIT COMMMITTEE MEETINGS (ACMEET)

Following Xie et al. (2003), Vafeas, (2005) and Davidson et al. (2005), this research measured the number of audit committee meetings as number of meetings held during the year.

5.6.2.3. AUDIT COMMITTEE INDEPENDENCE (ACIND)

Following Klein (2002), Xie et al. (2003) and Agrawal and Chadha (2005), this research measured audit committee independence as a percentage of the total number of independent members on the audit committee board.

5.6.2.4. AUDIT COMMITTEE EXPERTISE (ACEXPE)

Following Madi et al. (2014), Albring et al. (2014) and Kankanamage (2015) this research measured audit committee expertise as the percentage of members on the audit committee with academic and professional qualifications in accounting or finance and financial accounting expertise.

5.6.3. MEASUREMENT OF OWNERSHIP STRUCTURE

This study contains the variables: managerial ownership, and institutional ownership.

5.6.3.1. MANAGERIAL OWNERSHIP (MOWNE)

This research measured managerial ownership as the percentage of total shares of the company that were owned by managers of the company at the beginning of the fiscal year (Drakos and Bekiris 2010, Bhagat and Bolton 2008 and Florackis et al. 2009).

5.6.3.2. INSTITUTIONAL OWNERSHIP (INSTITU 3%)

Following Chung et al. (2002), Jiambalvo et al. (2002) and Koh (2003) this research measured Institutional Ownership as the proportion of shares held by institutions which each control at least 3% of the total.

5.7. MEASUREMENT OF CONTROL VARIABLES

Zang (2012) and Abernathy et al. (2014) identified the control variables incorporated in this research such as firm size, leverage, return on assets, firm growth and Big 4 auditors. These five factors control measurement errors at any rate to some extent, in the selected proxies for EM. This investigation directs different components that have been observed to be identified with the variation of corporate governance or which may increase AEM.

The present study states that estimating the connection between the factors of EM and corporate governance without control factors will probably prompt misspecification issues and heteroscedasticity in the models of EM (Habbash et al. 2014, Jaggi et al. 2009 and Kothari et al. 2005). Consequently, this research uses five control variables in addition to the independent variables that have been discussed in the previous sections. Many investigations have reported that control variables are significant in guaranteeing that the focus of tests will be more precisely on the distinctions made by the inequalities in EM (Habbash et al. 2014, Rahman et al. 2013 and Dechow et al. 1995). These control variables are examined independently in the following section, alongside the estimation technique for every factor.

5.7.1. FIRM SIZE (FSIZE)

A control variable, firm size is influenced by means of size proposition. Bigger firms will probably draw the consideration of antitrust enactment because of their high monopoly rents or reported profits. Antitrust enactment has the ability to reorganise resources from these large firms. Large firms' managers prefer to oversee accounting discretion, keeping in mind that the end goal is to reduce earnings (Watts and Zimmerman 1978). However, bigger firms are more closely examined by outsiders, for example investment/financial investigators, than the smaller firms (Hussain 2000 and Hussain 1996). This will lessen the managers' opportunities to

exercise EM (Koh 2003). Besides, information asymmetry is frequently small in substantial firms since they make more information public, which thus lessens the requirements for the practices of EM (LaFond and Watts 2008).

Following Simunic (1980), Abbott et al. (2003) and Carcello et al. (2002), this research measured company size as natural logarithm of the total assets of the company.

5.7.2. LEVERAGE (FLEVER)

Leverage discusses in more detail about debt contracting inspirations for EM. Excessive leverage leads to a greater threat for a firm abusing its debt covenants (Press and Weintrop 1990), and the infringement of debt covenants is identified with the choice to utilise AEM to manage earnings (DeFond and Jiambalvo 1994). The firms having high leverage motivate their managers by providing incentives to practice AEM to avoid violating debt covenants. Furthermore, a ratio of higher leverage is related to excessive costs of debt financing (Piot and Janin 2007). Because of the increase in debt, organisations may practise the wage expanding profit administration, keeping in mind the end goal to show a more advantageous financial position while consulting with lenders.

Following Lee et al. (2012), Zamri et al. (2013), Zhu et al. (2015), Jha (2013), Kuo et al. (2014) and Arsov and Naumoski (2016) this research measured leverage as the ratio of total liabilities to total assets.

5.7.3. RETURN ON ASSETS (ROA)

Whilst agreeing with most of the past investigations into both EM and corporate governance, this examination will control for the performance of firms. Various examinations, for example, Kothari et al. (2005) and Carter et al. (2003), demonstrate that not including the control variable return on assets in EM research may bring about a negative model. They propose that, for clarifying a company's reputation, return on assets is an advantageous measure.

The earlier works by Jha (2013), and Swai and Mbogela (2016) revealed that the most widely recognised profitability measure is return on assets. Following Carter et al. (2003), Kiel and Nicholson (2003) and Kothari et al. (2005), this research measured profitability as net income divided by lagged total assets.

5.7.4. FIRM GROWTH (FGROW)

Sales growth is expected to influence EM, as sales growth will influence accruals, for example, receivables and inventory. In addition, a large growth in sales regularly inflates the market's

desires for future cash flows, and that will influence EM (Ahmed and Duellman 2007). Companies which have fast growth may, likewise, be experiencing tension to keep up or surpass expected growth rates, urging their managers to take part in EM to accomplish a targeted rate of growth, or to cover downturns (Carcello and Nagy 2004).

Following Adam and Goyal (2008) and Li and Kuo (2017), this research measured firm growth as the change in total assets over lagged total assets.

5.7.5. BIG 4 AUDITORS (BIG 4)

It is broadly acknowledged that Big 4 firms give greater audit quality over non-Big 4 firms (Becker et al. 1998 and Teoh and Wong 1993). Earlier literature recommends that bigger audit firms have a tendency to convey a higher quality of audit than smaller, less outstanding firms do. This is because they are less ready to accept the strategies of questionable accounting and will probably distinguish and report inconsistencies and errors (Becker et al. 1998). In addition, Palmrose (1986) and Palmrose (1988) revealed that Big 4 review firms procure reduced the experimental investigations. Additionally, Craswell et al. (1995), Fleischer (2017) and Hong-jo et al. (2017) recommend that Big 4 auditors have greater quality of audit.

Following El-Helaly et al. (2018), this research measured Big 4 auditors as a dummy variable given the value 1, if the firm uses one of the Big 4 auditors, and 0 otherwise.

5.7.6 ALTMAN'S Z_SCORE (Z-SCORE)

Altman's Z-Score is a composite measure of default risk. It depends on the weighted average of a company's financial ratios (Saunders and Cornett, 2006). A company's Z-score gives an indication of the overall financial health of the company (Agrawal and Chatterjee, 2015). A poor Z-score might tempt its managers to distort reported earnings (Lara et al. 2012).

Lara et al. (2012) and Chen et al. (2012) did find a negative relationship between a company's Z-score and the extent to which the company's managers had manipulated real activities to distort reported earnings.

Similarly, Jha (2013) found a negative relation between a company Z-Score and its discretionary accruals. Zang (2012) has countered that financially healthy companies can more easily manipulate earnings. Furthermore, Agrawal and Chatterjee (2015) agree with Zang and have warned lenders and investors to be cautious. Zang reports a positive correlation between company Z-scores and the manipulation of REM. Ghazali et al. (2015) report the same impact on accruals in Malaysia.

Overall, however, there is a shortage of empirical research linking Altman's Z-Score and the distortion of reported earnings, by manipulation of either accruals or real activities. This does not inhibit Zang from her speculation that managers in companies characterised by poor financial health; might perceive real activities manipulations as relatively costly, since the primary goal of operational managers remains to improve operations. Therefore, she hypothesises that poor financial health in companies might lead the company's managers to favour the manipulation of accruals rather than real activities (Saunders and Cornett, 2006).

In Altman's model, any score less than 1.81 indicates a high risk of default. Consistent with Yang (2010), Lara et al. (2012), Agrawal and Chatterjee (2015), Zang (2012), Jha (2013), Roychowdhury (2006), and Zhu et al. (2015). Lara et al. (2012) wonder whether suspect companies might manipulate accruals and/or activities so as to just beat or meet important earnings benchmarks. Companies with zero earnings might thereby be one candidate group of companies worthy of investigation (Zang, 2012). Regarding Yang (2010), Lara et al. (2012), Agrawal and Chatterjee (2015), Zang (2012) and Jha (2013), this research measured the Z-score as this equation.

1.2 (Working capitalTotal assets) +1.4 (Retained earningsTotal assets) +3.3 (EBIT Total assets) +0.6 (Market value of equityTotal liabilities) + 1.0 (SalesTotal assets)

5.8. EMPIRICAL RESEARCH MODELS

It is articulated that the costs of each type of EM represent an important factor that might affect managers' decisions concerning the extent to which each type is used to arrive at the desired levels of earnings. Moreover, the timing of each type of manipulation is also another important factor. On the one hand, AEM takes place at the end of the fiscal year. However, if the accruals available for manipulation have been constrained by the manipulation in prior periods and/or the scrutiny of auditors, firms might run the risk of a shortfall on meeting target earnings (Gunny, 2010). On the other hand, the manipulation of real activities must take place during a fiscal period, because such manipulation would not affect reported earnings if practiced at the end of the financial period. Therefore, Zang (2012) concludes that managers use accruals and real activities manipulation strategies in sequential order. Based on this reasoning, Zang (2012) explores whether costs that managers bear, and constraints they face for manipulating accruals, would affect their decisions about real activities manipulations.

To investigate how manager's trade off real versus accrual-based earnings management, this study estimates the following Zang (2012), the trade-off between REM and AEM can be modelled:

EQUATION NUMBER (4.8)

REMit=β0+β1BSIZEit+β2 BMEETit+β3 BINDit +β4 BFEMit+β5 ACSIZEit+β6 ACMEETit+β7 ACINDit+β8 ACEXPit+β9 MOWENit+β10 INSTITU 3%it +β11 FSIZEit +β12 FLEVERit+β13 ROAit+β14 FGROWit+β15 BIG4it +β16 Z-score+ εit [5.16]

This allows positive and negative changes in sales to have different coefficients.

EQUATION NUMBER (4.9)

AEMit=β0+β1BSIZEit+β2 BMEETit+β3 BINDit +β4 BFEMit+β5 ACSIZEit+β6 ACMEETit+β7 ACINDit+β8 ACEXPit+β9 MOWENit+β10 INSTITU 3%it +β11 FSIZEit +β12 FLEVERit+β13 ROAit+β14 FGROWit+β15 BIG4it +β16 Z-score+ β17 Unexpected REM it + εit [5.17]

Where REM is REM_1 and REM_2. AEM is discretionary accrual (modified Jones model and Kothari model). In equation (5.17), unexpected REM is the estimated residual from equation (5.16). Return on assets (ROA) is included to control for performance only in the regression of modify Jones model and REM because the Kothari model has already been estimated that includes ROA as a driver

The hypotheses are that the cost of each action determines the trade-off decisions between AEM and REM. When the cost of REM is high then managers turn towards AEM, and vice versa. Following Zang (2012), equations (6) and (7) capture the order between the different EM methods. Importantly, the level of REM depends on the recognised costs of both REM and AEM but does not depend on the level of AEM. In contrast, AEM depends on the identified costs of both REM and AEM but also depends on the level of the unexpected amount of REM (Unexpected_REM). The recursive model aims to capture the sequential relationship between accruals and real activities earnings management. Therefore, the residual values from the first equation (Unexpected_REM) are included in the second equation, because the extent of AEM is determined by the unexpected amount of real activities manipulation realised along with the costs associated with EM activities.

TABLE (5.3) SUMMARY OF VARIABLES AND THEIR MEASUREMENTS

Symbol	Variable	Operationalisation
AEM	Accrual-based Earnings	The Modified Jones model proposed by Dechow et al. (1995) and Kothari et al. (2005) Model estimated the absolute value of the discretionary accruals
REM	Real-based Earnings Management	Following Cohen and Zarowin (2010) and Zang (2012) to estimate real earnings management: REM_1 multiply abnormal discretionary expense by negative one and add it to abnormal production costs then aggregated as one measure. REM_2 abnormal cash flows from operations and the abnormal discretionary expenses are multiplied by negative one and then aggregated into one measure.
BSIZE	Board size	The board size represents the total number of board directors.
BMEET	Board meetings	The number of board meetings held annually by the board of directors.
BIND	Board independence	The proportion of independent non-executive directors to total board members.
BFEM	Female on the board	The percentage of female directors to total board directors.
ACSIZE	Audit committee size	the total number of audit committee members existing at the year end
ACMEET	Audit committee meetings	The annual audit committee meetings.
ACIND	Audit committee independence	The proportion of independent non-executive directors in the audit committee to total committee members.
ACEXP	Audit committee expertise	The percentage of members with accounting and financial qualification and financial accounting expertise.
MOWNE	Management ownership	The percentage of total shares held by directors divided by the total number of shares.
INSTITU 3%	Institutional ownership	The percentage of shares owned by institutional investors
FSIZE	Firm size	the natural log of the total assets
FLEVER	Leverage	total liabilities divided by total assets
ROA	Return on assets	The earnings before interest and taxes divided by total assets
FGROW	Sale growth	the change in total assets scaled by total assets
Big 4	Big 4 auditors	A dummy variable given the value 1 if the firm uses one of the Big 4 auditors, 0 otherwise.
Altman's Z-Score	**Z-Score**	1.2 (Working capitalTotal assets) + 1.4 (Retained earningsTotal assets) + 3.3 (EBITTotal assets) + 0.6 (Market value of equityTotal liabiities) +1.0 (SalesTotal assets)

5.9. ANALYTICAL PROCEDURES

Statistical multivariate data analysis can be classified as parametric and non-parametric. Researchers choose between parametric and non-parametric analysis depending on the characteristics of the data. Gujarati (2003) proposed five things to be considered when choosing a method of multivariate analysis:

1) Normality: is the data normally distributed?

2) Linearity: is the relationship between the explanatory variables and the dependent variable linear?

3) Homoscedasticity: is the standard deviation of the dependent variable homogenous?

4) Independence of error terms: is there risk of serial or autocorrelation?

5) Multicollinearity: is there inter-correlation amongst the predictors in the model?

To check whether it is more appropriate in this research to use parametric or non-parametric analysis several tests will be employed to answer the above questions.

Firstly, the histogram test will be used to check the normality problem (see Appendix 1). Secondly, the linearity problem will be examined using the Quantile-Quantile (Q-Q plot) test. Thirdly, this study will use the Breusch-Pagan/Cook- Weisberg and White's general tests to test for heteroscedasticity. Fourthly, the pairwise Pearson correlation matrix and VIF tests will be applied to check for independence and multicollinearity problems.

5.10. MULTIVARIATE ANALYSIS

The present section viewed the panel regression analysis, which is the most general multivariate analysis method (Dougherty 2011). Through this test the association between EM and corporate governance practices is identified with cross-sectional panel regressions (Campbell and Mínguez-Vera 2008 and Peni and Vähämaa 2010). Panel data is recognised as a suitable model for studies of time-series for the reason that it distinguishes between the data of time-series and several organisations and it permits practitioners to remove any imperceptible heterogeneity among the sample of study (Himmelberg et al. 1999). There are, however, some econometric issues that need to be considered.

Firstly, the Breusch and Pagan LM test needs to be used to evaluate whether the model fits both panel and pooled models. The result of the test is highly significant for all models (see Appendix 2), meaning that panel data is more fitting (Gujarati 2008). To make the choice

between random and fixed effect, the Hausman (1978) test will be used (McKnight and Weir 2009). An insignificant result in the Hausman test will show that the random effects estimation can be used.

The outcomes of models in both countries were not significant and, hence, the study could reject the null hypothesis (fixed effects) in favour of using the random effect method. However, there were significant models in both countries and, hence, the study could reject the null hypothesis (Random effects) in favour of using the fixed effect method (See Appendix 2)

5.11. SUMMARY

This chapter began with a discussion on research methodology and research paradigm. In addition, this chapter discussed the multiple regression models that will be used to test the hypotheses of this study. Also, this chapter develops a set of hypotheses to address the thesis research questions. Eleven primary hypotheses are presented, reflecting the research questions.

The adopted methodology is justified by the objectivist (realism) ontological position and positive epistemology. Therefore, the hypothetic-deductive approach (examining theory) seems to be the appropriate approach for this study. This chapter provides a rationale for the choices and sample selections that have been made.

This thesis uses a panel cross-sectional regression analysis to examine the impact of the independent variables on possible trade-off between AEM and REM behaviour. This chapter has described the use of two proxies for EM; discretionary accruals are the dependent variable of the AEM model and are computed from the modified Jones (1995) model, and Kothari model (2005). REM is computed from Roychowdhury's (2006) model and, following Cohen and Zarowin (2010) and Zang (2012), develops and combine the three measures of REM to compute an aggregate measure of REM activities. REM_1 – and REM_2.

This chapter has discussed the choice of data collection techniques and different data sources, and their use, to collect research data. This research employs data from 223 of the UK non-financial companies listed on the Financial Times Stock Exchange FTSE 350, and 212 private sector companies in India listed on the Bombay Stock Exchange for the fiscal years 2006 to 2015.

CHAPTER SIX: CORPORATE GOVERNANCE AND THE TRADE-OFF BETWEEN AEM AND REM; RESULTS AND DISCUSSION IN THE UK AND INDIA

6.1. INTRODUCTION

The hypotheses developed in Chapter 3 are tested using the methods reported in Chapter 4. The results of the tests of the hypotheses are reported in this chapter. This chapter aims to establish whether corporate governance affects trade-off decisions between AEM and REM in the UK and India sample.

This chapter is divided as follows: section 5.2 presents and discusses the descriptive statistics and univariate analysis; Section 5.3 presents and discusses a Correlation Matrix; Section 5.4 discusses the results of the testing, and finally, section 5.5 presents the summary of this chapter.

6.2. DESCRIPTIVE STATISTICS

This section presents the descriptive statistics results for the variables used in the extended EM models. The absolute values of discretionary accruals are calculated as a proxy for AEM using the modified Jones model (1995), Kothari model (2005) and REM1, REM2 and the aggregate real activities, are used as proxies for REM using the Roychowdhury (2006) model.

The descriptive statistics of AEM in the UK are presented in Table 6.1; they show that the mean current value using the modified Jones model is 0.06, whereas the minimum and maximum values are 0.0005 and 0.81 respectively. Also, Table 6.1 shows that the mean current value using the Kothari model is 0.04, whereas the minimum and maximum values are 0.005 and 0.90. Kothari et al. (2005) report mean abnormal accruals close to zero. The findings in Table 6.1 are consistent with prior research by Habbash (2010), who found that the mean was 0.07 and that the minimum was 0.00001 of the absolute value of AEM in the UK companies. However, Katmon and Al Farooque (2017) found the mean to be 0.06, and Arun et al. (2015), found the mean to be − 0.020. These results are not consistent with the results in Table 6.1, which show that the mean values of REM1, REM2 and aggregate REM in the UK are 0.005, 0.043 and 0.0004 respectively. The mean value is consistent with Gunny (2010) who reports a zero mean for both REM1 and REM2. Furthermore, the means of REM1 and REM2 proxies are both positive, which means that the REM1 and REM2 are consistent with the findings of prior studies (e.g., Zang, 2012). The mean value of REM is less than the results obtained by Alhadab et al. (2015), in the UK, and Osma (2008), in the US, who found that the mean values of the aggregate of REM were 0.42 and 0.35 respectively.

In the Indian sample, Table 6.2 shows that the mean current value of the modified Jones model is 0.05, whereas the minimum and maximum values are -0.38 and 0.78 respectively. Also, Table 6.2 shows that the mean current value of the Kothari model is 0.06, whereas the minimum and maximum values are -0.06 and 0.788. Kothari et al. (2005) report mean abnormal accruals close to zero. The mean absolute value of AEM is lower than that which has been reported in Indian studies by Sarkar et al. (2008), Rajpal (2012) and Houqe et al. (2017), who found that the mean values of AEM were 0.09, 0.09 and 0.06 respectively.

Table 6.2 shows that the mean value of aggregate REM, REM1 and REM2 in India are 0.018, 0.022 and 0.020 respectively. The mean value is consistent with Gunny (2010), who reports a zero mean of aggregate REM, REM1 and REM2. Furthermore, the mean of REM_1 and REM_2 proxies are both positive meaning that the aggregate REM, REM_1 and REM_2 measures are consistent with the finding of prior studies (e.g., Zang, 2012). These results are lower than the results obtained in a previous study in India by Enomoto et al. (2015) and Das et al. (2017), who found that the mean values of REM were 0.61 and 0.26 respectively.

Table 6.1 reports the descriptive statistics of the variables of the corporate governance characteristics. The average board size was 9 members. The maximum value for the board size was 22 members and the minimum value was 4 members. The result was comparable to UK studies such as Peasnell et al. (2005) and Beekes et al. (2004) who reported that the average board size was 8 members. Habbash (2010) found that the average board size was 9 members. Rahman et al. (2013) and Katmon and Al Farooque (2017) found that the average board size was 9 members. Katmon and Al Farooque (2017) found the average board size was 9 members. The UK Corporate Governance Code (2010, p. 12) states, “the code does not suggest a specific number of board members”. Despite the prior UK studies having different periods and samples, the results are compatible.

From the Indian perspective, the average board size was 11 members. This study shows a higher mean board size than prior Indian studies, such as Thyil and Young (2009), who found that the average board size was 8 members. However, the result is consistent with other Indian studies, (e.g. Kumari and Pattanayak 2014 and Balasubramanian et al. 2010).

The average number of board meetings was approximately 8 times per year. The maximum value for the Board meetings was 19 members and the minimum value was 3 members. The UK Corporate Governance Code (2010) states that “the board shall meet at least three times in a year”. The result is consistent with prior UK studies such as Rahman et al. (2013), Al-Najjar

(2011), Katmon and Al Farooque (2017), and Habbash (2010). Overall, all results have the same number of board meetings; they were consistent with the study's finding.

In the Indian context, the average number of board meetings was 6 times per year. The recommendations of the Indian Companies Act (2013) require "the board shall meet at least four times in a year". The result shows the sampled companies met more frequently than laid down in the Indian code. This result is consistent with previous studies using India data, such as Jackling and Johl (2009) and Jaiswall and Banerjee (2012). On the other hand, the result is higher than some Indian studies but lower than others, such as the studies by Kapoor and Goel (2017) and Balasubramanian et al. (2010) who found that the mean numbers of board meetings were 5 and 7 times a year respectively.

The board independence has a mean of 50%, which complies with the UK Corporate Governance Code (2010) that recommends at least half of the board members should be independent non-executive directors. This finding is higher than the results of other UK studies, such as O'Sullivan (2000), Peasnell et al. (2005) and Habbash (2010), who reported that the mean values of independent non-executive directors were 41%, 43%, and 44% respectively. Nevertheless, the result is close to the UK study by Basiruddin (2011) and Rahman et al. (2013); they found that the average board independence figures were 46% and 46.13% respectively.

In the Indian sample, the mean value of independent directors was 52%. The recommendations of the Indian Companies Act (2013) state "where the chairperson of the board of directors is a non-executive director, at least one-third of the board of directors shall comprise of independent directors and where the listed entity does not have a regular non-executive chairperson, at least half of the board of directors shall comprise of independent directors" (Vaibhavi and Soundarya 2015). The results show that the percentages of independent board members are the same as in Indian studies by Hassan et al. (2017). Thus, they show that percentages of board independents are higher than found in Indian studies by Balasubramanian and George (2012) and Kapoor and Goel (2017) who found that the mean numbers of independent non-executive directors were 45% and 49% respectively. However, it shows lower percentages of independent directors, 55% and 56% respectively, than reported by Sarkar et al. (2008) and Kumari and Pattanayak (2014) from their Indian samples.

The mean number of females on the board was 11%. The UK Corporate Governance Code (2010) recommends, "The appointment of directors should take into account the gender

diversity of the board" (Council, F.R. 2012). The results are higher than those found by Singh and Vinnicombe, (2004) and Habbash (2010), in the UK. These studies found figures of 6.4% and 7% respectively. However, other studies such as Arun et al. (2015), in the UK, found that the mean number of female directors was 12%.

In the Indian context, the mean proportion of females on the board was 6%. The recommendations of the Indian Companies Act (2013) states that "all companies listed on stock exchanges must have at least one woman on its board of directors" (Vaibhavi and Soundarya 2015). The results are consistent with an Indian study by Saeed et al. (2017). However, the result is higher than prior Indian studies by Balasubramanian et al. (2010) and Jhunjhunwala and Mishra (2012), who found that the mean proportion of females on the board was 5%.

The mean of the number of members on the audit committees was 3.6 members. The UK Corporate Governance Code (2010), suggests that "the minimum number of audit committee members should be three directors". The results are similar to those found in other UK studies. For example, Mangena and Tauringana (2008) and Al-Najjar (2011) report an average audit committee size of 3.4 and 3.8 members respectively. Rahman et al. (2013), Habbash (2010) and Basiruddin (2011), using UK samples, found that audit committee sizes averaged 3.55, 3.58, and 3.6 members respectively. These results suggest significant compliance with the UK Code.

In the Indian sample, the mean number of members; on the audit committees was 4. The recommendations of the Indian Companies Act (2013) requires "audit committees to consist of a minimum of three members" (Mishra and Malhotra 2016). The result is consistent with an Indian study by Mishra and Malhotra (2016) and Gurusamy (2017).

The mean number of audit committee meetings was 4 times per year. The UK Corporate Governance Code 2010, states, "It is recommended there should be no fewer than three meetings during the year". The result is consistent with the UK Code. The result is also similar to findings in recent UK studies, such as Al-Najjar (2011), Rahman et al. (2013) and Basiruddin (2011). Both these studies reported, in all their studies, that audit committees met, on average, 4 times a year. However, the result is higher than that found in the study by Habbash (2010), who found that audit committees met, on average, 3 times a year.

In the Indian context, the mean number of audit committee meetings was 5 times per year. The recommendations of the Indian Companies Act (2013) stipulate, "the laws require audit committees to meet at least four times in a year" (Mishra and Malhotra 2016). The result is

consistent with the Indian studies by Mishra and Malhotra (2016) and Bansal, and Sharma (2016).

The average number of independent non-executive directors on audit committees was around 83%. The UK Corporate Governance Code 2010 recommends, "An audit committee is composed of a minimum of three independent directors". This result indicates strong compliance with the UK corporate governance code. The same result, in a prior UK study by Habbash (2010), was reported to be 83%. In addition, it is slightly higher than the 72% reported by Basiruddin (2011). It is, however, lower than the 95%, and 89% reported in UK studies by Rahman et al. (2013) and Katmon and Al Farooque (2017).

In the Indian sample, the average percentage of independent directors on audit committees was 83%. The recommendations of the Indian Companies Act (2013) requires that "at least two-thirds of audit committee members should be independent directors". (Krishna et al. 2017). The results are slightly higher than the Indian study by Kapoor and Goel (2017), who found that the average value of independent directors on audit committees was 80%. The result is lower than that found in the Indian study by Mishra and Malhotra (2016); they found that the mean of independent directors on audit committees was 98%.

The mean number of members of the audit committee having financial experience was 84%. According to the Corporate Governance Code 2010, "the board should satisfy itself that at least one member of the audit committee has recent and relevant financial experience". The result reported in Table 6.1 shows some non-compliance with the UK corporate governance code 2010. The result is slightly higher than reported in prior UK studies, such as Mangena and Pike (2005), Habbash (2010), Rahman et al. (2013) and Zaman et al. (2011), who found that the mean number of members of the audit committee having relevant financial experience was 74%, 77%, 69% and 71% respectively. On the other hand, the results are lower than those found in previous UK studies, such as by Katmon and Al Farooque (2017), who found that the mean numbers of members having financial experience on audit committees was 90%.

In the Indian case, the mean value of members of the audit committee having financial experience was 66%. The recommendations of the Indian Companies Act (2013) requires that "at least one member shall have accounting or related financial management expertise and all members of the audit committee shall be financially literate" (Mishra and Malhotra 2016). The results are higher than reported in prior Indian studies by Mishra and Malhotra (2016), who found that the mean value of financially experienced members on audit committees was 62%.

However, this result's finding is lower than in the study reported by Balasubramanian et al. (2010), using Indian data, who found that the mean value of members having financial experience on the audit committee was 96%.

The mean figure of managerial ownership was 5%. The result is higher than prior UK studies such as Bos et al. (2013), Habbash (2013), Basiruddin (2011) and Peasnell et al. (2005). Using UK data, they found that the mean levels of managerial ownership were 2%, 3%, 4% and 2% respectively. The results of this study are lower than some UK studies, for example O'Sullivan (2000) and Yu et al. (2015), who found mean directors' holdings of 6% and 7% respectively. The difference in results between different UK samples may reflect the different time periods studied.

In the Indian case, the mean value of managerial ownership was 50%. The result is similar to prior Indian studies such as those of Jaiswall and Banerjee (2012) and Sarkar et al. (2013). However, the result was higher than found in prior studies, such as Mishra and Malhotra (2016), who found that the mean level of managerial ownership was 38%. In addition, this study reported lower percentage holdings than other Indian studies, such as those reported by Bansal and Sharma (2016) and Sarkar et al. (2008). These studies found that the mean values of managerial ownership were 52% and 56% respectively.

The average value of institutional owners holding at least 3% of the shares was 37%. The finding is higher than that reported in previous UK studies such as Habbash (2010), O'Sullivan (2000) and Rahman et al. (2013) who reported that the average institutional ownership was 24%, 32% and 25% respectively. The results of this study are lower than some UK studies. For instance, Yu et al. (2015) reported that the mean of institutional ownership was 38%.

In the Indian context, the average value of institutional ownership was 15%. The result is lower than previous Indian results, such as Ajay and Madhumathi (2015) and Jaiswall and Banerjee (2012) who found that the average percentages of institutional owners were 35% and 33% respectively. It is possible that the average shareholding of institutional owners is low because India is a developing country where the practice of institutional ownership has not yet developed fully (Khanna and Palepu 2000).

The average of firm size was 6.22. The result is similar to prior UK studies such as Basiruddin (2011) and Habbash (2010) who found the mean firm size was 6 in both studies. However, it is less than prior UK studies, such as Yu (2015), who found that the average firm size was 11.

On the other hand, it is higher than the study by Arun et al. (2015), using a UK sample, who found the mean firm size, was 3.

In the Indian sample, the average firm size was 7.5. The results are lower than prior Indian studies, such as those conducted by Mishra and Malhotra (2016) and Ajay and Madhumathi (2015) and Kumar and Singh (2013), who found that the mean sizes of the firms were 10, 10.4 and 9 respectively. However, Sarkar et al. (2008) and Gurusamy (2017) and Das et al. (2017) found the mean firm size was lower than the results in Table 6.2; they reported findings of 3. 3.5 and 3.6 respectively.

The mean leverage of firms was 55%. This result is slightly high compared to prior UK studies, e.g. Rahman et al. (2013) and Sarkar et al. (2008) and Habbash (2010) and Katmon and Al Farooque (2017), who found that the mean leverages were 24%, 32%, 25% and 42% respectively. On the other hand, the results are lower than found in previous UK studies, such as by Kuang and Qin (2009), who used the 244 largest UK firms, and Velte (2018) who used a sample of 660 firm years' observations from 2014 to 2015. They found that the mean leverage was 57% and 58% respectively.

In the Indian case, the mean value of Leverage was 53%. The results are lower than comparable prior Indian studies, such as Kapoor and Goel (2017) and Das et al. (2017), who found that the mean values of Leverage were 81% and 57% respectively. However, the result is higher than Indian studies such as Houqe et al. (2015) and Ajay and Madhumathi (2015) and Ghosh (2011) and Kumar and Singh (2013), who found that the average values of Leverage were 50%, 24%, 37% and 25% respectively.

The mean return on assets was 12%. This result is slightly high compared to figures found in UK prior literature, e.g. Yu (2015) and Rahman et al. (2013) and Arun et al (2015) and Habbash (2010), who found that the mean returns on assets were 6%, 7.6%, 10% and 11% respectively.

In the Indian context, the mean return on assets was 13%. The results are lower than in prior studies, such as Mishra and Malhotra (2016) and Das et al. (2017), who found that the mean returns on assets were 22% and 15% respectively. However, they show higher results than Indian studies such as Bansal and Sharma (2016) and Ajay and Madhumathi (2015) and Ghosh (2011), who found that the mean returns on assets, were 9%, 8% and 6% respectively.

The average sales growth was 8%. The result is higher than in UK studies by Rahman et al. (2013) who found that the mean value of sales growth was 5%. On the other hand, the results

are lower than found in previous UK studies, such as by Habbash (2010), who found that, the mean sales growth was 12%.

In the Indian case, the average growth of the firms was 18%. The finding is slightly lower than reported in a prior Indian study by Ajay and Madhumathi (2015) who found firm growth of 23.6%.

The mean of the Big 4 audits was 71%. This result is lower than the 79% and 96% reported by Ferguson et al. (2004) and Katmon and Al Farooque (2017) respectively, using UK data. In addition, Table 6.1 shows a result lower than the 96% and 91% reported by Rahman et al. (2013) and Velte (2018) using UK firms. This difference may be attributed to the different time horizon.

In the Indian sample, with regard to the Big 4 auditors, the result shows that 26% of the sample firms have been audited by one of the Big 4 auditors. The result is similar to prior Indian studies, for example Das et al. (2017). However, the result is higher than the 20% and 17%, respectively, reported by Chittoor et al. (2012) and Houqe et al. (2017). In contrast, the result is lower than the 39% and 50% reported by Huber, (2011) and Hassan et al. (2017) respectively.

The mean value of financial distress is reported at 1.30, which is lower than the required value of 1.8 for the company to be classified as healthy (Demirkan and Platt, 2009). The result is higher than the 0.73, 0.12 and 1.2 reported by Ghazali et al. (2015), Akbar et al. (2017), Martínez-Ferrero, et al. (2016) respectively. On the other hand, the results are lower than 5.525 and 2.34 repotred by Abernathy et al. (2014) and Lanier et al. (2019).

In the Indian sample, the mean value of financial distress is reported at 1.59, which is lower than the required value of 1.8 for the company to be classified as healthy (Demirkan and Platt, 2009). The result is higher than the 0.99, 0.79 reported by Selahudin, N.F., (2014.) for Thailand and Malaysia respectively. Also, it is higher than the 1.22 reported by Agrawal and Chatterjee (2015) using an Indian sample.

TABLE (6.1) DESCRIPTIVE STATISTICS OF AEM AND REM, MECHANISMS OF CORPORATE GOVERNANCE AND CONTROL VARIABLES IN THE UK

Variable	N	Mean	Stan-Dev	Minim	Maxim
AEMJones	2230	0.06063	0.0778	-0.0005	0.816
AEMKothari	2230	0.04937	0.0866	-0.00578	0.902
REM	2230	0.00044	0.2763	-0.2511	0.8992
REM_1	2230	0.00524	0.2598	-0.0057	0.9367
REM_2	2230	0.04321	0.1862	0.0469	0.5381
BSIZE	2230	9.33	2.55	4	22
BMEET	2230	8.42	2.47	3	19
BIND	2230	0.50	0.10	0.11	0.88
BFEM	2230	0.11	0.10	0	0.40
ACSIZE	2230	3.65	0.88	2	8
ACMEET	2230	4.08	1.54	2	13
ACIND	2230	0.83	0.16	0.25	1
ACEXP	2230	0.84	0.18	0.25	1
MOWNE	2230	0.05	0.06	0.001	0.53
INSTITU 3%	2230	0.37	0.16	0.03	0.78
FSIZE	2230	6.22	0.71	4.04	8.69
FLEVER	2230	0.55	0.29	0.003	5.74
ROA	2230	0.12	0.37	0.00	4.17
FGROW	2230	0.08	0.56	-0.99	5.18
Big 4	2230	0.71	0.45	0	1
Z-score	2230	1.306	0.898	-4.502	5.029

AEMJones=*Accrual earnings management by using Modified Jones Model****. AEMKothari=*** *Accrual earnings management by using Kothari Model.* ***REM, REM1 and REM2****= real earnings management****. BSIZE****= board size, measured by the total numbers of board members.* ***BMEET****= Board meeting, the number of meetings per year held by the board of directors.* ***BIND =*** *Board of Director Independence, the proportion of independent directors to total board size.* ***BFEM****= the percentage of female directors on the board of directors.* ***ACSIZE*** *= the total number of audit committee members existing at the yearend****.*** ***ACMEET*** *= the number of audit committee meetings held during the year.* ***ACIND*** *= the percentage of total independent non-executive directors on the audit committee board.* ***ACEXP =*** *the percentage of members with accounting and financial qualification and experience****. MOWNE*** *= the percentage of the total shares that were owned by the directors of a firm.* ***INSTITU 3%*** *= the percentage of Institutional ownership of those who hold at least 3% or more.* ***FSIZE****= Firm size, the natural log of firm's total assets.* ***FLEVER****= leverage ratio, measured by total liabilities divided by total assets.* ***ROA****= profitability, measured by ROA (net income before interest and taxes divided by total assets).* ***FGROW*** *= the change in total assets scaled by total assets****.*** **Big 4** *= a dummy variable that takes the value of 1 if the firm is being audited by one of the big-4 auditors, and 0 otherwise****. Z-SCORE=*** *refers to Altman's Z-Score.*

TABLE (6.2) DESCRIPTIVE STATISTICS OF AEM AND REM, MECHANISMS OF CORPORATE GOVERNANCE AND CONTROL VARIABLES IN INDIA

Variable	N	Mean	Stan-Dev	Minim	Maxim
AEMJones	2120	0.052	0.101	-0.382	0.788
AEMKothari	2120	0.065	0.184	-0.065	0.765
REM	2120	0.018	0.329	-0.	0.976
REM_1	2120	0.022	0.311	-0.949	0.922
REM_2	2120	0.020	0.245	-0.961	0.951
BSIZE	2120	10.51	3.22	4	24
BMEET	2120	6.24	2.29	4	14
BIND	2120	0.52	0.10	0.2	0.71
BFEM	2120	0.06	0.08	0	0.43
ACSIZE	2120	4.22	1.36	3	10
ACMEET	2120	4.82	1.36	2	12
ACIND	2120	0.83	0.15	0.25	1
ACEXP	2120	0.66	0.21	0.25	1
MOWNE	2120	0.50	0.15	0.11	0.88
INSTITU 3%	2120	0.15	0.10	0.03	0.82
FSIZE	2120	7.59	0.68	4.88	9.74
FLEVER	2120	0.53	0.49	0.05	8.56
ROA	2120	0.13	0.25	-0.45	5.91
FGROW	2120	0.18	0.45	-0.99	8.34
Big 4	2120	0.26	0.44	0	1
Z-score	2120	1.593	0.935	-1.235	6.232

AEMJones=*Accrual earnings management by using Modified Jones Model****. AEMKothari=*** *Accrual earnings management by using Kothari Model.* ***REM, REM1 and REM2****= real earnings management****. BSIZE****= board size, measured by the total numbers of board members.* ***BMEET****= Board meeting, the number of meetings per year held by the board of directors.* ***BIND =*** *Board of Director Independence, the proportion of independent directors to total board size.* ***BFEM****= the percentage of female directors on the board of directors.* ***ACSIZE*** *= the total number of audit committee members existing at the yearend****. ACMEET*** *= the number of audit committee meetings held during the year.* ***ACIND*** *= the percentage of total independent non-executive directors on the audit committee board.* ***ACEXP =*** *the percentage of members with accounting and financial qualification and experience****. MOWNE*** *= the percentage of the total shares that were owned by the directors of a firm.* ***INSTITU 3%*** *= the percentage of Institutional ownership of those who hold at least 3% or more.* ***FSIZE****= Firm size, the natural log of firm's total assets.* ***FLEVER****= leverage ratio, measured by total liabilities divided by total assets.* ***ROA****= profitability, measured by ROA (net income before interest and taxes divided by total assets).* ***FGROW*** *= the change in total assets scaled by total assets****.*** **Big 4** *= a dummy variable that takes the value of 1 if the firm is being audited by one of the big-4 auditors, and 0 otherwise****. Z-SCORE=*** *refers to Altman's Z-Score.*

6.3. MULTICOLLINEARITY TEST

Multicollinearity can be a problem when two or more independent variables are associated, with a level of correlation of ± 80% (Grewal et al. 2004, Gujarati 2008 and Harris and Raviv 2008). Multicollinearity makes it difficult to distinguish individual effects. Panel regressions tend to exhibit large variance (Murray 2005). If a perfect relationship happens to exist between the estimator variables, the results of the regression are not unique. Two commonly used checks, for multicollinearity, are the use of the Correlation Coefficients Matrix and Variance Inflation Factors (VIF). These two methods have been employed extensively in the literature (Hair et al. 2006 and Al-Ghamdi and Ali 2012). The Pearson coefficient correlation is only suitable when the sampling distribution is normal or when the sample is large (Field, 2009).

There is a high correlation between institutional and block holder's ownership and between female members on the board and females on the audit committee. This study excluded the female members on the audit committee and block holder's ownership to avoid any overlap.

Overall, the Pearson Correlation Matrix does not indicate any significant problem of multicollinearity across the model variables. In Table 6.3, the Pearson correlations between abnormal discretionary accruals using the modified Jones and Kothari models and REM, REM_1 and REM_2 are significantly negative. These significantly negative correlation coefficients between AEM and the aggregate proxies of REM imply that companies are engaging in REM and AEM as substitutes.

The correlation coefficient is a significant positive correlation between abnormal discretionary accruals by using the modified Jones model and ACSIZE, ACMEET, FGROW and by using the Kothari Model and BMEET, ACSIZE, ACMEET, MONWE and INSTITU. This positive correlation can be explained by firms in the UK engaging in upward AEM.

The high and positive or negative correlations are less than 50% between all variables. The correlation statistics indicate that the correlation coefficients are not large enough to prohibit the use of a multivariate regression analysis and it is less than the threshold value of 80% (Gujarati 2004).

To test for multicollinearity, the mean VIFs are presented in Table 6.4 for all three types of REM and discretionary accruals proxies, all the outputs of the VIF are less than 2.84, suggesting that there is no multicollinearity between the various variables. The mean VIF across variables is 1.37. A VIF value higher than the threshold of 10 is considered to be a problem of multicollinearity. VIF values between the threshold of 5 and 10 are potential

indicators of multicollinearity (Hair et al. 2006 and Gujarati 2004). All VIF values are significantly lower than the threshold of 5 and thus show that there is no significant problem of multicollinearity present.

In the Indian case, the Pearson Correlation Matrix in Table 6.5 shows that there is no high correlation between the variables in the Indian sample. Therefore, the results confirm that multicollinearity is not a problem in this study. According to Gujarati (2008), multicollinearity does not exist among explanatory variables.

Figures in Table 6.5 show that the Pearson correlations between abnormal discretionary accruals using the modified Jones and Kothari models and REM, REM_1 and REM_2, are significantly negative. These signify negative correlation coefficients between AEM and the aggregate proxies of REM, implying that companies are engaging in REM and AEM as substitutes.

The correlation coefficient is a significant positive correlation between abnormal discretionary accruals by using the modified Jones model and FSIZE and FGROW and by using the Kothari model and BFEM, ACEXPER, ROA and FGROW. This positive correlation can be explained by firms in India engaging in upward AEM.

To test for multicollinearity, the mean VIFs are presented in Table 6.5 for all three types of REM and discretionary accruals proxies, all the outputs of the VIF are less than 2.76, suggesting that there is no multicollinearity between the various variables. The mean VIF across variables is 1.35. A VIF value higher than the threshold of 10 is considered to be a problem of multicollinearity. All VIF values are significantly lower than the threshold of 10 (Gujarati 2003). Thus, the result shows that there is no significant problem of multicollinearity present.

TABLE (6.3) PEARSON CORRELATION MATRIX OF THE UK

	AEMJ	AEMK	REM	REM1	REM2	BSIZ	BMEET	BIND	BFEM	AC SIZE	AC MEET	AC IND	AC EXP	MOWNE	INSTITU 3%	FSIZE	FLEVE R	ROA	FGROW	Big 4	Z-score
AEMJones	1.000																				
AEMKothari	0.396	1.000																			
REM	-0. 023	-0.022	1.000																		
REM1	-0.049	-0.044	0.462	1.000																	
REM2	-0.054	-0.022	0.512	0.415	1.000																
BSIZE	-0.071	-0.071	0.026	0.035	0.029	1.000															
BMEET	-0.016	0.023	0.040	0.018	0.026	-0.033	1.000														
BIND	-0.123	-0.045	0.008	0.016	-0.017	0.108	-0.073	1.000													
BFEM	-0.115	-0.079	0.044	0.054	0.001	0.233	0.015	0.314	1.000												
ACSIZE	0.075	0.055	-0.121	-0.109	-0.103	0.349	-0.070	0.078	0.159	1.000											
ACMEET	0.070	0.079	-0.113	-0.093	-0.104	0.251	0.098	0.050	0.062	0.302	1.000										
ACIND	-0.127	-0.123	0.018	0.016	0.019	-0.039	-0.000	0.070	-0.043	-0.108	-0.053	1.000									
ACEXPER	-0.014	-0.034	0.004	0.001	-0.022	0.001	-0.042	0.111	0.028	-0.118	-0.046	0.195	1.000								
MOWNE	-0.004	0.016	0.079	0.075	0.042	0.045	0.028	0.029	0.039	-0.028	-0.045	-0.016	-0.071	1.000							
INSTITU	0.063	0.058	-0.037	-0.045	0.019	-0.151	0.035	-0.082	-0.124	-0.041	-0.021	0.002	-0.000	-0.111	1.000						
FSIZE	-0.098	-0.043	-0.032	-0.024	0.009	0.350	-0.028	0.149	0.200	0.288	0.353	-0.049	0.002	-0.022	-0.124	1.000					
FLEVER	-0.011	-0.040	0.000	-0.001	-0.017	0.149	0.053	0.025	0.039	0.108	0.008	0.033	-0.019	-0.009	-0.071	0.092	1.000				
ROA	0.147	-0.062	-0.219	-0.070	-0.307	-0.053	-0.029	-0.064	-0.017	-0.001	0.037	-0.025	-0.027	-0.033	-0.020	-0.202	0.038	1.000			
FGROW	0.063	-0.007	-0.018	-0.015	-0.035	-0.088	-0.022	-0.111	-0.098	-0.066	-0.066	0.014	-0.035	-0.015	0.029	-0.141	0.029	0.223	1.000		
Big 4	-0.113	-0.030	0.044	0.050	-0.147	0.044	0.054	-0.014	0.068	0.055	0.055	-0.067	-0.058	0.045	-0.018	-0.002	0.108	0.100	-0.011	1.000	
Z-score	-0.041	0.002	0.045	0.014	0.028	-0.049	0.043	-0.001	-0.004	0.022	0.003	0.001	-0.020	0.046	-0.035	-0.017	0.030	0.001	0.003	0.074	1.000

AEMJones=*Accrual earnings management by using Modified Jones Model****. AEMKothari=*** *Accrual earnings management by using Kothari Model.* ***REM, REM1 and REM2****= real earnings management****.*** ***BSIZE****= board size, measured by the total numbers of board members.* ***BMEET****= Board meeting, the number of meetings per year held by the board of directors.* ***BIND =*** *Board of Director Independence, proportion of independent directors to total board size.* ***BFEM****= the percentage of female directors on the board of directors.* ***ACSIZE*** *= the total number of audit committee members existing at the yearend****. ACMEET*** *= the number of audit committee meetings held during the year.* ***ACIND*** *= the percentage of total independent non-executive directors on the audit committee board.* ***ACEXP =*** *the percentage of members with accounting and financial qualification and experience****. MOWNE*** *= the percentage of the total shares that were owned by the directors of a firm.* ***FSIZE****= Firm size, the natural log of firm's total assets.* ***FLEVER****= leverage ratio, measured by total liabilities divided by total assets.* ***ROA****= profitability, measured by ROA (net income before interest and taxes divided by total assets).* ***FGROW*** *= the change in total assets scaled by total assets.* ***Big 4 = a*** *dummy variable that takes the value of 1 if the firm is being audited by one of the big-4 auditors and 0 otherwise****. Z-SCORE=*** *refers to Altman's Z-Score.*

TABLE (6.4): PEARSON CORRELATION MATRIX OF INDIA

	AEMJ	AEMK	REM	REM1	REM2	BSIZ	BMEET	BIND	BFEM	AC SIZE	AC MEET	AC IND	AC EXP	MOWNE	INSTITU 3%	FSIZE	FLEVER	ROA	FGROW	Big 4	Z-score
AEMJones	1.000																				
AEMKothari	0.293	1.000																			
REM	-0.104	-0.067	1.000																		
REM1	-0.080	-0.058	0.432	1.000																	
REM2	-0.126	-0.081	0.512	0.495	1.000																
BSIZE	-0.036	-0.019	0.046	0.047	0.001	1.000															
BMEET	-0.017	-0.001	-0.029	0.018	0.044	0.025	1.000														
BIND	-0.106	-0.053	0.012	0.030	0.046	-0.174	-0.050	1.000													
BFEM	-0.019	0.015	0.041	0.057	0.030	-0.028	0.003	0.028	1.000												
ACSIZE	-0.019	-0.030	-0.046	-0.021	0.026	0.146	0.173	-0.019	0.110	1.000											
ACMEET	-0.012	-0.058	0.044	0.046	0.033	0.191	0.204	-0.032	-0.002	-0.003	1.000										
ACIND	-0.097	-0.058	0.043	0.050	0.045	0.046	0.049	0.071	0.038	-0.020	0.080	1.000									
ACEXPER	-0.072	0.005	-0.069	-0.045	-0.038	0.020	0.075	0.062	0.140	0.042	0.038	0.003	1.000								
MOWNE	-0.032	-0.035	-0.020	-0.019	-0.033	-0.074	-0.109	0.017	0.031	0.013	-0.114	0.046	-0.026	1.000							
INSTITU	-0.019	-0.027	0.028	0.098	0.104	0.065	0.213	0.084	0.081	0.203	0.051	0.039	0.036	-0.248	1.000						
FSIZE	0.040	-0.031	0.067	0.078	0.083	0.190	0.034	0.026	0.042	0.051	0.192	0.078	0.051	-0.088	0.052	1.000					
FLEVER	-0.077	-0.014	-0.047	-0.054	-0.081	-0.108	-0.028	0.013	-0.053	-0.039	-0.095	-0.012	-0.073	0.561	0.030	-0.353	1.000				
ROA	0.234	0.054	0.258	-0.099	-0.313	-0.007	0.009	-0.011	0.021	-0.030	0.073	-0.018	0.023	0.044	0.012	-0.040	0.048	1.000			
FGROW	0.081	0.057	-0.035	-0.023	-0.033	0.029	0.078	0.013	-0.010	-0.000	0.024	-0.003	0.024	-0.007	-0.006	0.054	-0.005	0.069	1.000		
Big 4	-0.063	-0.032	-0.037	-0.031	-0.029	-0.022	0.053	-0.008	0.039	-0.014	-0.027	0.041	0.098	0.049	-0.045	0.018	0.002	0.020	0.016	1.000	
Z-score	-0.004	-0.023	0.005	-0.003	-0.020	-0.047	0.026	0.040	-0.110	-0.021	0.005	-0.018	-0.009	-0.023	0.029	-0.126	0.086	0.051	-0.007	-0.020	1.000

AEMJones=*Accrual earnings management by using Modified Jones Model.* ***AEMKothari=*** *Accrual earnings management by using Kothari Model.* ***REM, REM1 and REM2=*** *real earnings management.* ***BSIZE****= board size, measured by the total numbers of board members.* ***BMEET****= Board meeting, the number of meetings per year held by the board of directors.* ***BIND =*** *Board of Director Independence, proportion of independent directors to total board size.* ***BFEM****= the percentage of female directors on the board of directors.* ***ACSIZE*** *= the total number of audit committee members existing at the yearend.* ***ACMEET*** *= the number of audit committee meetings held during the year.* ***ACIND*** *= the percentage of total independent non-executive directors on the audit committee board.* ***ACEXP =*** *the percentage of members with accounting and financial qualification and experience.* ***MOWNE*** *= the percentage of the total shares that were owned by the directors of a firm.* ***FSIZE****= Firm size, the natural log of firm's total assets.* ***FLEVER****= leverage ratio, measured by total liabilities divided by total assets.* ***ROA****= profitability, measured by ROA (net income before interest and taxes divided by total assets).* ***FGROW*** *= the change in total assets scaled by total assets.* ***Big 4 = a*** *dummy variable that takes the value of 1 if the firm is being audited by one of the big-4 auditors and 0 otherwise.* ***Z-SCORE =*** *refers to Altman's Z-Score.*

TABLE (6.5) COLLINEARITY DIAGNOSTICS (VIF) IN THE UK

Variables	**VIF**
AEMJones	1.20
AEMKothari	1.06
REM	2.05
REM1	1.93
REM2	2.84
BSIZE	1.62
BMEET	1.06
BIND	1.23
BFEM	1.22
ACSIZE	1.30
ACMEET	1.28
ACIND	1.13
ACEXP	1.09
MOWNE	1.06
INSTITU 3%	1.07
FSIZE	1.73
FLEVER	1.06
ROA	1.76
FGROW	1.10
Big 4	1.07
Z-score	1.03
Mean	**1.37**

TABLE (6.6): COLLINEARITY DIAGNOSTICS (VIF) IN INDIA

Variables	**VIF**
AEMJones	1.53
AEMKothari	1.63
REM	2.76
REM1	1.96
REM2	2.09
BSIZE	1.17
BMEET	1.15
BIND	1.09
BFEM	1.06
ACSIZE	1.12
ACMEET	1.14
ACIND	1.12
ACEXP	1.05
MOWNE	1.38
INSTITU 3%	1.02
FSIZE	1.19
FLEVER	1.22
ROA	1.26
FGROW	1.28
Big 4	1.11
Z-score	1.02
Mean	**1.35**

6.4. RESULTS AND DISCUSSIONS

This section will discuss the multiple regression results obtained in Tables 6.7 and 6.8, regarding the relationship between mechanisms of corporate governance and the trade-off decision between AEM and REM in the UK and India.

6.4.1. THE RELATIONSHIP BETWEEN UNEXPECTED REM AND AEM

In Tables 6.7 and 6.8 association is indicated by a significantly negative coefficient for the variable between AEM, and unexpected REM. Choice of management strategies appears to be influenced by their respective cost H1, and there appears to be substitution between REM and AEM. H1 was that managers adjust results via accruals after real activities manipulations have taken place, and that the extent of AEM is negatively linked to any unexpected manipulation of real activities.

To examine whether a company's substitution of AEM for REM depends on different levels mechanisms of corporate governance, this study extended Zang's (2012) model. As pointed out earlier, REM usually occurs during the fiscal year and is realised at the year-end, when managers have a further opportunity to manipulate the level of AEM. Thus, the timing difference allows managers to adjust the AEM based on the results of the REM. Therefore, the relationship between AEM and REM may differ depending on the level of constraint imposed by corporate governance practices.

Consistent with Zang (2012), the coefficient on UNEXPRM was found to be negative and significant at 0.01 and 0.05 levels in the UK and India respectively, showing that AEM is negatively associated with the unexpected partof REM. This result suggests that, as predicted by H1, managers do adjust the amount of AEM after REM is realised

As discussed above, REM has to be executed and realised by the fiscal year-end, after which managers can still adjust the extent of AEM based on the observed impact of REM (H1). Therefore, the extent of REM is determined by the costs of both EM tools and other predetermined firm characteristics, but not by the realised outcome of AEM. The extent of AEM is determined not only by the costs of EM activities, but also by the unexpected amount of REM realised. H1 predicts that managers increase (decrease) the extent of AEM when REM turns out to be unexpectedly low (high). The Hypothesised direct and substitutive relation between the two EM methods implies a negative sign (Question 1) in the AEM equation.

The recursive model purposes to capture the sequential relationship between AEM and REM. The residual values from the first equation (Unexpected REM) are included in the second

equation because the extent of AEM is determined by the unexpected amount of REM realised along with the costs associated with EM activities. Zang's (2012) model is employed in the current research with minor changes. The costs associated with AEM and REM that are included in this research are corporate governance.

Tables 6.7 and 6.8 exhibit the results of using the recursive model to measure the trade-off between AEM and REM in the UK and India.

The first results are the ones that directly relate to the trade-off effect. The coefficient of Unexpected REM is significant and negative in both countries. These results are in line with the result found in Zang's study. Unexpectedly high or low manipulation of REM is offset by lower or higher AEM. This substitutive effect was found in both the UK and India.

The results provide strong evidence that firms in the UK and India use AEM and REM techniques as mutual substitutes, rather than as complements, when seeking to manipulate reported earnings. Zang (2012) argues that firms encounter different constraints for the two methods and provides evidence that the trade-off decision is dependent upon the relative costs and adverse consequences of the two strategies. She explains, unremarkably, that when one EM method is constrained, managers will make use of the other. UK and Indian firms appear to employ a method of trading off between the two manipulative techniques, rather than employing both simultaneously. Furthermore, Cohen and Zarowin (2010) argue that the choice between these alternative strategies for EM varies predictably as a function of the firm's ability to use AEM, given the costs of doing so. The negative relationship, between AEM and REM, provides support for the research findings of Barton (2001), Braam et al. (2015), Cohen and Zarowin (2010), Anagnostopoulou and Tsekrekos (2017), Zang (2012), Cohen et al. (2008), Doukakis (2014), Zhu et al. (2015), Mizik and Jacobson (2007) and Kuo et al. (2014). However, there are contradictions with the research findings of Kuo et al. (2012), who found a positive relationship between AEM and REM, and there are inconsistencies with Das et al. (2017) who considered 673 non-financial companies listed in India during the period 2009–2013. These studies found that Indian companies undertook both AEM and REM.

TABLE (6.7) ASSOCIATION BETWEEN CORPORATE GOVERNANCE AND AEM AND REM IN THE UK

variables	REM_1		REM_2	
	REM_1	AEMJones	REM_2	AEMJones
Unexpected REM_1	----	-0.011	---------	---------
Unexpected REM_2	---------	--------	-----	-0.018
BSIZE	+0.000	-0.021	0.486	-0.018
BMEET	0.473	+0.089	0.899	+0.093
BIND	0.752	-0.014	0.493	-0.013
BFEM	+0.002	-0.015	0.522	-0.017
ACSIZE	-0.000	+0.000	-0.003	+0.000
ACMEET	-0.000	0.110	-0.000	0.213
ACIND	0.752	-0.000	0.788	-0.000
ACEXP	0.323	0.252	0.536	0.250
MOWNE	0.259	0.467	0.746	0.409
INSTITU 3%	0.237	0.454	0.732	0.465
FSIZE	-0.035	0.131	-0.020	0.140
FLEVER	0.943	0.755	0.706	0.781
ROA	+0.012	-0.005	+0.000	-0.005
FGROW	0.210	-0.008	0.191	-0.008
Big 4	0.879	0.311	0.604	0.278
Z-score	0.679	0.531	0.877	0.564

AEMJones=*Accrual earnings management by using the modified Jones model****. REM_1 and, REM2*** *= real earnings management* ***Unexpected REM_1 and REM2 =*** *unexpected REM is the estimated residual from equation.* ***BSIZE****= board size, measured by the total numbers of board members.* ***BMEET****= Board meeting, the number of meetings per year held by the board of directors.* ***BIND =*** *Board of Director Independence, the proportion of independent directors to total board size.* ***BFEM****= the percentage of female directors on the board of directors.* ***ACSIZE*** *= the total number of audit committee members existing at the yearend****. ACMEET*** *= the number of audit committee meetings held during the year.* ***ACIND*** *= the percentage of total independent non-executive directors on the audit committee board.* ***ACEXP =*** *the percentage of members with accounting and financial qualification and experience****. MOWNE*** *= the percentage of the total shares that were owned by the directors of a firm.* ***INSTITU 3%*** *= the percentage of Institutional ownership of those who hold at least 3% or more.* ***FSIZE****= Firm size, the natural log of firm's total assets.* ***FLEVER****= leverage ratio, measured by total liabilities divided by total assets.* ***ROA****= profitability, measured by ROA (net income before interest and taxes divided by total assets).* ***FGROW*** *= the change in total assets scaled by total assets****.*** **Big 4** *= a dummy variable that takes the value of 1 if the firm is being audited by one of the big-4 auditors, and 0 otherwise****. Z-SCORE=*** *refers to Altman's Z-Score.*

TABLE (6.8): ASSOCIATION BETWEEN CORPORATE GOVERNANCE AND AEM AND REM IN INDIA

Variables	REM_1		REM_2	
	REM_1	AEMJones	REM_2	AEMJones
Unexpected REM_1	-----	-0.021	-------	--------
Unexpected REM_2	--------	-------	-----	-0.025
BSIZE	0.560	-0.000	0.892	-0.000
BMEET	0.379	0.781	0.178	0.823
BIND	0.391	-0.000	0.658	-0.000
BFEM	+0.000	0.610	+0.002	0.749
ACSIZE	0.911	+0.062	0.581	-0.072
ACMEET	0.503	0.654	0.116	0.706
ACIND	0.158	-0.032	0.131	-0.048
ACEXP	0.174	-0.000	0.180	-0.000
MOWNE	0.908	-0.033	0.314	-0.034
INSTITU 3%	-0.000	0.537	-0.000	0.571
FSIZE	0.498	0.735	0.975	0.735
FLEVER	-0.017	0.397	-0.008	0.412
ROA	-0.023	+0.013	-0.011	+0.015
FGROW	0.584	0.311	0.296	0.321
Big 4	0.382	-0.028	0.939	-0.028
Z-score	0.580	0.533	0.550	0.536

AEMJones=*Accrual earnings management by using the modified Jones model.* ***REM_1 and REM2*** *= real earnings management* ***Unexpected REM_1 and REM2 =*** *unexpected REM is the estimated residual from equation.* ***BSIZE****= board size, measured by the total numbers of board members.* ***BMEET****= Board meeting, the number of meetings per year held by the board of directors.* ***BIND =*** *Board of Director Independence, the proportion of independent directors to total board size.* ***BFEM****= the percentage of female directors on the board of directors.* ***ACSIZE*** *= the total number of audit committee members existing at the yearend.* ***ACMEET*** *= the number of audit committee meetings held during the year.* ***ACIND*** *= the percentage of total independent non-executive directors on the audit committee board.* ***ACEXP =*** *the percentage of members with accounting and financial qualification and experience.* ***MOWNE*** *= the percentage of the total shares that were owned by the directors of a firm.* ***INSTITU 3%*** *= the percentage of Institutional ownership of those who hold at least 3% or more.* ***FSIZE****= Firm size, the natural log of firm's total assets.* ***FLEVER****= leverage ratio, measured by total liabilities divided by total assets.* ***ROA****= profitability, measured by ROA (net income before interest and taxes divided by total assets).* ***FGROW*** *= the change in total assets scaled by total assets.* **Big 4** *= a dummy variable that takes the value of 1 if the firm is being audited by one of the big-4 auditors, and 0 otherwise.* ***Z-SCORE=*** *refers to Altman's Z-Score.*

6.4.2. THE RELATIONSHIP BETWEEN CORPORATE GOVERNANCE AND TRADE-OFF BETWEEN AEM AND REM IN THE UK AND INDIA

According to agency theory, corporate governance characteristics should increase the monitoring capacity of the board (Fama and Jensen 1983). This section examines whether Board Characteristics, Audit Committee Characteristics, and Ownership Structures are associated with any trade-off decision between AEM and REM in the UK and India.

6.4.2.1. THE CHARACTERISTICS OF THE BOARD OF DIRECTORS IN RELATION TO AEM AND REM

Agency theory assumes that the actions of a company's board should enhance the integrity of financial reporting by monitoring the company's management and believes that a board of directors is well placed to do this because the board has the power to reward, or replace, the company's senior managers (Fama and Jensen 1983). Company boards are legally responsible for monitoring the actions of their management (Vafeas 2005). There are at least four characteristics of a board which may influence the effectiveness of its governance, i.e. the size of the board, the number of board meetings, the number of independent directors and the number of females on the board.

A manager's decision to use a particular method to manipulate earnings is likely to be related to how constraining each method is perceived to be. It is important to investigate the costs and constraints of each form of EM, as perceived by the managers. As a preliminary investigation, this study sought to find out whether there was evidence of systematic switching to strategies for EM that might be perceived to be less constrained, when particular features of corporate governance were in play that might be less constrained by various features of the corporate governance process.

6.4.2.1.1. BOARD SIZE AND EM

The results of testing H2 appear in Table 6.7. H2 postalates that firms with a bigger board size are more (less) likely to engage in REM than AEM.

The coefficients on board size are significantly negative at a 0.01 level, related to AEM, and which is positive for REM_1 but insignificant for REM_2. Firms with higher numbers of board members constrain AEM, and the company is more likely to engage in REM, by cutting discretionary expenses and by overproducting, as demonstrated by a positive coefficient on REM_1. Intuitively, managers will prefer to employ manipulations that are less visible, and which carry less risk.

According to Zang (2012), companies prefer to use the least constrained activities. The findings of testing H2 are consistent with Zang's assertion regarding which firms switch to using REM. These results underline the importance of understanding how managers perceive the costs, risks and consequences of each method of EM and trade-off decisions. Overall, the results indicate that board size exerts more pressure on firms in the UK, to constrain AEM rather than REM. The results in Table 6.7 indicate that H2 is empirically supported.

The results of this research are consistent with previous studies, which found that board size is constrained by AEM (Habbash 2010, Rahman et al. 2013 and Peasnell et al. 2005). Each of these studies found that board size was significantly and negatively related to AEM (Ghosh et al. 2010 and Xie et al. 2003). However, the results of this research are inconsistent with other empirical studies, which have found that the size of the board was insignificantly related to either AEM or REM. See, for example, the UK study by Katmon and Al Farooque (2017), the US study by Marrakchi et al. (2001), the Canadian study by Park and Shin (2004) and the Australian study by Kent et al. (2010). Visvanathan (2008) and Graven (2009), in the US, did not detect any significant association between board size and the extent of REM.

In the case of India, Table 6.8 shows that increasing the numbers of members on the board has a significant negative impact on AEM at the 0.05 level but had an insignificant impact on REM_1 and REM_2. These results indicate that less (more) members on the board results in higher (lower) levels of downward AEM. Therefore, it can be stated that increasing the number of on the board in fact constrains the use of AEM. The results in Table 6.8 appear to support the view that the bigger number of boards size constrain AEM but there is no evidence to increase REM; according to Zang (2012), a trade-off to increased REM is expected. Zang's assertion is supported. Therefore, no inferences can be drawn as to whether increasing the number of members on the board increases the use of REM. It cannot be concluded that firms, which face increased numbers of members on the board have higher levels of REM. This study fails to support H2 in Indian firms empirically.

The results are consistent with previous studies, such as Idris (2012), in Jordan, and Susanto and Pradipta (2016), in Indonesia, which did not detect any significant association between board size and REM. However, the results are inconsistent with Almasarwah (2015), who found no significant relationship between board size and AEM in Jordan. Furthermore, Nagar and Sen (2016) in India and Hsu and Wen (2015) in China found that increasing the board size reduced REM. Kumari and Pattanayak (2014) and Ahmed et al. (2006), in Singapore and Malaysia, and Sarkar et al. (2008), in India. These studies found that board size increased AEM.

6.4.2.1.2. FREQUENCY OF BOARD MEETINGS AND EM

The results of testing H3 appear in able 6.7 further indicates that the frequency of board meetings had a positive significant impact on AEM at the 0.10 level, while it is insignificant for both REM_1 and REM_2. This does not totally support our H3.

The results show that the frequency of board meetings is observed to only have a significant positive effect on AEM. The results provide empirical support for the view that increasing the number of board meetings does not improve the monitoring of AEM. This is surprising and may be because the meetings exert no control over the managers. Consequently, when the frequency of board meetings is increased, the extra board meetings would be distributed throughout the working year, thus providing more opportunities for closer oversight of day-to-day management. The results show no evidence of decrease in REM when the frequency of board meetings increase. Therefore, this study is unable to conclude that frequency of board meetings increases the use of REM.

The result rejects the H3 that firms with bigger frequency of board meetings are more (less) likely to engage in REM than AEM. The above findings fail to provide support for trade off REM and AEM as substitutes on the basis of the relative costs.

The study results are inconsistent with the prior studies by Katmon and Al Farooque (2017), Rahman et al. (2013), Habbash (2010), Marrakchi et al. (2001), Xie et al. (2001) and Kent et al. (2010). All found that the relationship between the frequency of board meetings and AEM was not significant. In the US, Visvanathan (2008) and Graven (2009) found that increasing the frequency of board meetings reduced REM. Anglin et al. (2013), in Canada, and Xie et al. (2003), in the US, who did find a significant and negative relationship between the frequency of board meetings and AEM.

In the Indian case, Table 6.8 also reports that the frequency of board meetings had no significant impact on AEM or on REM_1 and REM_2. Therefore, no inferences can be drawn as to whether frequency of board meetings constrains the use of AEM. Due to these results, this study is unable to accept H3, which states that firms with a greater frequency of board meetings are more (less) likely to engage in REM than AEM. Therefore, the weak evidence that firm is trade off REM and AEM as substitutes.

The results are similar to prior studies by Mashayekhi and Bazaz (2008), in Iran; found that the frequency of board meetings does not significantly influence AEM. Jaiswall and Banerjee (2012) in India. They found that more board meetings with higher attendance resulted in

reduced AEM. Singh et al. (2017) in India, Awais and Wang (2011) in Gulzar (2011) in China all found significant and positive associations between the frequency of board meetings and AEM. Nagar and Sen (2016), in India, also found that the number of board meetings was positively associated with REM. However, these results are inconsistent with a prior study by Zgarni et al. (2014) in Tunisia, who found that increasing the frequency of board meetings reduced REM

6.4.2.1.3. THE NUMBER OF INDEPENDENT DIRECTORS ON THE BOARD AND EM

The results of testing H4 appear in Table 6.7 and demonstrates that the coefficient on number of independent directors has a significantly negative impact on AEM at the 0.01 level but no significant impact on REM_1 and REM_2. According to Dahya and McConnell (2008), directors who are independent of the company organisation make better decisions and provide better monitoring of managers. AEM is more constrained when the number of independent directors increases. Intuitively, managers will prefer to employ manipulations that are less visible, and which carry the least risk, cost and consequence. The coefficient indicates that the number of independent directors exert more pressure on firms to constrain AEM. The negative coefficients on AEM suggest that firms with a high number of independent directors have higher costs of AEM, and there is no evidence that increased use of number of independent directors does not affect both REM_1 and REM_2. Therefore, H4, which states that firms with a high proportion of independent board members are more (less) likely to engage in REM than AEM, is rejected. The results are not supported and no comment can be made about trade-off between REM and AEM on the basis of their relative costs.

The results are similar to the results of previous empirical studies. For example, Peasnell et al. (2000) in the UK, Klein (2002), Xie et al. (2003), Marrakchi et al. (2001) and Anglin et al. (2013) in the US, Jouber and Fakhfakh (2012) in France and Canada, all of whom found that the more independent directors there were on the board, the lower the levels of AEM. Neither Visvanathan, (2008), in the US, nor Yu (2015) in the UK, however, found any consistent impact of the percentage of non-executive directors on the board on REM. However, the results are not similar to the results of other, previous, empirical studies, such as Osma (2008), in the UK, and Talbi et al. (2015), in the US. Both found that increasing the number of independent board members mitigated REM. Rahman et al. (2013) and Katmon and Al Farooque (2017) in the UK, Kent et al. (2010), in Australia, and Park and Shin (2004), in Canada, all found that the number of independent directors on the board did not significantly affect the level of AEM.

Osma and Noguer (2007) found that there was a significant, but positive, association between the proportion of independent directors and the level of AEM in Spain.

According to agency theory, independent directors should reduce managerial manipulations because the independent directors will seek to enhance their professional reputations as effective independent directors (Fama and Jensen 1983 and Elshandidy and Hassanein 2014).

It follows that again H4 which states that firms with a high proportion of independent board members are more (less) likely to engage in REM than AEM, is not supported. Therefore, it cannot be affirmed that companies use REM and AEM as substitutes.

The results are similar to other empirical studies, such as Kapoor and Goel (2017), Sarkar et al. (2008) in India, and Jaggi et al. (2009) in Hong Kong, who all found a negative association between the number of independent directors and AEM. Nagar and Sen (2016) in India found that the number of independents had no significant relationship to REM. However, the results are dissimilar to the results of previous empirical studies, such as Kang and Kim (2012) in Korea, Zgarni et al. (2014) and Affes and Romdhane (2011) in Tunisia, who all found that increasing the number of independent directors on the board reduced REM. Kumari and Pattanayak (2014), Sarkar et al. (2008) in India, Almasarwah (2015) in Jordan and Shah et al. (2009), in Pakistan, all found an insignificant relationship between the independence of the board and AEM.

6.4.2.1.4. THE NUMBER OF FEMALES ON THE BOARD AND EM

The results of testing H5 appear in Table 6.7, showing a coefficient at the level of 0.01 for the number of female directors on the board significantly reducing AEM and having a positive and significant effect on REM_1 at the 0.01 level, and an insignificant effect on REM_2. These results indicate that companies with higher numbers of female directors on the board engage in cutting discretionary expenses and overproduction. This result is consistent with the suggestion that increasing the number of females on the board of companies would reduce the conflicts of interest between managers and shareholders over, for example, the use of AEM to manipulate reported earnings. Results imply that increasing the number of females on the board will mitigate manipulations of AEM that distort reported earnings. This may be because women are more risk-averse or more moral. Female directors on the board are observed to have a significant effect on AEM only. This result suggests that the number of females on the board reduces AEM and increases REM activities. This result provides support for H5 which states that firms with a high percentage of females on theirboards are more (less) likely to engage in

REM than AEM. This study provides evidence that the trade-off between REM and AEM is based on the relative costs used on the UK firms.

Results are consistent with the results found by Arun et al. (2015), Lakhal et al. (2015), Krishnan and Parsons (2008) and Srinidh and Tsui (2011), who each found that increasing the number of females on the board constrained AEM. However, research by Mulder (2017) did not support the study findings.

In the case of India, Table 6.8 shows that the number of female directors on the board has no significant impact on AEM but does significantly increase REM_1 and REM_2. The coefficients for the numbers of female directors on the board are positive and significant on REM_1 and REM_2 at the 0.01 level. This indicates that companies that have higher numbers of female directors on the board engage in cutting discretionary expenses, overproduction and sales-based manipulation. On the other hand, the coefficient indicating that the number of female directors on the board is insignificant related to AEM. This result shows that firms engage in more REM. Therefore, this study is unable to conclude that a high number of female directors constrains the use of AEM. The results suggest that H5 is not empirically supported.

Prior research provides some support for the findings. For example, Ye et al. (2010) find an insignificant relationship between AEM and female top executives in China. However, the results are not borne out by the results of previous empirical studies, such as Omoye and Eriki (2014) in Nigeria, Hoang et al. (2017) in Vietnam, Awais and Wang (2011) and Gulzar (2011) in China who all found a positive association between AEM and female directors. Luo et al. (2017), in China, found that higher female participation on the board is associated with lower levels of REM.

6.4.2.2. THE CHARACTERISTICS OF AUDIT COMMITTEE GOVERNANCE IN RELATION TO AEM AND REM

6.4.2.2.1. AUDIT COMMITTEE SIZE AND EM

To test H6, in Table 6.7, the coefficients of audit committee size are significantly negative for REM_1 and REM_2, at the 0.01 level, and significantly positive for AEM, at the 0.01 level, indicating that increasing the number of directors on the audit committee constrains REM by means of cutting discretionary expenses, overproduction and manipulation of sales. The positive coefficient on AEM is consistent with an increased number of members on the audit committee, suggesting the UK firms using AEM more. Firms which have a higher number of members on their audit committee substitute AEM for REM. The results empirically support

H6 which states that firms with a large-sized audit committee are more (less) likely to engage in REM than AEM.

Prior research also shows that increasing the audit committee size is not effective in constraining the EM by either method; see, for example, studies by Rahman et al. (2013), in the UK, Sun et al. (2014), in the US and Mulder (2017), based on four West European countries, which found that audit committee size was positively associated with EM. Some research does support a claim that audit committee size constrains one or other method of EM for instance Habbash (2010) and Katmon and Al Farooque (2017), in the UK, Davidson et al. (2005), in Australia and Xie et al. (2001) in the US, who each found no constraint on improved AEM. Visvanathan (2008), in the US, found no constraint on REM.

In the case of India, Table 6.8 reveals that coefficients at the level of 0.1 for audit committee size are positive and significant for AEM, but not significant for REM_1 and REM_2. The positive coefficients suggest that increasing the audit committee size increases AEM upwards. Therefore, this study does not confirm that financial distress constrains the use of REM. Companies do not appear to substitute REM for AEM. No inferences can be drawn on H6, which states that firms with smaller sized audit committees are more (less) likely to engage in REM than AEM.

The results are consistent with prior research by Mishra and Malhotra (2016), in India, and (2015), in Jordan, which both found that audit committee size has a significantly downward effect on AEM. Inaam et al. (2012), in Tunisia and Kang and Kim (2012), in Korea, found that increasing the audit committee size tended to reduce REM. But, Hamdan et al. (2013), in Jordan and Rahman and Ali (2006), in Malaysia; these studies all found that the relationship between audit committee size and AEM was insignificant. However, the results are not consistent with studies by Susanto and Pradipta (2016), in Indonesia, which claimed to find that the size of the audit committee had no significant effect on REM. Furthermore, Suleiman and Alhaji (2015), in Nigeria, and Supriyaningsih and Fuad (2016), in Indonesia, all found that increasing the audit committee size significantly increased AEM.

6.4.2.2.2. THE FREQUENCY OF AUDIT COMMITTEE MEETINGS AND EM

To test H7, the results in Table 6.7 suggest that increasing the number of audit committee meetings has no significant impact on AEM but does significantly reduce either REM_1 or REM_2 at the level 0.01. The results indicate that firms which increase the frequency of audit committee meetings are less likely to undertake REM, because REM is constrained by

increasing the frequency of audit committee meetings. This may be because statutory or regulatory year-end meetings are normally already in place to constrain AEM. However, the findings show that increased frequency of audit committee meetings reduces REM. The coefficients on audit committee meetings are negative for REM, indicating that audit committee meetings are more likely to constrain firms' attempts to manage earnings with REM. Due to the insignificant results on AEM, this study is unable to conclude that greater audit committee meetings increase the use of AEM. It is not possible to say whether or not companies trade-off between REM and AEM. Neither is this result consistent with H7, which states that firms with low frequency audit committee meetings are more (less) likely to engage in REM than AEM.

Prior research has returned mixed results for the effect of the frequency of audit committee meetings on the manipulation of earnings by their method. For example, Xie et al. (2003), Lin et al. (2006), Bédard et al. (2004), in the US, and Baxter and Cotter (2009), in Australia, all claim that increasing the frequency of audit committee meetings reduces AEM. However, a study by Graven (2015), in the US, found no significant relationship between the frequency of audit committee meetings and the level of REM in the US. However, the results are not consistent with previous studies by research by Rahman et al. (2013) and Habbash (2010), in the UK, and Davidson et al. (2005), Bédard et al. (2004) and Yang, and Krishnan (2005), in the US, who found that the relationship between the frequency of audit committee meetings and extent of AEM was not significant. An even stronger challenge comes from Ghosh et al. (2010), in the US, and Katmon and Al Farooque (2017), in the UK, who found that the extent of AEM significantly increased when the frequency of audit committee meetings increased. Visvanathan (2008), in the US, found a negative association between the number of audit committee meetings and REM through the reduction of discretionary expenses.

In the case of India, Table 6.8 shows that increasing the number of audit committee meetings has no significant impact on either AEM or REM_1 or REM_2. These results may indicate that increasing the number of audit committee meetings is not an important driver for a good audit committee monitoring of AEM and REM practices. Therefore, no inferences can be drawn as to whether increasing the number of audit committee meetings constrains the use of AEM or REM. This study does not support H7.

The results are similar to the previous research by Saleh et al. (2007) and Rahman and Ali (2006), in Malaysia, and Hassan and Ibrahim (2014), in Nigeria. However, the results are

inconsistent with previous studies by Mishra and Malhotra (2016), in India, and Hoopsamut and Jaikengkit (2009), in Thailand.

6.4.2.2.3. THE NUMBER OF INDEPENDENT MEMBERS ON AUDIT COMMITTEE AND EM

To test H8, Table 6.7 shows that increasing the number of independent members on the audit committee significantly has a negative impact on AEM at the 0.01 level but has no significant impact on either REM_1 or REM_2. The results indicate that the number of independent members on the audit committee puts more constraint on AEM.

The negative coefficients on AEM suggest that firms with a high number of independent members on the audit committee have higher costs of AEM, and there is no evidence that an increased number of independent members on the audit committee leads to use of both REM_1 and REM_2. It cannot be confirmed that firms do not trade off REM and AEM as substitutes on the basis of the relative costs. Therefore, H8 is rejected, which states that firms with a high percentage of audit committee independence are more (less) likely to engage in REM than AEM.

There is evidence in the literature that independent committee members seek to monitor and mitigate AEM, (Rahman et al. 2013, Klein 2002, Wilson 2011, Kent et al. 2010 and Amar 2014) all of whom found that the higher the percentage of independent audit committee members, the lower the observed level of AEM. Likewise, Carcello and Nagy (2004), Graven (2009), Visvanathan (2008) and Huang et al. (2009), in the US, found no significant relationship between the number of independents on the audit committee and REM. However, the results are not consistent with studies such as Atmon and Al Farooque (2017), in the UK, Osma and Noguer (2007), in Spain and Xie et al. (2003), in the US, who found that the number of independent members on an audit committee did not significantly reduce AEM. The result contrasts with a study by Sun et al. (2014), in the US, which found that increasing the number of independents on an audit committee did reduce REM.

In the case of India, Table 6.8 shows that increasing the number of independent members on the audit committee significantly reduces AEM at the 0.05 level but has no significant impact on either REM_1 or REM_2. This result indicates that firms with a higher number of independent members on the audit committee are less likely to undertake AEM. Therefore, it cannot be concluded that firms which have more independent members on the audit committee

have higher levels of REM. There is no evidence of trade-off between REM and AEM. There is no empirical support for H8.

The results are consistent with previous studies by Kang and Kim (2012), in Korea, and Su et al. (2014), in China, who found no significant relationship between the degree of independence of the audit committee and REM. Kapoor and Goel (2017), in India, Puat et al. (2013), in Malaysia, and Hamdan et al. (2013), in Jordan, also found that increasing the percentage of independent members on the audit committee significantly reduced AEM. Thus, the results are inconsistent with previous studies by Inaam et al. (2012), in Tunisia and Hassan and Ibrahim (2014), in Nigeria; all these studies found that increasing the number of independent members on an audit committee reduced REM. Mishra and Malhotra (2016), in India and Bin-Muhamed (2013), in Malaysia, all found that the number of independent members on the audit committee was insignificantly associated with AEM.

6.4.2.2.4. THE LEVEL OF FINANCIAL EXPERTISE ON AUDIT COMMITTEE AND EM

To test H9, the results in Table 6.7 show no effect of financial expertise on the audit committee, on either AEM or REM_1 and REM_2. These results may indicate that the financial expertise of the audit committee is not an important driver for a good audit committee monitoring of AEM and REM practices. No inferences can be drawn as to whether financial expertise of the audit committee constrains the use of AEM or REM. This result suggests that increasing the financial expertise of the audit committee is not important for corporate governance monitoring of either AEM or REM manipulation. The results reject H9, which states that firms with a high percentage of audit committee expertise are more (less) likely to engage in REM than AEM. UK Firms do not substitute REM for AEM.

The results are consistent with previous research by Sun and Liu (2014), in the US, who found no significant relationship between increasing audit committee expertise and any reduction in REM. Thus, the results are inconsistent with previous research by Katmon and Al Farooque (2017), in the UK, Lin et al. (2010), in the US and by Habbash (2010), in the UK and Xie et al. (2003), Zalata et al. (2018), Yang and Krishnan (2005) and Bédard et al. (2004) in the US, who also found that increasing audit committee expertise reduced AEM. Baxter and Cotter (2009), in Australia, found that increased audit committee expertise significantly, reduced AEM. Carcello and Nagy (2004), working in the US, reported a finding that increasing audit committee expertise actually increased REM.

In the Indian case, Table 6.8 demonstrates that increasing the financial expertise of the audit committee does significantly decrease AEM at the 0.01 level. However, the effect on REM_1 amd REM_2 was not significant.

The result indicates that the financial expertise of the audit committee exerts more pressure on firms to constrain AEM than REM. Firms with greater financial expertise in the audit committee have higher costs of AEM. The coefficient indicates that the financial expertise of the audit committee exerts more pressure on firms to constrain AEM. The result suggests that firm with a high number of financial experts on the audit committee have higher costs of AEM, and there is no evidence of increased use for both REM_1 and REM_2. Therefore, H9 is rejected. The Indian Firms do not substitute REM for AEM. It cannot be confirmed that firms do not trade off REM and AEM as substitutes on the basis of the relative costs.

The findings are consistent with prior studies by Susanto and Pradipta (2016), in Indonesia, Inaam et al. (2012), in Tunisia, Supriyaningsih and Fuad (2016) working in Indonesia, Mishra and Malhotra (2016), in India and Rahman and Ali (2006), in Malaysia. However, the results are inconsistent with work by Puat and Susela (2013), in Malaysia and Lo et al. (2010), in China.

6.4.2.3. OWNERSHIP STRUCTURE IN RELATION TO AEM AND REM

This section will discuss the findings in Table 6.7 from the point of view of the impact of ownership structures, on the trade-off decisions between AEM and REM in the UK. Two types of ownership structure will be considered: managerial ownership and institutional ownership.

6.4.2.3.1. MANAGERIAL OWNERSHIP AND EM

Testing H10, the resuls in Table 6.7 present that increasing the percentage of managerial ownership has no significant impact on REM_1, REM_2 or AEM. H1 predicts that the trade-off between REM and AEM is based on the relative costliness of the two activities. Managerial ownership constraints do not appear to affect the use of either AEM or REM. Agency theory predicts that high managerial ownership will lead to better-mitigated manipulation motivation to use EM (Florackis et al. 2015 and Rashid 2016). However, the mean level of managerial ownership in the UK only was 5%. In any event, this might have been too low to have any significant effect. In addition, where levels of managerial ownership were much higher, it is possible that it was no longer necessary for the managers to manipulate earnings in order to transfer significant wealth from the company to ‘themselves’ (Ali et al. 2007). These results may indicate that managerial ownership is not an important driver for a good ownership

structures monitoring either AEM or REM practices. The UK firms did not substitute REM for AEM. This study is unable to accept H10.

The results are consistent with previous research, such as that by Laux and Laux (2009), Bos et al. (2013) and Habbash (2010) in the UK, and Ballesta and Meca (2007), in Spain, who each found that increasing the proportion of managerial ownership had no significant effect on AEM. Likewise, Demers and Wang (2010), in the US, found no significant effect of managerial ownership on the use of REM. However, the results are inconsistent with research by Peasnell et al. (2005), in the UK, who found that managerial ownership significantly increased AEM. However, Warfield et al. (1995), in the US, found that managerial ownership significantly reduced AEM. Roychowdhury (2006), in the US, found that the level of managerial ownership reduced REM.

In the Indian study, Table 6.8 presents that increasing the percentage of managerial ownership significantly decreased AEM at the 0.05 level. However, the effect on REM_1 and REM_2 was not significant. The result indicates that increasing the percentage of managerial ownership exerts more pressure on firms to constrain AEM. No inferences can be drawn as to whether increased percentage of managerial ownership increased the use of AEM. Therefore, the results for India in Table 6.8 do not support H10. There is no evidence that managers in India substitute REM for AEM on the basis of the relative costs.

The results are consistent with work by Shayan-Nia (2017), in Malaysia, Idris (2012), working in Jordan, Nagar and Sen (2016), working in India and Susanto and Pradipta (2016), in Indonesia, who all suggested that REM is not significantly related to the level of management ownership. Teshima and Shuto (2008), in Japan, and Saleem (2016), in Jordan, found that increasing managerial ownership significantly reduced AEM. However, the results are inconsistent with previous research by Al-Fayoumi et al. (2010), in Jordan, who found that managerial ownership significantly increased AEM. Furthermore, Yeo et al. (2002), in Singapore, found an insignificant relationship between managerial ownership and AEM.

6.4.2.3.2. INSTITUTIONAL OWNERSHIP AND EM

To test H11, Table 6.7 shows that increasing institutional ownership has no significant impact on REM_1, REM_2 or AEM. These results may indicate that institutional ownership is not an important driver for a good ownership structures monitoring either AEM or REM practices. These results suggest that, while higher institutional ownership does not constrain either AEM

or REM, they fail to confirm that there is substitution observed under institutional ownership in UK firms. Firms do not substitute REM for AEM. This study is unable to accept H11.

The results are consistent with previous research by Peasnell et al. (2000), Peasnell et al. (2005) and Rahman et al. (2013) in the UK, which found that there was no significant relationship between institutional ownership and AEM. Similarly, Alves (2012), in Portugal, found that the effect of institutional ownership on AEM was not significant while Rebai (2011) reported no significant relationship between the level of institutional ownership and the use of REM in the US. However, Hadani et al. (2011), in the US, did find that increasing institutional ownership reduced AEM. Roychowdhury (2006) and Bushee (1998), in the US, found that increased institutional ownership reduced the use of REM.

In the case of India, Table 6.8 provides evidence that increasing institutional ownership significantly decreases REM_1 and REM_2 at the 0.01 level and does not affect AEM. These results indicate that increasing institutional ownership exerts more pressure on firms to constrain REM. Firms with higher institutional ownership have higher costs of REM. The negative coefficients on REM suggest that firms with higher institutional ownership have higher costs of REM, and there is no evidence of increased use of AEM. Therefore, H11 is rejected. There is no evidence that company's trade-off between AEM and REM.

The results are consistent with previous research by Sarkar et al. (2008), in India, Siregar and Utama (2008), in Indonesia and Al-fayoumi et al. (2010), in Jordan, who each found that the effect of institutional ownership was insignificantly associated with AEM. Li (2010), in China, found that high levels of institutional ownership were significantly associated with REM. Liu et al. (2015), working in Taiwan, and Idris (2012), in Jordan, found that REM was negatively correlated with institutional ownership. Whereas Al-Fayoumi et al. (2010), in Jordan, reported that institutional ownership significantly increased AEM. Ajay and Madhumathi (2015), in India, and Shah et al. (2009), in Pakistan, found that institutional ownership significantly reduced AEM. Mehrani et al. (2017), in Iran, found that institutional ownership had a positive effect on AEM.

6.4.2.4. CONTROL VARIABLES IN RELATION TO AEM AND REM

The association of firm size with less REM_1 and REM_2 is statistically significant at the 5% level. There is also weak evidence that company size has a negative impact on AEM. This may be because larger companies normally have more sophisticated internal control systems and more competent internal auditors, both of which would mitigate REM. Larger firms are also

usually audited by large audit firms with more experienced auditors which could prevent EM. Large firms may also be more concerned about their reputation, which could prevent them from manipulating earnings (Kim et al. 2003 and Lemma et al. 2013). The results are supported by studies such as Graven (2009), Makare (2013) and Peasnell et al. (2000), in the UK.

In the Indian case, Table 6.8 shows that firm size has no significant impact on either AEM or REM_1 and REM_2. The results are consistent with studies by Chouaibi et al. (2016) and Shayan-Nia et al. (2017). However, the results are inconsistent with studies by Razzaque et al. (2016), Ajay and Madhumathi (2015) and Ajit et al. (2013).

Leverage has no significant relationship with AEM and REM_1 and REM_2. The results support those of Habbash (2010), in the UK and Visvanathan (2008) and Cheng (2004). but not other work done, in the UK, by Basiruddin (2011) or by Charitou et al. (2007), in the US.

In the Indian case, the leverage has a significantly negative effect on REM_1 and REM_2 but does not significantly affect the level of AEM. Higher leverage is more likely to constrained REM than AEM. An insignificant relationship is not consistent with the argument that leverage provides a controlling and monitoring mechanism, which limits the extent of EM (Zamri et al. 2013). The results are consistent with studies by Jelinek (2007) and Wasimullah et al. (2010), however, these findings are inconsistent with prior research by Kang and Kim (2012) and Sarkar et al. (2008).

The results show a significant and positive correlation at the 0.01 level between REM_1 and REM_2 for companies that achieve higher returns on assets employed. However, there is a significantly negative effect at the 0.01 level on AEM. These results imply that there is, in general, strong evidence that higher profitability is associated with lower AEM and with higher REM. The results support the research findings of Chen et al. (2012), in the US and Rahman et al. (2013), in the UK, but are inconsistent with those of Makarem (2015) and Roychowdhury (2006), in the US and Habbash (2010), in the UK.

In the Indian case, profitability has a significantly positive effect on AEM, and a significantly negative effect on REM_1 and REM_2. Burgstahler and Dichev (1997) have argued that very unprofitable companies are more likely to use AEM to improve their reported performance. This research shows profitable Indian companies preferring AEM to REM when it is constrained by probability. The results are consistent with previous studies by Liu and Tsai (2015) and Singh et al. (2017). However, the results are inconsistent with studies by Zamri et al. (2013) and Ajit et al. (2013).

The results show that companies with higher growth rates have significantly lower levels at the 0.01 level of AEM but that higher growth rates do not significantly affect REM_1 and REM_2. These results are consistent with Dimitropoulos and Asteriou (2010), in Greece and Habbash (2010), in the UK, but are inconsistent with Rahman et al. (2013), in the UK.

In the Indian case, firm growth had no significant effect on the manipulation of either AEM or REM_ and REM_2. The results are inconsistent with previous studies by Liu and Tsai (2015), Rahman and Ali (2006) and Ajay and Madhumathi (2015).

Big 4 Auditors insignificantly effect REM_1 and REM_2 and AEM. These results may be because audits are generally balance-sheet focused (Bell et al. 2008). The results are consistent with studies by Cohen et al. (2008) and Zhu et al. (2015) in the UK but are inconsistent with studies by Chi et al. (2011).

In the Indian case, Table 6.7 shows that the use of one of the Big 4 Auditors had a significant negative effect on AEM, but no significant effect on REM_1 and REM_2. The study assumes that firms audited by a Big 4 auditor used less AEM. The results show consistency with studies by Saleem (2016), Humayun et al. (2011) and Houqe et al. (2017), in India. These all found a negative association between the Big 4 audit firms and AEM. Becker et al. (1998) and Francis et al. (1999) show that firmswith Big 4 auditors tend to have less AEM, implying that Big 4 auditors effectively restrict clients' opportunistic reporting behavior. However, the results are inconsistent with other studies such as Guo (2011), Zhang (2008), Zhang and Gimeno (2010) and Habib et al. (2014).

The Z-score is not significantly correlated with even one of the proxies for AEM or REM_1 or REM_2. There is no evidence for a substitutive relationship between REM and AEM. Therefore, the preliminary evidence that financial distress constrains downward REM cannot be reaffirmed. The results are consistent with Osten (2012) but are inconsistent with studies by Zang (2012).

In the Indian case, Table 6.7 shows that the Z-score has no significant impact on either AEM or REM_1 and REM_2. Based on the study results, no evidence is provided for the substitutive relation between REM and AEM. Therefore, the preliminary evidence that financial distress constrains downward REM cannot be reaffirmed. The results are consistent with Osten (2012) but are inconsistent with studies by Zang (2012).

6.5. ROBUSTNESS CHECKS

This study embodies three robustness tests. First, discretionary accruals are used to gauge AEM. In the literature, various models are proposed to measure discretionary accruals. The models of EM range from simple models, in which total accruals are used as a measure of discretionary accruals, to more sophisticated models that utilise regression analysis to decompose accruals into their discretionary and nondiscretionary components (Bartov et al. 2000).

This thesis employs the most extensively used models in the EM literature, which is identified as the modified Jones model (Dechow et al. 1996). This is the most common model used to capture EM (see for example, Dechow et al. 1996, Kasznik, 1999, Jha, 2013 and Doukakis 2014). The modified Jones model is found to provide more powerful tests of EM compared with the standard Jones models (Islam et al. 2011, Swai 2016 and Doukakis 2014).

The performance matched the discretionary accruals model proposed by Kothari et al. (2005), which is employed in addition for the purpose of robustness. This follows Charfeddine et al. (2013) who also used the modified Jones model and the Kothari et al. (2005) model, in an investigation of the determinants of EM in Tunisian firms over the period 2003-2009 and find that their results depend on the model used to estimate discretionary accruals. There is no perfect model. For example, Kothari et al. (2005) state that their performance-matched model cannot solve all of the problems arising from the discretionary accruals' models or from a researcher's failure to recognise other incentives that tempt the manipulation of accruals. Further, Keung and Shih (2014) show that performance matching will systematically cause discretionary accruals to be underestimated. Thus, the use of a single model may not be an adequate approach, and the use of a range of alternative models may be more effective in the detection of EM. The results remain unchanged when utilising the modified Jones (Dechow et al. 1996) model and the Kothari et al. (2005) model; this study still finds that there is trade-off between AEM by using the modified Jones model and the Kothari model and unexpected REM, REM_1 and REM_2. When running all regressions again for these two models, the main results do not change. Therefore, the results are robust with respect to different models (see Tables 6.9 and 6.10).

Second, for additional robustness this study re-ran its REM models, adding the absolute value of aggregate REM and including (PROD), (DISEXP), and (CFO). In Table 6.9, this study

decomposes REM obtained results, consistent with the joint REM_1 and REM_2 results reported in Table 6.9.

Third, in particular, this study aimed to explore the time-specific effects resulting from the implementation of the 2010 and 2013 CODE in the UK and India on the correlations between corporate governance mechanisms and trade-off between AEM and REM. The study offers new detailed evidence on the compliance levels with the 2010 UK Combined Code and 2013 India Combined Code. As a result, the Combined Code was revised in 2010 in the UK and 2013 in India and aims to enhance the effectiveness and accountability of corporate governance.

The time-specific effects, in the sense that corporate governance mechanisms impact the trade-off between AEM and REM, may be different (or changed) across time with regard to the passage of the CODE. Similar model estimation methods have been used by Peasnell et al. (2000) and Cohen et al. (2008) to investigate the impact of the Cadbury Report (UK) and Sarbanes-Oxley Act (US) on EM across time.

The summarised statistics are categorised into pre- and post-CODE periods (2006-2009 vs. 2011–2015) in the UK and (2006-2012 vs 2014-2015) in India. The Company Law and Securities Law were becoming effective in 2010 and 2013 in the UK and India. This study excludes 2010 and 2013 from the post-CODE period to control the possible effects of adopting the new Company Law and Securities Law. This study adds these regressions to see the time wide effects, and because Cohen et al. (2008) find that managers have shifted away from AEM to REM in the post-SOX period. The evidence in Table 6.9 supports the findings.

This study presents the results of the corporate governance mechanism impacting the trade-off between AEM and REM before and after the 2010 and 2013 CODE in the UK and India in Tables 6.11 and 6.14 respectively. The statistics show that, generally, there is a statistically significant difference to the full-sample results reported in Tables 6.11 and 6.14. The results regarding the effect of corporate governance on trade-off AEM and REM in both countries exist during the post-CODE period, when compared to those in the pre-CODE period.

The regression results of the costs of REM and AEM on the use of aggregate of all proxies of REM are provided in Table 6.12. Table 6.12 shows a significant negative coefficient between AEM and unexpected REM in the Jones and Kothari models. Since all results have negative or downward unexpected REM, they suggest that firms switch between AEM, REM, REM_1 and REM_2 in both models and in both countries, the UK and India.

This study finds similar results when using the two AEM models measured by aggregate REM. Most of the results of the Kothari model are similar to the regression result provided in mean analysis by using the Jones model. However, it finds different results regarding variables especially in pre- and post- combined code in both countries, the UK and India. Also, the results for Post are different to each other due to using different time periods.

TABLE (6.9) ASSOCIATION BETWEEN REM AND AEMJONES AND AEMKOTHARI IN THE UK

Variables	REM	AEMKothari	AEMJones
Unexpected REM	------	-0.010	-0.035
BSIZE	+0.000	-0.005	-0.020
BMEET	0.407	0.785	+0.089
BIND	0.959	0.416	-0.014
BFEM	+0.001	-0.015	-0.016
ACSIZE	-0.000	+0.089	-0.000
ACMEET	-0.000	+0.000	+0.000
ACIND	0.888	-0.000	-0.000
ACEXP	0.589	0.450	0.244
MOWNE	0.498	0.501	0.464
INSTITU 3%	0.306	0.315	0.143
FSIZE	-0.001	-0.047	0.135
FLEVER	0.850	0.659	0.768
ROA	-0.000	-------	+0.005
FGROW	0.525	0.592	+0.008
Big 4	0.609	0.673	0.292
Z-score	0.873	0.603	0.543

AEMJones=*Accrual earnings management by using Modified Jones Model****. AEMKothari=*** *Accrual earnings management by using Kothari Model.* ***REM*** *= real earnings management.* ***Unexpected REM =*** *unexpected REM is the estimated residual from equation.* ***BSIZE****= board size, measured by the total numbers of board members.* ***BMEET****= Board meeting, the number of meetings per year held by the board of directors.* ***BIND =*** *Board of Director Independence, the proportion of independent directors to total board size.* ***BFEM****= the percentage of female directors on the board of directors.* ***ACSIZE*** *= the total number of audit committee members existing at the yearend****. ACMEET*** *= the number of audit committee meetings held during the year.* ***ACIND*** *= the percentage of total independent non-executive directors on the audit committee board.* ***ACEXP =*** *the percentage of members with accounting and financial qualification and experience****. MOWNE*** *= the percentage of the total shares that were owned by the directors of a firm.* ***INSTITU 3%*** *= the percentage of Institutional ownership of those who hold at least 3% or more.* ***FSIZE****= Firm size, the natural log of firm's total assets.* ***FLEVER****= leverage ratio, measured by total liabilities divided by total assets.* ***ROA****= profitability, measured by ROA (net income before interest and taxes divided by total assets).* ***FGROW*** *= the change in total assets scaled by total assets****.*** **Big 4** *= a dummy variable that takes the value of 1 if the firm is being audited by one of the big-4 auditors, and 0 otherwise****. Z-SCORE=*** *refers to Altman's Z-Score.*

TABLE (6.10) ASSOCIATION BETWEEN CORPORATE GOVERNANCE AND REM_1 AND REM_2 AND AEMKOTHARI IN THE UK

variables	REM_1		REM_2	
	REM_1	AEMKothari	REM_2	AEMKothari
Unexpected REM_1	-----	-0.002	--------	---------
Unexpected REM_2	--------	---------	-----	-0.002
BSIZE	+0.000	-0.005	0.486	-0.004
BMEET	0.473	0.718	0.899	0.761
BIND	0.752	0.593	0.493	0.381
BFEM	+0.002	-0.051	0.522	-0.019
ACSIZE	-0.000	0.193	+0.003	0.106
ACMEET	-0.000	+0.001	-0.000	+0.000
ACIND	0.752	-0.000	0.788	-0.000
ACEXP	0.323	0.553	0.235	0.472
MOWNE	0.259	0.944	0.746	0.445
INSTITU 3%	0.237	0.543	0.732	0.353
FSIZE	-0.035	-0.019	-0.020	-0.048
FLEVER	0.943	0.672	0.706	0.651
FGROW	0.210	0.446	0.191	0.598
Big 4	0.879	0.356	0.604	0.665
Z-score	0.679	0.426	0.877	0.608

AEMKothari= *Accrual earnings management by using Kothari Model.* ***REM_1 and REM_2*** *= real earnings management.* ***Unexpected REM_1 and REM_2 =*** *unexpected REM is the estimated residual from equation.* ***BSIZE****= board size, measured by the total numbers of board members.* ***BMEET****= Board meeting, the number of meetings per year held by the board of directors.* ***BIND =*** *Board of Director Independence, the proportion of independent directors to total board size.* ***BFEM****= the percentage of female directors on the board of directors.* ***ACSIZE*** *= the total number of audit committee members existing at the yearend.* ***ACMEET*** *= the number of audit committee meetings held during the year.* ***ACIND*** *= the percentage of total independent non-executive directors on the audit committee board.* ***ACEXP =*** *the percentage of members with accounting and financial qualification and experience.* ***MOWNE*** *= the percentage of the total shares that were owned by the directors of a firm.* ***INSTITU 3%*** *= the percentage of Institutional ownership of those who hold at least 3% or more.* ***FSIZE****= Firm size, the natural log of firm's total assets.* ***FLEVER****= leverage ratio, measured by total liabilities divided by total assets.* ***ROA****= profitability, measured by ROA (net income before interest and taxes divided by total assets).* ***FGROW*** *= the change in total assets scaled by total assets.* **Big 4** *= a dummy variable that takes the value of 1 if the firm is being audited by one of the big-4 auditors, and 0 otherwise.* ***Z-SCORE=*** *refers to Altman's Z-Score.*

TABLE (6.11) PRE – POST (2010) COMBINED CODE OF CORPORATE GOVERNANCE IN THE UK AND AEM AND REM

Variables	pre 2010									Post 2010								
	REM_1			REM_2			REM			REM_1			REM_2			REM		
	REM_1	AEM Jones	AEM Kothari	REM_ 2	AEM Jones	AEM Kothari	REM	AEM Jones	AEM Kothari	REM_1	AEM Jones	AEM Kothari	REM_2	AEM Jones	AEM Kothari	REM	AEM Jones	AEM Kothari
Unexpected REM_1	----	0.140	-0.084	-----	------	------	----	----	-----	----	-0.050	-0.028	----	------	----	----	----	-----
Unexpected REM_2	----	----	-----	----	0.134	-0.005	----	----	-----	----	------	----	----	0.119	0.149	----	----	-----
Unexpected REM	----	----	----	----	----	------	-----	-0.224	-0.067	----	----	----	----	----	------	-----	-0.180	-0.181
BSIZE	+0.000	-0.003	-0.006	0.183	-0.002	-0.005	+0.000	-0.003	-0.005	+0.073	0.698	0.392	0.377	0.703	0.392	+0.026	0.714	0.378
BMEET	0.372	+0.001	0.312	0.759	+0.002	0.337	0.581	+0.001	0.321	0.483	0.356	0.275	0.950	0.375	0.289	0.246	0.356	0.287
BIND	+0.006	-0.065	0.280	0.756	-0.059	0.240	+0.036	-0.069	0.280	-0.029	0.255	0.730	-0.001	0.262	0.749	-0.023	0.247	0.761
BFEM	0.318	0.668	0.556	0.156	0.584	0.706	-0.073	0.676	0.577	+0.003	-0.048	-0.067	0.194	-0.043	-0.060	+0.002	-0.041	-0.057
ACSIZE	-0.008	+0.002	+0.004	-0.001	+0.003	+0.005	-0.014	+0.003	+0.004	-0.001	+0.004	0.830	-0.052	+0.005	0.814	-0.003	+0.004	0.861
ACMEET	0.215	0.498	+0.036	0.453	0.499	+0.034	0.259	0.498	+0.034	-0.001	+0.005	+0.002	-0.009	+0.005	+0.002	-0.001	+0.006	+0.003
ACIND	0.805	-0.029	-0.000	0.601	-0.027	-0.000	0.925	-0.027	-0.000	0.598	+0.011	-0.001	0.714	-0.013	-0.001	0.713	-0.012	-0.001
ACEXP	0.701	0.477	0.430	0.144	0.488	0.416	0.749	0.484	0.432	0.583	0.928	0.359	0.555	0.891	0.335	0.556	0.904	0.336
MOWNE	0.909	+0.000	0.230	0.389	+0.000	0.205	0.692	+0.000	0.222	0.891	-0.031	0.799	0.385	-0.029	0.827	0.849	-0.025	0.852
INSTITU	0.126	0.674	0.670	0.232	0.639	0.689	0.112	0.608	0.653	0.149	0.696	0.154	0.411	0.640	0.162	0.308	0.674	0.156
FSIZE	0.1750	0.281	0.246	0.181	0.272	0.275	-0.029	0.283	0.253	0.237	0.331	0.763	0.403	0.361	0.793	-0.092	0.338	0.790
FLEVER	0.500	0.947	0.318	0.785	0.929	0.349	0.419	0.961	0.314	0.812	0.863	0.298	0.908	0.949	0.275	0.805	0.869	0.299
ROA	-0.012	0.407	-------	-0.000	0.390	--------	-0.000	0.432	-------	0.317	+0.004	-------	-0.000	+0.003	------	-0.000	+0.003	---------
FGROW	+0.088	+0.008	0.432	0.327	+0.009	0.424	+0.003	+0.008	0.418	-0.027	0.386	0.292	-0.012	0.391	0.287	0.189	0.381	0.294
Big 4	0.631	0.285	0.498	0.359	0.284	0.496	0.410	0.278	0.488	0.825	0.713	0.681	0.938	0.829	0.654	0.667	0.804	0.659
Z-score	0.295	0.481	0.419	0.124	0.536	0.422	0.134	0.501	0.425	-0.075	0.847	0.552	0.199	0.816	0561	-0.086	0.858	0.540

TABLE (6.12) ASSOCIATION BETWEEN CORPORATE GOVERNANCE AND REM, AEMJONES AND AEMKOTHARI IN INDIA

Variables	REM	AEMKothari	AEMJones
Unexpected REM	--------	-0.002	-0.016
BSIZE	0.185	0.569	-0.000
BMEET	-0.088	0.843	0.525
BIND	0.894	-0.004	-0.011
BFEM	+0.000	-0.093	0.592
ACSIZE	0.215	0.498	+0.004
ACMEET	0.157	0.638	0.633
ACIND	+0.032	0.351	0.271
ACEXP	-0.002	-0.056	-0.000
MOWNE	0.486	-0.000	-0.005
INSTITU 3%	0.159	0.754	0.289
FSIZE	0.733	0.101	0.201
FLEVER	0.150	+0.058	0.215
ROA	-0.000	0.391	+0.000
FGROW	0.414	+0.017	+0.001
Big 4	0.102	00365	0.675
Z-score	0.231	0.235	0.235

AEMJones=*Accrual earnings management by using Modified Jones Model****. AEMKothari=*** *Accrual earnings management by using Kothari Model.* ***REM*** *= real earnings management.* ***Unexpected REM =*** *unexpected REM is the estimated residual from equation.* ***BSIZE****= board size, measured by the total numbers of board members.* ***BMEET****= Board meeting, the number of meetings per year held by the board of directors.* ***BIND =*** *Board of Director Independence, the proportion of independent directors to total board size.* ***BFEM****= the percentage of female directors on the board of directors.* ***ACSIZE*** *= the total number of audit committee members existing at the yearend****. ACMEET*** *= the number of audit committee meetings held during the year.* ***ACIND*** *= the percentage of total independent non-executive directors on the audit committee board.* ***ACEXP =*** *the percentage of members with accounting and financial qualification and experience****. MOWNE*** *= the percentage of the total shares that were owned by the directors of a firm.* ***INSTITU 3%*** *= the percentage of Institutional ownership of those who hold at least 3% or more.* ***FSIZE****= Firm size, the natural log of firm's total assets.* ***FLEVER****= leverage ratio, measured by total liabilities divided by total assets.* ***ROA****= profitability, measured by ROA (net income before interest and taxes divided by total assets).* ***FGROW*** *= the change in total assets scaled by total assets****.*** **Big 4** *= a dummy variable that takes the value of 1 if the firm is being audited by one of the big-4 auditors, and 0 otherwise****. Z-SCORE=*** *refers to Altman's Z-Score.*

TABLE (6.13) ASSOCIATION BETWEEN CORPORATE GOVERNANCE AND REM_1, REM_2 AND AEMKOTHARI IN INDIA

variables	REM_1		REM_2	
	REM_1	AEMKothari	REM_2	AEMKothari
Unexpected REM_1	-----	-0.017	--------	----------
Unexpected REM_2	----------	----------	-----	-0.024
BSIZE	0.560	0.469	0.892	0.469
BMEET	0.379	0.597	0.178	0.624
BIND	0.391	-0.011	0.658	-0.010
BFEM	+0.000	0.891	+0.002	0.751
ACSIZE	0.911	0.292	0.581	0.268
ACMEET	0.503	-0.044	0.116	-0.049
ACIND	+0.058	-0.090	+0.031	0.125
ACEXP	-0.074	0.659	0.180	0.692
MOWNE	0.908	-0.008	0.304	-0.008
INSTITU 3%	+0.000	0.515	+0.000	0.457
FSIZE	0.498	0.168	0.975	0.169
FLEVER	-0.017	0.898	-0.008	0.911
FGROW	0.584	+0.012	0.296	+0.013
Big 4	0.382	-0.029	0.939	-0.029
Z-score	0.580	0.337	0.550	0.340

AEMKothari= *Accrual earnings management by using Kothari Model.* ***REM_1 and REM_2*** *= real earnings management.* ***Unexpected REM_1 and REM_2 =*** *unexpected REM is the estimated residual from equation.* ***BSIZE****= board size, measured by the total numbers of board members.* ***BMEET****= Board meeting, the number of meetings per year held by the board of directors.* ***BIND =*** *Board of Director Independence, the proportion of independent directors to total board size.* ***BFEM****= the percentage of female directors on the board of directors.* ***ACSIZE*** *= the total number of audit committee members existing at the yearend.* ***ACMEET*** *= the number of audit committee meetings held during the year.* ***ACIND*** *= the percentage of total independent non-executive directors on the audit committee board.* ***ACEXP =*** *the percentage of members with accounting and financial qualification and experience.* ***MOWNE*** *= the percentage of the total shares that were owned by the directors of a firm.* ***INSTITU 3%*** *= the percentage of Institutional ownership of those who hold at least 3% or more.* ***FSIZE****= Firm size, the natural log of firm's total assets.* ***FLEVER****= leverage ratio, measured by total liabilities divided by total assets.* ***ROA****= profitability, measured by ROA (net income before interest and taxes divided by total assets).* ***FGROW*** *= the change in total assets scaled by total assets.* **Big 4** *= a dummy variable that takes the value of 1 if the firm is being audited by one of the big-4 auditors, and 0 otherwise.* ***Z-SCORE=*** *refers to Altman's Z-Score.*

TABLE (6.14) PRE – POST (2013) COMBINED CODE OF CORPORATE GOVERNANCE IN INDIA AND AEM AND REM

Variables	Pre 2013									post 2013								
	REM_1			REM_2			REM			REM_1			REM_2			REM		
	REM_1	**AEM Jones**	**AEM Kothari**	**REM_2**	**AEM Jones**	**AEM Kothari**	**REM**	**AEM Jones**	**AEM Kothari**	**REM_1**	**AEM Jones**	**AEM Kothari**	**REM_2**	**AEM Jones**	**AEM Kothari**	**REM**	**AEM Jones**	**AEM Kothari**
Unexpected REM_1	---	-0.006	-0.048	------	----	-----	----	-----	-----	-----	0.680	0.207	---	---	------	----	-----	-----
Unexpected REM_2	----	-----	-----	-----	-0.004	0.221	-----	------	------	----	-----	-----	----	0.657	-0.060	----	-----	-----
Unexpected REM	------	-----	-----	-----	----	----	------	-0.001	-0.021	-----	------	-----	----	----	-------	-------	0.572	0.328
BSIZE	0.362	-0.000	0.902	0.321	-0.000	0.892	0.219	-0.000	0.825	0.772	0.558	-0.076	0.634	0.565	-0.081	0.660	0.835	0.747
BMEET	0.165	0.944	0.294	0.129	0.993	0.311	0.260	0.544	0.525	-0.099	0.870	0.618	0.282	0.873	0.642	-0.032	0.747	0.275
BIND	0.248	-0.000	-0.020	0.830	-0.000	-0.021	0.253	-0.020	-0.011	0.625	0.766	0.808	0.576	0.763	0.797	0.758	0.677	0.234
BFEM	+0.001	0.783	0.333	+0.027	0.939	0.296	+0.000	0.746	0.745	0.144	0.717	0.427	+0.059	0.698	0.366	0.152	0.603	0.306
ACSIZE	0.164	0.129	0.147	0.819	0.149	0.132	0.432	+0.009	0.335	+0.000	0.573	0.187	+0.000	0.570	0.169	0.115	0.445	0.920
ACMEET	0.435	0.799	-0.092	0.417	0.772	-0.096	0.333	0.628	0.957	0.544	0.415	0.157	0.263	0.415	0.157	0.210	-0.000	0.905
ACIND	+0.089	-0.096	-0.089	0.159	0.159	0.112	0.211	0.204	0.338	0.246	-0.000	0.580	+0.030	-0.000	0.544	0.278	0.110	0.700
ACEXP	0.416	-0.000	0.491	0.502	-0.000	0.513	-0.016	-0.000	-0.037	-0.006	0.106	0.496	-0.052	0.107	0.480	-0.009	-0.068	0.113
MOWNE	0.497	0.177	0.180	0.646	0.179	0.712	0.187	-0.007	-0.011	0.747	-0.076	0.412	0.904	-0.078	0.454	0.833	0.308	0.468
INSTITU 3%	+0.000	0.221	0.306	+0.000	0.239	0.226	0.100	+0.056	0.921	0.868	0.322	0.400	0.998	0.317	0.385	0.923	0.101	0.889
FSIZE	0.568	0.559	0.411	0.732	0.578	0.418	0.603	0.662	0.695	0.949	0.113	0.413	0.898	0.114	0.151	0.421	0.342	+0.007
FLEVER	-0.040	0.221	0.769	-0.007	0.221	0.783	0.258	0.365	+0.094	0.704	0334	0.536	0.684	0.335	0.539	0.479	+0.000	0.755
ROA	-0.000	+0.000	---------	-0.000	+0.000	--------	-0.000	+0.001	-----	0.114	+0.000	--------	-0.000	+0.000	------	-0.000	0.829	----
FGROW	0.398	+0.000	+0.040	0.359	+0.000	+0.042	-0.072	+0.000	0.124	0.886	0.828	0.823	0.660	0.833	0.796	0.527	0.378	+0.000
Big 4	0.724	-0.016	-0.012	0.731	-0.016	-0.012	0.498	0.372	0.426	0.850	0.363	0.929	0.990	0.360	0.955	0.714	0.431	0.125
Z-score	0.521	0.787	0.305	0.309	0.818	0.321	0.136	0.301	0.120	0.738	0.638	0.395	0.364	0.629	0.511	0.325	0.120	0.325

6.6. SUMMARY

The objective of this chapter was to investigate the impact of corporate governance mechanisms on the substitution between AEM, REM_1, and REM_2 in UK and Indian firms. The research was based on a sample of 223 non-financial companies listed in the UK Financial Times Stock Exchange FTSE 350 and using a sample of 212 private sector companies in India, listed on the Bombay Stock Exchange, for the fiscal years 2006 to 2015. This chapter used corporate governance as an independent variable, including board characteristics, audit committee characteristics and ownership structures, and used the absolute value of discretionary accruals as proxy for AEM,

Two types of Multicollinearity Tests, the Pearson Correlation Matrix and the Collinearity Diagnostics (VIF) were used to test whether there was multicollinearity between the independent variables. The results show that there is no significant problem of multicollinearity.

The chapter discussed the descriptive statistics for dependent, independent and control variables, highlighting the means, the minima, the maxima and their standard deviations.

The results provide strong evidence that firms in the UK and India use AEM and REM as mutual substitutes, rather than as complements, when seeking to manipulate reported earnings. In addition, the results also provide strong evidence that, board characteristics, audit committee characteristics, or the ownership structure of the company in the UK and India constrained either AEM, REM, both or neither. However, there is strong evidence to suggest that some but not all corporate governance mechanisms' costs and constraints play a role in managers' trade-off between AEM and REM decisions in the UK and India.

CHAPTER SEVEN: SUMMARY OF MAIN CONCLUSIONS

7.1. INTRODUCTION

The main aim of this research is to examine the impact of mechanisms of corporate governance on trade-off between AEM and REM, in the non-financial sectors of UK and Indian companies, during the period 2006-2015.

Based on a review of the literature, and motivated by the gaps in the literature, hypotheses are tested in this thesis. This research has two objectives. Firstly, to examine the impact of corporate governance mechanisms on the trade-off between AEM and REM by managers of non-financial UK companies listed on the FTSE 350 during the period 2006-2015. Secondly, to examine the impact of corporate governance mechanisms on the trade-off between AEM and REM by managers of non-financial Indian companies listed on the BSE 500, during the period 2006-2015.

The literature relating to corporate governance and AEM and REM provides two perspectives. The first argues that companies with low levels of corporate governance are more likely to evidence higher levels of AEM and REM (Rahman and Ali 2006, Kao and Chen 2004, Obigbemi, et al. 2016, Ching et al. 2006, Dechow et al. 1996, González and Garcia-Meca 2014, Awais and Wang 2011, Gulzar 2011 and Shawver et al. 2006). The second perspective argues that a higher level of corporate governance is less likely to be associated with AEM and REM (Roychowdhury 2006, Ghosh et al. 2010, Xie et al. 2003, Sánchez-Ballesta and Ballesta 2007, Jayati 2006 and Kang and Kim 2012). Other studies do not report any relationship between corporate governance, AEM and REM (Park and Shin 2004, Katmon and Al Farooque 2017, Rahman et al. 2013, Habbash 2010, Chtourou et al. 2001, Xie et al. 2001 and Kent et al. 2010). Furthermore, the research was based on the assumptions of agency theory, but informational asymmetry, stewardship theory, institutional theory and stakeholder theory might be more relevant to understanding the link between corporate governance, AEM and REM.

This chapter is organised as follows: Section 7.2 reviews the research findings, Section 7.3 outlines potential limitations. Section 7.4 presents implications of the study, and Section 7.5 suggests areas for future research.

7.2. REVIEW OF FINDINGS

Eleven hypotheses and the key findings of their tests are summarised in this chapter. The overall results suggest that corporate governance attributes constrain the likelihood of trade-off between AEM and REM in the UK and India.

7.2.1. REVIEW OF UK FINDINGS

Consistent with H1 the UK results found that levels of AEM in both the Jones and Kothari models were significantly and negatively associated with the aggregate levels of REM_1, REM_2 and REM, and vice-versa. The UK firms appear to employ a method of trading off between the two manipulative techniques, rather than employing both simultaneously. Evidence of this switching or trade-off by managers was found.

Consistent with H2 this study finds that increasing the size of the board is significantly negatively related to AEM and is positive on REM_1. Firms with higher number of members on their board constrain AEM and are more likely to engage in REM by cutting discretionary expenses and overproduction. The results indicate that board size exerts more pressure to constrain AEM than REM. The results indicate that H2 is empirically supported.

Inconsistent with H3, increasing the frequency of board meetings does appear to increase the level of AEM but is insignificant with REM_1 and REM_2. These findings support that corporate governance does not provides effective monitoring that mitigate AEM or decreased REM. These findings do not support those mechanisms of corporate governance, which impact the trade-off between AEM and REM.

Inconsistent with H4, increasing the number of directors who are independent on the board reduces AEM but no significant evidence of an association with REM_1 or REM_2 has been found. These findings do not support those mechanisms of corporate governance, which impact the trade-off between AEM and REM.

Consistent with H5, increasing the number of females on the board is significantly negatively related to AEM and is positive on REM_1. Firms with a higher number of females on the board constrain AEM and are more likely to engage in REM by cutting discretionary expenses and overproduction. The results indicate that females on the board exert more pressure to constrain AEM than REM. The results indicate that H5 is empirically supported.

The results empirically support H6, that increasing the size of the audit committee has a significantly negative effect on REM_1 and REM_2 and has a significantly positive effect on

AEM. The coefficient indicates that an increased number of directors on the audit committee constrains REM by using methods such as cutting discretionary expenses, overproduction and sales-based manipulation. The positive coefficient on AEM is consistent with an increased number of members on the audit committee, implying that UK firms use AEM more.

Inconsistent with H7 increasing the number of audit committee meetings has no significant impact on AEM but does significantly reduce either REM_1 or REM_2. The results indicate that firms, which increase the frequency of audit committee meetings, are less likely to undertake REM, because REM is constrained by increasing the frequency of audit committee meetings. Firms do not substitute REM for AEM.

Inconsistent with H8, increasing the number of directors who are independent on the audit committee is associated with significant REM_1 and REM_2 but no significant evidence of an association with AEM has been found. These findings do not support those mechanisms of corporate governance, which impact the trade-off between AEM and REM.

Inconsistent with H9, neither AEM nor REM_1 nor REM_2 is significantly affected by increasing the level of audit committee financial expertise. This finding is not consistent with agency-based assumptions that corporate governance will mitigate AEM and REM. This finding does not support those mechanisms of corporate governance, which impact the trade-off between AEM and REM.

Inconsistent with H10, increasing the percentage of managerial ownership has no significant impact on either REM_1, REM_2 or AEM. Managerial ownership constraints do not appear to affect the use of either AEM or REM.

Inconsistent with H11, increasing institutional ownership has no significant impact on REM_1, REM_2 or AEM. These results may indicate that institutional ownership is not an important driver for good ownership structures monitoring either AEM or REM practices. These results suggest that, while higher institutional ownership does not constrain either AEM or REM, they fail to confirm that there is substitution observed under institutional ownership in UK firms. Firms do not substitute REM for AEM.

7.2.2. REVIEW OF INDIAN FINDINGS

Consistent with H1, the results from India found that levels of AEM in both the modified Jones and Kothari models were significantly and negatively associated with the aggregate levels of REM_1, REM_2 and REM, and vice-versa. The Indian firms appear to employ a method of trading off between the two manipulative techniques, rather than employing both simultaneously. This study provides evidence that there is a trade-off between AEM and REM in Indian companies.

Inconsistent with H2, increasing the number of directors on the board reduces AEM but no significant evidence of an association with REM_1 or REM_2 has been found. These findings do not support those mechanisms of corporate governance, which impact the trade-off between AEM and REM.

Inconsistent with H3, increasing the frequency of board meetings had no significant impact on AEM or on REM_1 and REM_2. Therefore, no inferences can be drawn as to whether frequency of board meetings constrains the use of AEM. Due to these results, this study is unable to accept H3, Therefore, the evidence is weak that firms trade-off REM and AEM as substitutes.

Inconsistent with H4, increasing the number of directors who are independent on the board reduces AEM but no significant evidence of an association with REM_1 or REM_2 has been found. These findings do not support those mechanisms of corporate governance, which impact the trade-off between AEM and REM.

Inconsistent with H5, increasing the number of females on the board does appear to increase the level of REM_1 and REM_2 but is insignificant with regard to AEM. These findings support that corporate governance does not provide effective monitoring that mitigates REM or decreased AEM. These findings do not support those mechanisms of corporate governance, which impact the trade-off between AEM and REM.

Inconsistent with H6, increasing the number of directors on the audit committee does appear to increase the level of AEM but is insignificant with regard to REM_1 and REM_2. These findings support that corporate governance does not provide effective monitoring that mitigates AEM or decreased REM. These findings do not support those mechanisms of corporate governance, which impact the trade-off between AEM and REM.

Inconsistent with H7, increasing the number of audit committee meetings has no significant impact on AEM, REM_1or REM_2. These results may indicate that increasing the number of audit committee meetings is not an important driver for a good audit committee monitoring of

AEM and REM practices. Therefore, no inferences can be drawn as to whether increasing the number of audit committee meetings constrains the use of AEM or REM. This study does not support H7.

Inconsistent with H8, increasing the number of independent members on the audit committee in a firm is considered to be an element of good corporate governance and provides an additional monitoring mechanism of the financial reporting process. This study shows that increasing the number of independent members on the audit committee significantly reduces AEM but has no significant impact on either REM_1 or REM_2. This result indicates that firms with a higher number of independent members on the audit committee are less likely to undertake AEM. Therefore, it cannot be concluded that firms which have more independent members on the audit committee have higher levels of REM. There is no evidence of trade-off between REM and AEM. There is no empirical support for H8.

Inconsistent with H9, increasing the financial expertise of the audit committee does significantly decrease AEM. However, the effect on REM_1 and REM_2 was not significant. The result indicates that the financial expertise of the audit committee exerts more pressure on firms to constrain AEM than REM. Firms with greater financial expertise on the audit committee have higher costs of AEM. The coefficient indicates that the financial expertise of the audit committee exerts more pressure on firms to constrain AEM and there is no evidence of increased use for both REM_1 and REM_2. Therefore, H9 is rejected.

Contrary to H10, increasing the percentage of managerial ownership significantly decreased AEM. However, the effect on REM_1 and REM_2 was not significant. The result indicates that increasing the percentage of managerial ownership exerts more pressure on firms to constrain AEM. No inferences can be drawn as to whether increased percentage of managerial ownership increased the use of AEM. Therefore, the results for India do not support H10. There is no evidence that managers in India substitute REM for AEM on the basis of the relative costs.

Inconsistent with H11, increasing institutional ownership significantly decreases REM_1 and REM_2 and does not affect AEM. These results indicate that increasing institutional ownership exerts more pressure on firms to constrain REM. Firms with higher institutional ownership have higher costs of REM. The negative coefficients on REM suggest that firms with higher institutional ownership have higher costs of REM, and there is no evedince of increased use of AEM. Therefore, H11 is rejected. There is no evidence that companies trade-off between AEM and REM.

7.3. THE IMPLICATIONS OF THE RESEARCH

The main aim of this research is to investigate the impact of corporate governance on the trade-off between AEM and REM in the UK and India. This section discusses possible implications of the main findings for the theory and practice of EM.

Agency theory has dominated approaches to research into the effectiveness of corporate governance and the manipulation of reported earnings. The cost of mechanisms for monitoring managers, in order to protect shareholders from the management's perceived conflict, has been termed the inevitable agency cost. Agency theory asserts that the separation between ownership and management inevitably leads managers to collude against owners in order to increase the managers' personal wealth (Rahman and Ali, 2006).

Accordingly, these findings will be of potential interest to various stakeholders, including investors, auditors, regulators and agencies for economic development in emerging economies, and also to managers of companies who wish to increase the confidence of investors in the quality of their financial reporting. The findings may also help regulators by providing empirical evidence as to which mechanisms of corporate governance are useful and which are not. This might help regulators and policy makers to develop future schemes of financial reporting and more effective regulatory frameworks. In addition, company analysts can use these findings to assess whether different mechanisms of corporate governance have had undesirable and unintended consequences. This may have occurred when such mechanisms have motivated managers to manipulate in-year operational activities in ways that are hard to monitor and detect, and which have implications for cash flow and liquidity and for product and market development, when these methods affect stock levels, production levels or spending on research and development. All these threaten the longer-term viability and prosperity of companies.

7.4. LIMITATIONS OF THE STUDY

This research has limitations in the scope of its data collection and in its interpretive paradigm. Samples were limited to the non-financial sectors of the UK and Indian economies. This limitation is consistent with previous research (Naser et al. 2002, Al-Akra and Hutchinson 2013 and Athanasakou and Hussainey 2014). Although codes of corporate governance differ from one country to another, the findings however, can be generalisable to established and emerging economies that have standards and regulations similar to the UK and India. A common, yet inevitable, limitation related to studies of AEM and REM is faulty estimation of the proxies

used. So far, the literature suggests no model or proxy that is free of criticism. Abnormal levels of earnings do not necessarily identify companies, which use AEM, and REM. Siregar and Utama (2008) doubt the validity of the modified Jones model that was used in this research. Further limitations may have been inherited from the methods that have been used to gather and score the levels of corporate governance. Although the methods, which have been used in this research have been widely used in previous studies, they are subjective. This subjectivity in the use of secondary data was judged to be a price worth paying for the size of a research sample which covered more than 435 companies, over a period that covered more than 10 years, in two countries. Finally, this thesis did not address causality. The findings provided evidence of association but not causality.

7.5. SUGGESTIONS FOR FUTURE RESEARCH

There are several potential areas for future study on the association between corporate governance and trade-off between AEM and REM.

Firstly, it would be interesting to extend the scope of this research to include companies from the financial sector.

Secondly, the underlying assumption of this research is that the motives for managers' manipulations are to increase their personal wealth. It would be interesting to investigate the decision-making and motivation of the managers who were found to use AEM and REM by using research methodologies whose paradigms had their roots in management behaviour.

Thirdly, the research used a total discretionary accrual by using the modified Jones model Dechow et al. (1995) and REM1 and REM2 were used to estimate the aggregate real activities as proxies for measurements of REM. Furthermore, this study used robustness tests by using Kothari et al.'s (2005) performance-matched model as a proxy for AEM and Roychowdhury's (2006) model as proxies for measurements of REM, and of any trade-off between the two methods. Since this model is suspect, it would be desirable to repeat this research using a different model.

Fourthly, the findings provide strong evidence that, board characteristics, audit committee characteristics, or the ownership structure of the company in the UK and India constrained either AEM, REM, both or neither. However, there is strong evidence to suggest that some, but not all, corporate governance mechanisms costs and constraints play a role in managers' trade-off between AEM and REM decisions in the UK and India. In addition, the effect of other

mechanisms of corporate governance or other approaches to the motivation of managers could be investigated.

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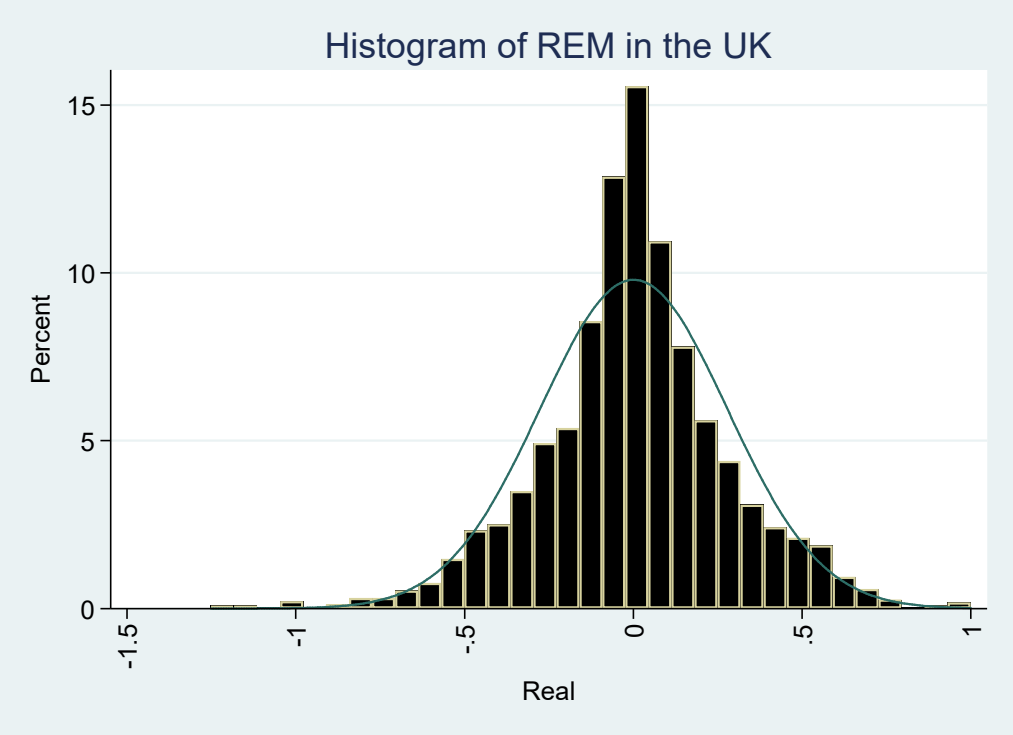
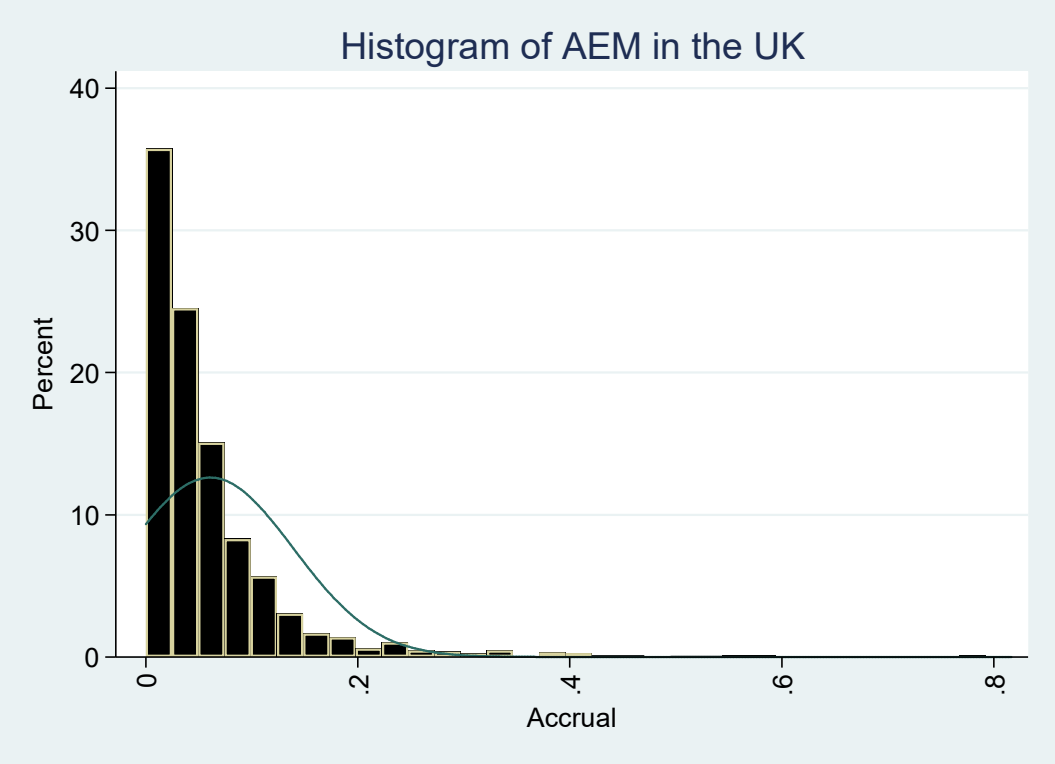
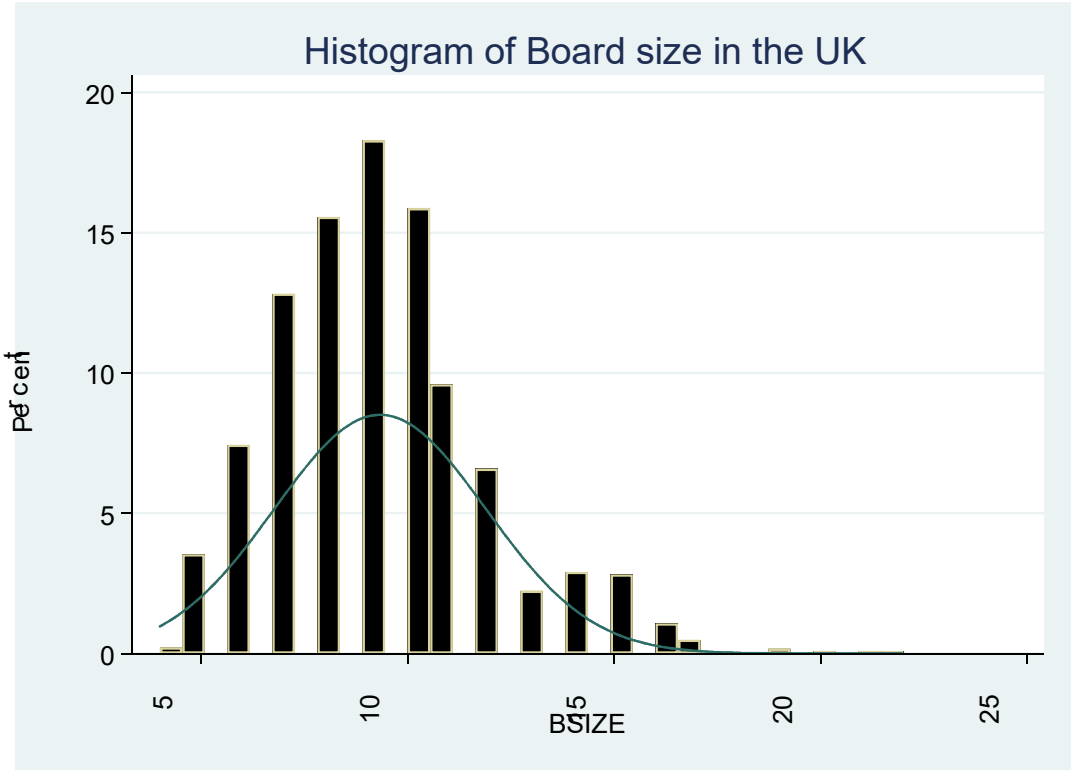
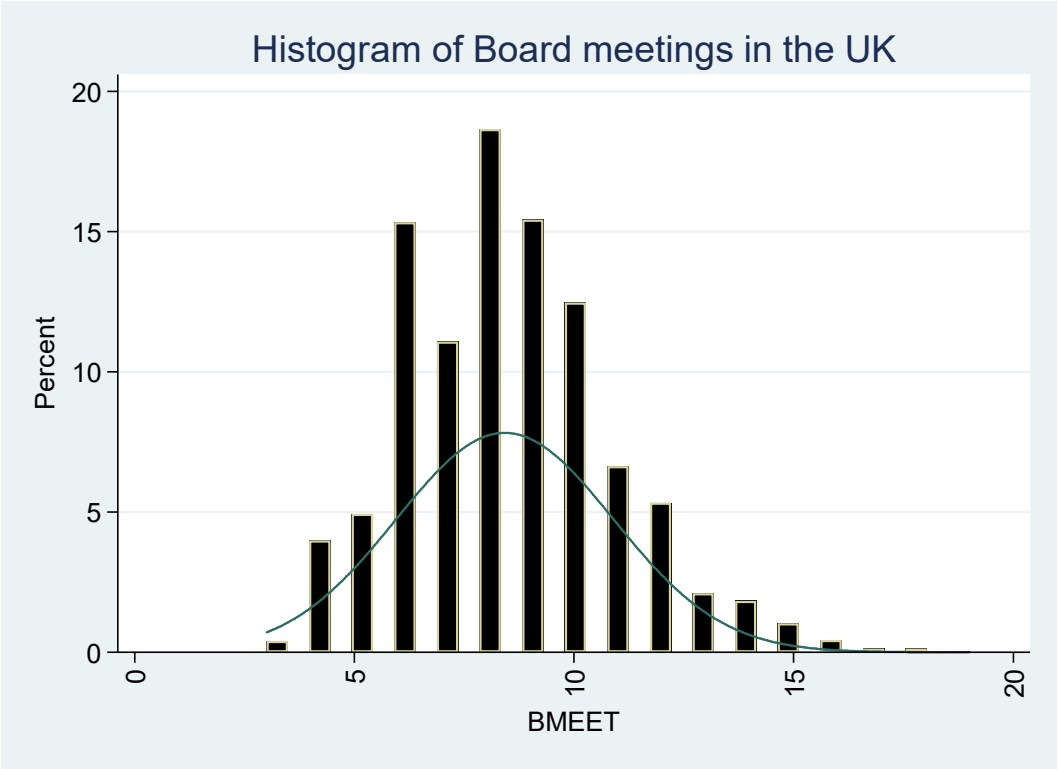
APPENDICES

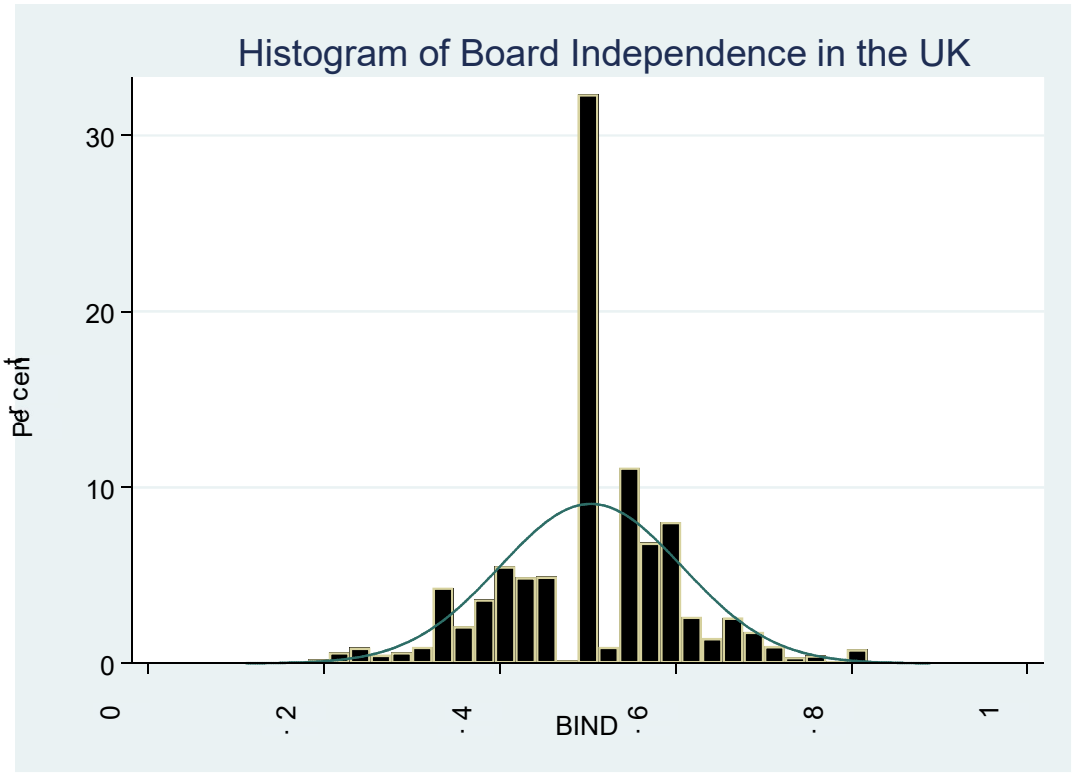
Appendix 1: Normality of Data Distribution in the UK and India

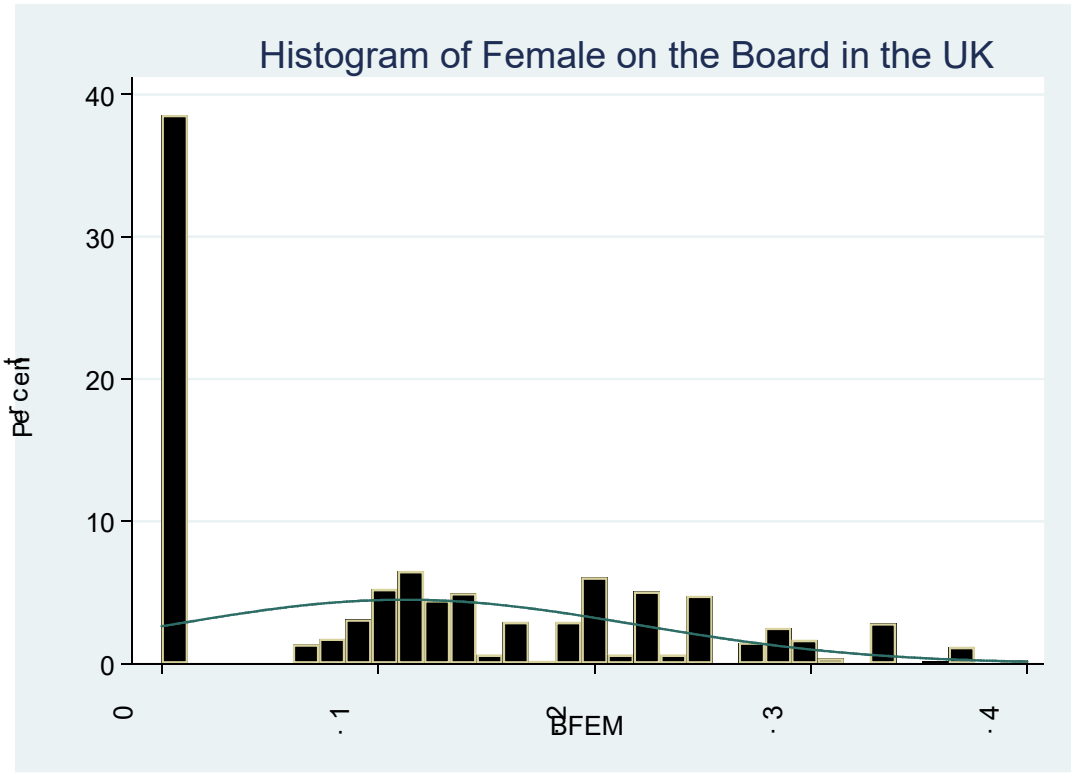


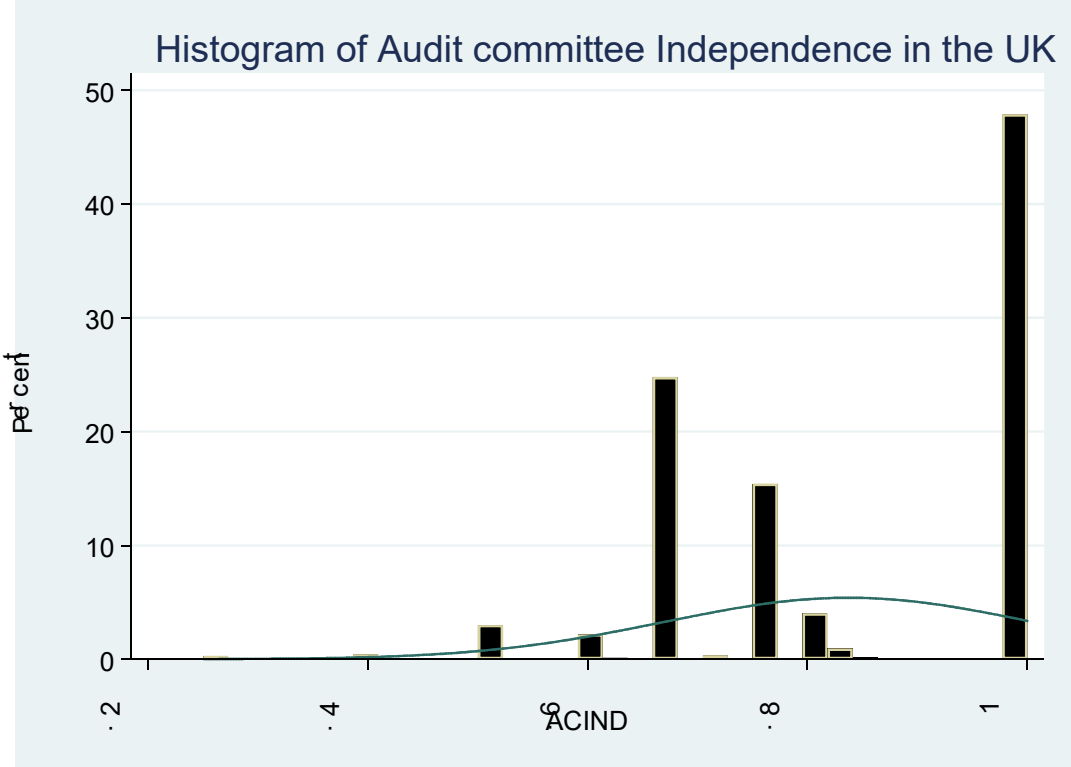


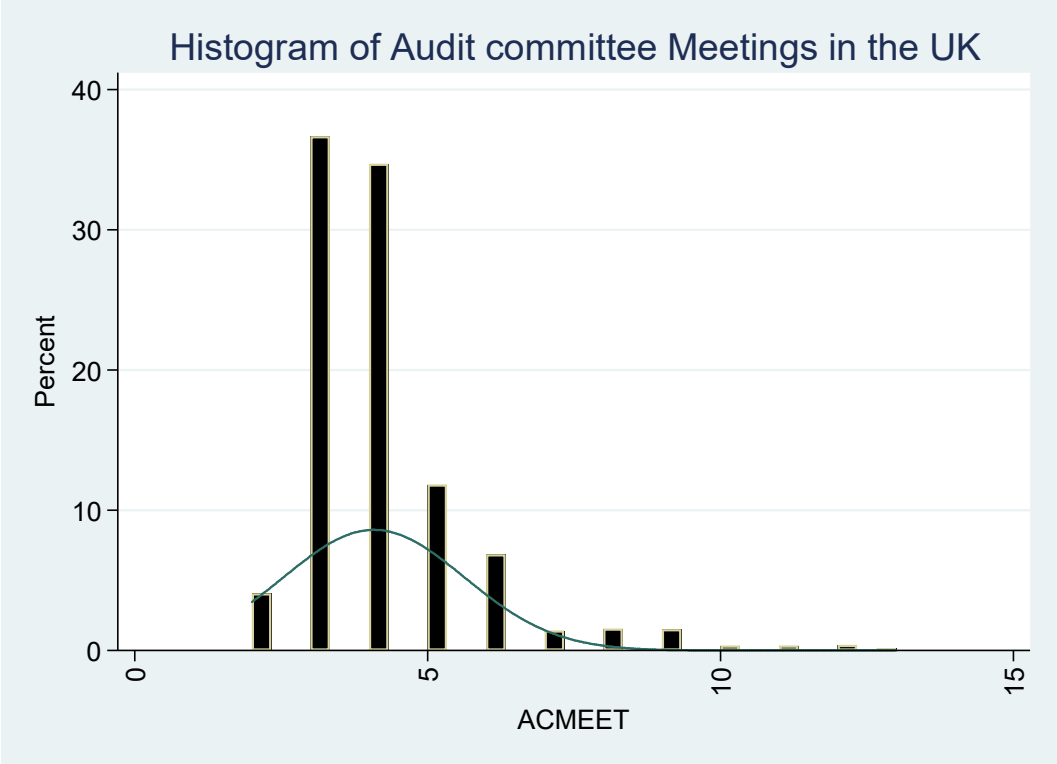

Histogram of Board size in the UK
Percent
0
5
10
15
20
5
10
15
20
25
BSIZE

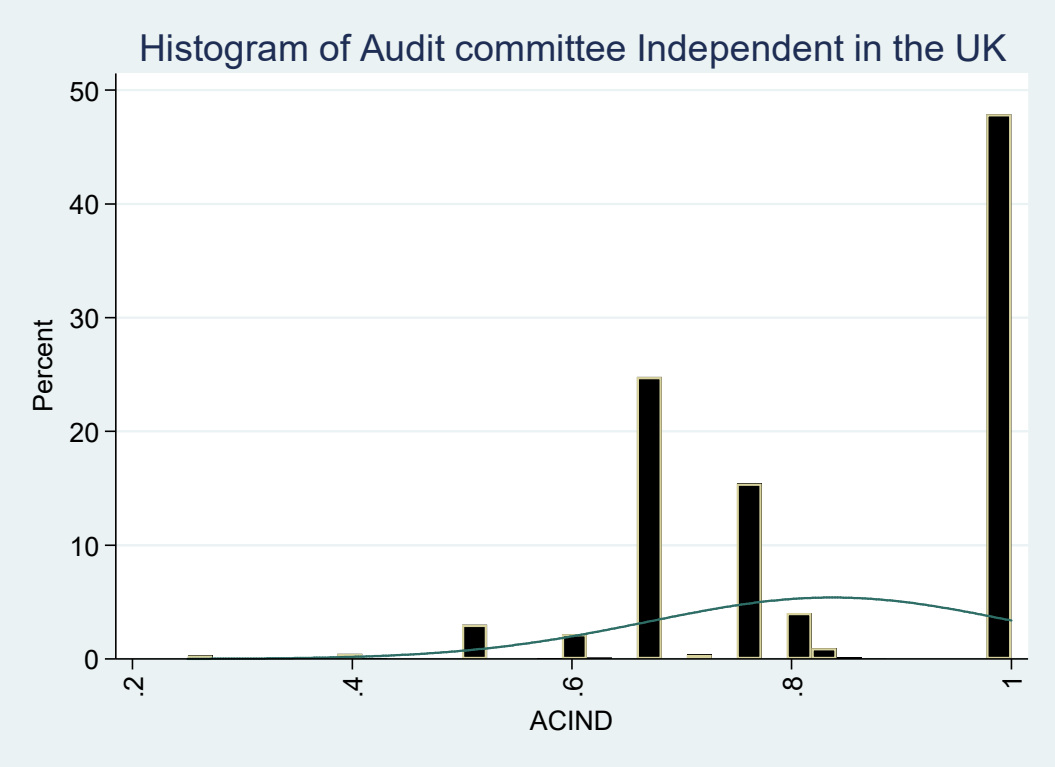

Histogram of Board meetings in the UK
Percent
0
5
10
15
20
0
5
10
15
20
BMEET

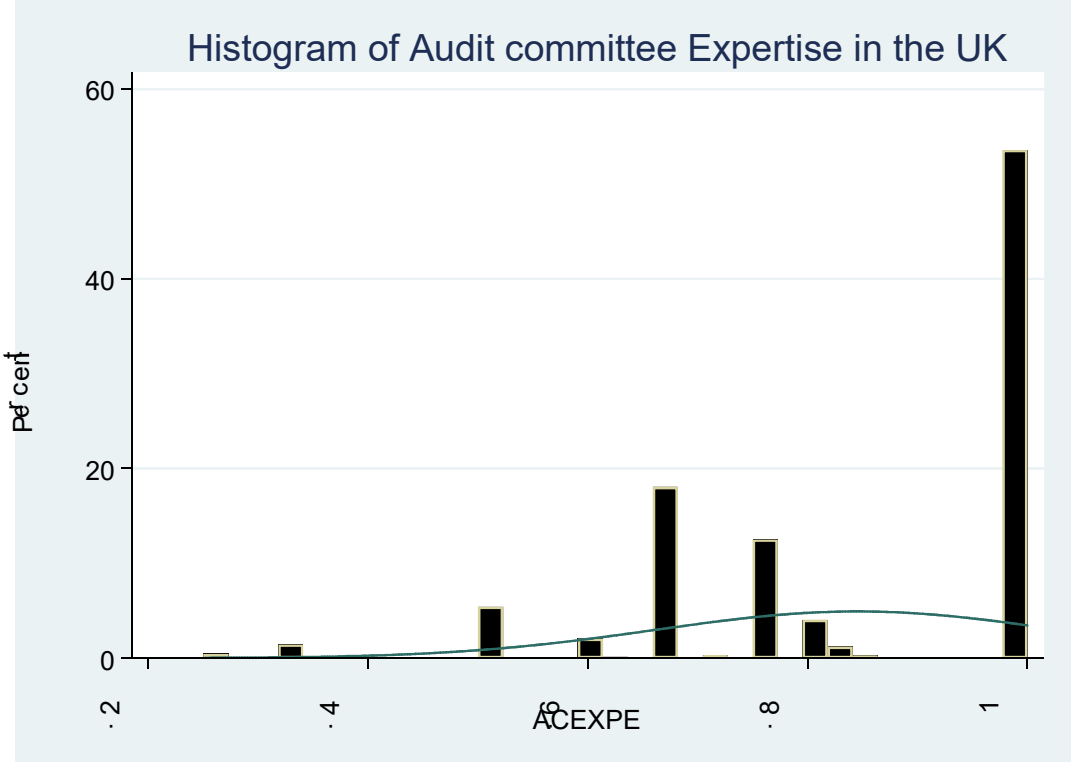

Histogram of Board Independence in the UK
Percent
0
10
20
30
0
.2
.4
.6
.8
1
BIND

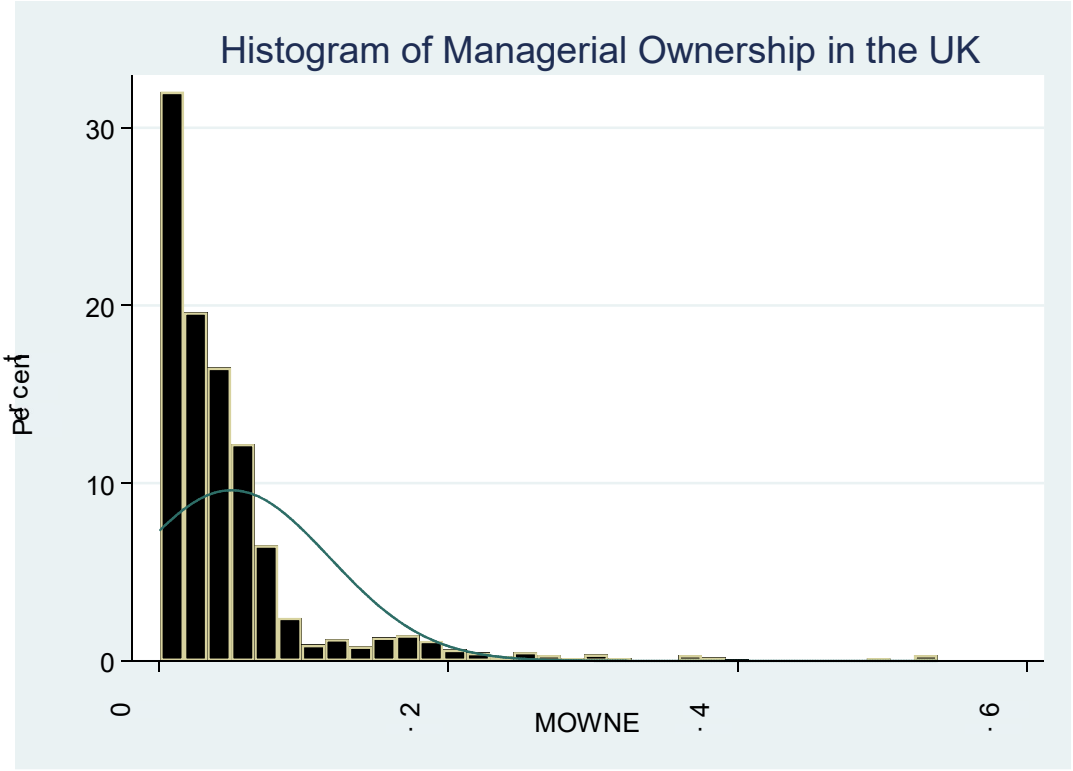

Histogram of Female on the Board in the UK
Percent
0
10
20
30
40
0
.1
.2
.3
.4
BFEM

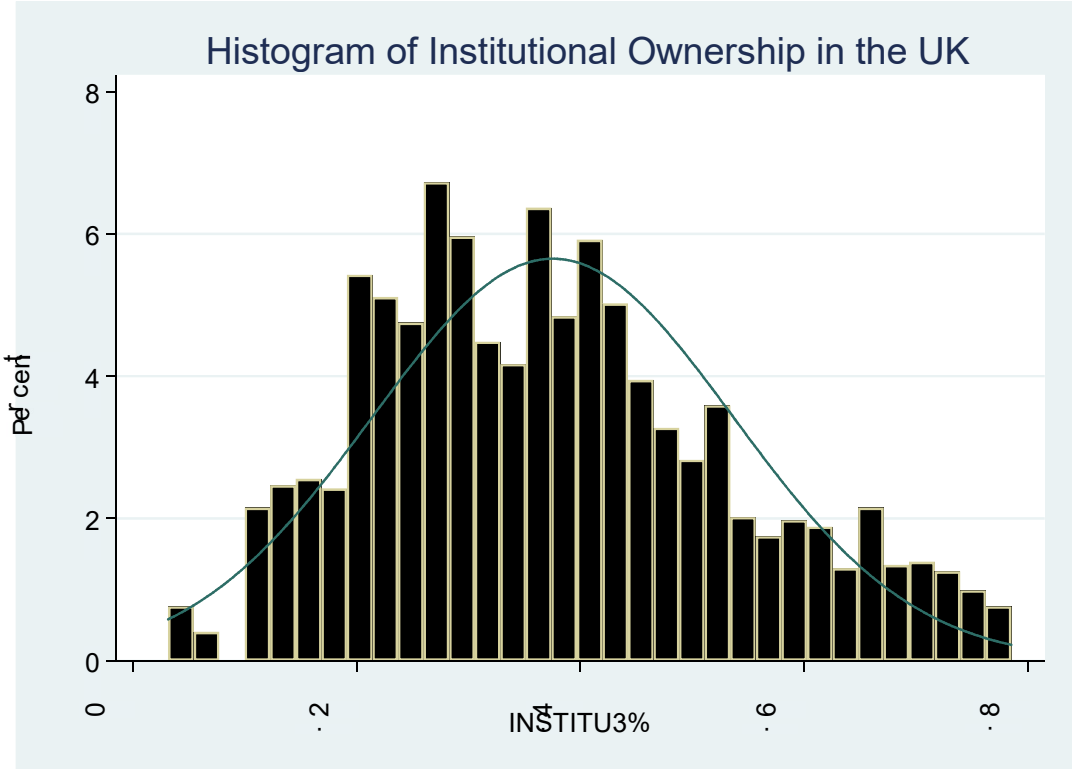

Histogram of Audit committee Independence in the UK
Percent
0
10
20
30
40
50
.2
.4
.6
.8
1
ACIND

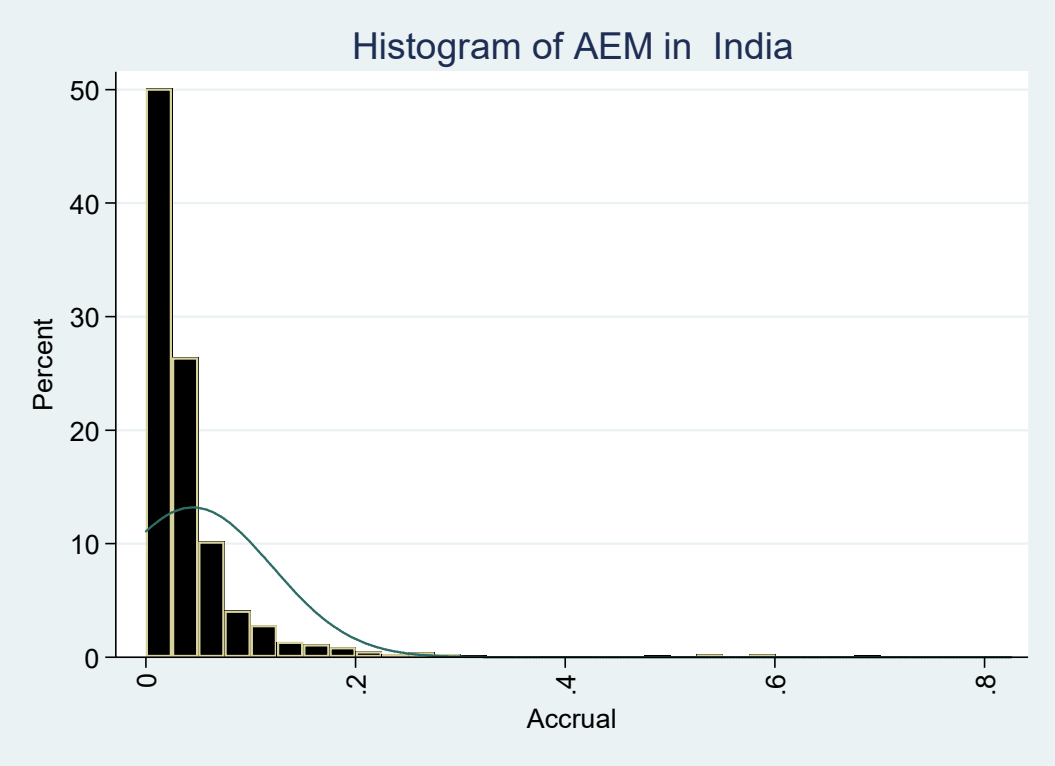

Histogram of Audit committee Meetings in the UK
Percent
0
10
20
30
40
0
5
10
15
ACMEET

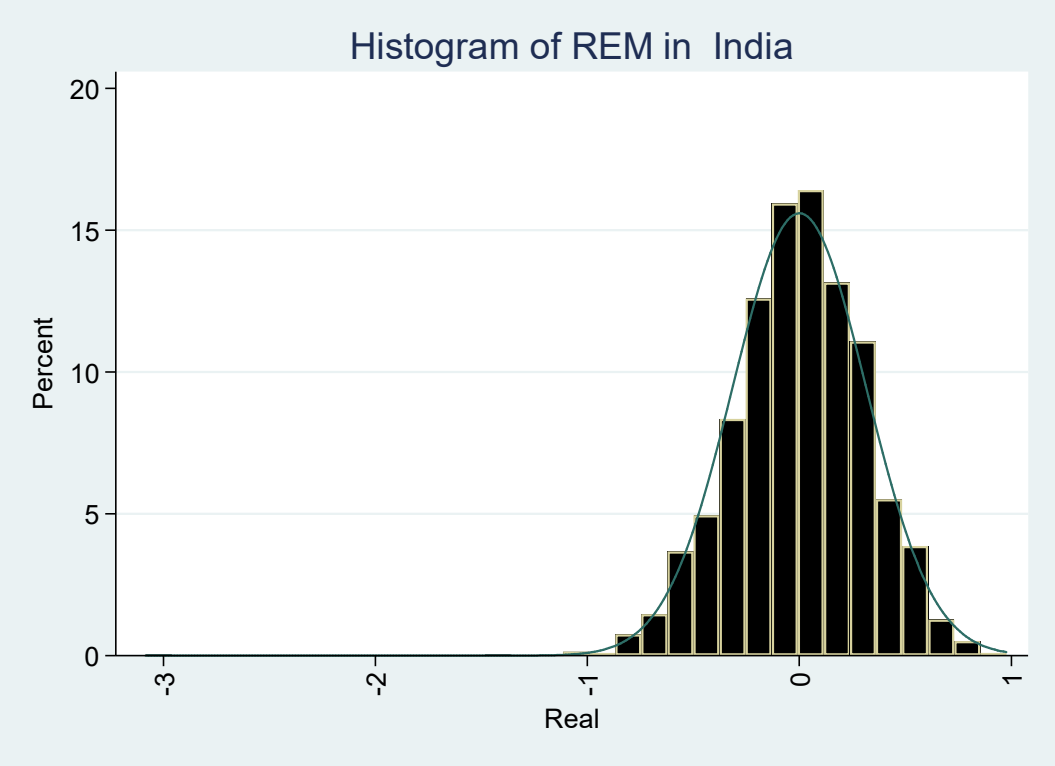

Histogram of Audit committee Independent in the UK
Percent
0
10
20
30
40
50
.2
.4
.6
.8
1
ACIND

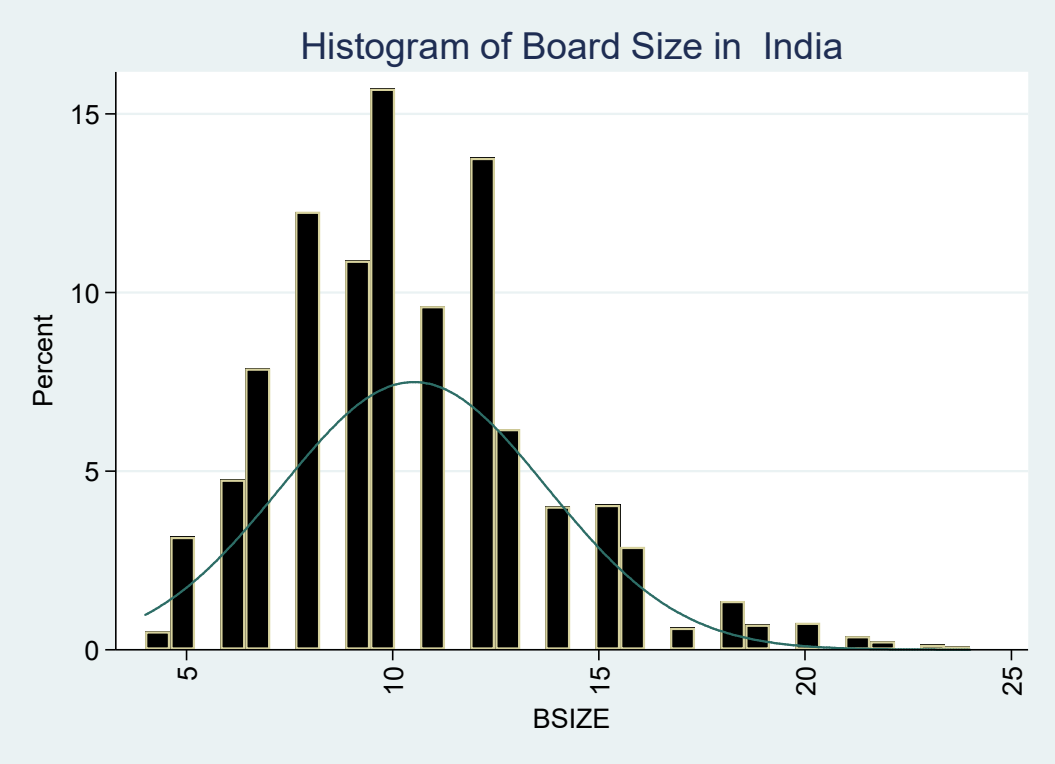

Histogram of Audit committee Expertise in the UK
Percent
0
20
40
60
.2
.4
.6
.8
1
ACEXPE

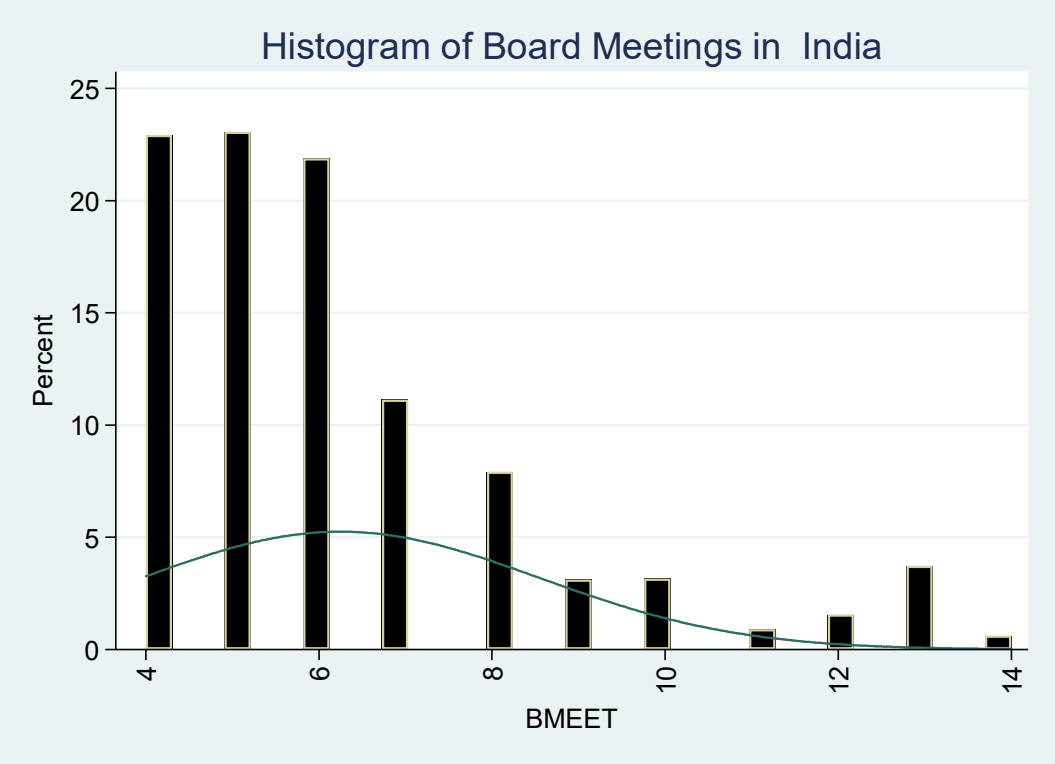

Histogram of Managerial Ownership in the UK
Percent
30
20
10
0
0
.2
.4
.6
MOWNE

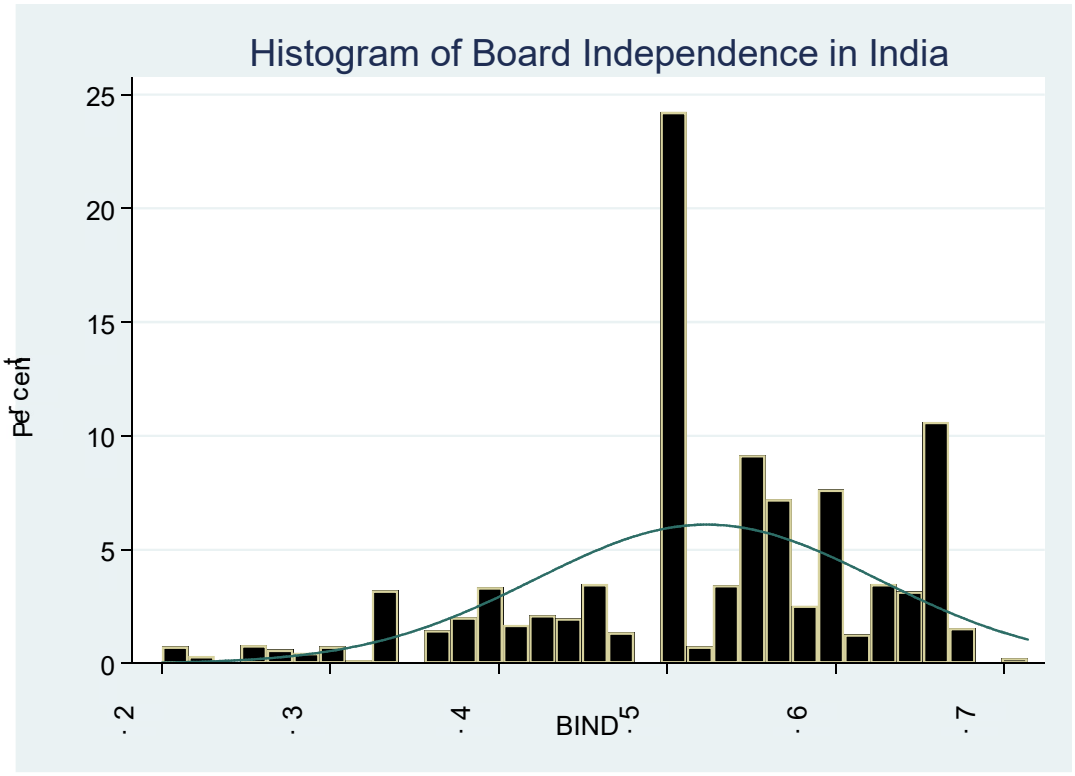

Histogram of Institutional Ownership in the UK
Percent
8
6
4
2
0
0
.2
.4
.6
.8
INSTITU3%

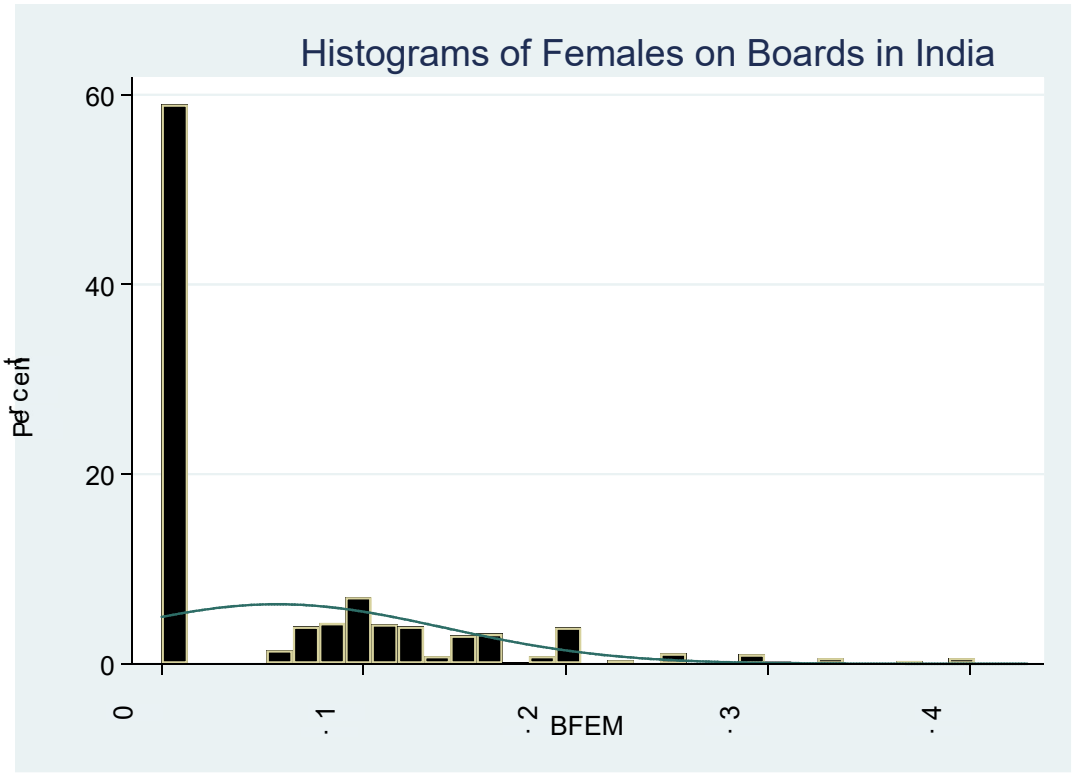

Histogram of AEM in India
Percent
50
40
30
20
10
0
0
.2
.4
.6
.8
Accrual

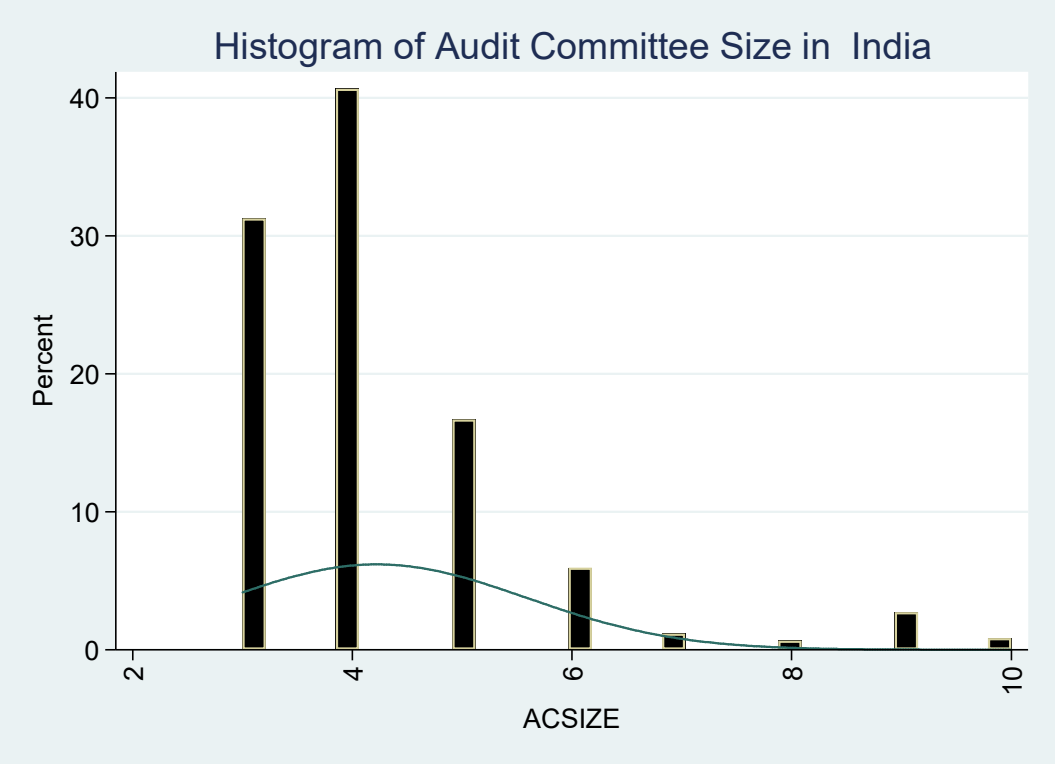

Histogram of REM in India
Percent
20
15
10
5
0
-3
-2
-1
0
1
Real

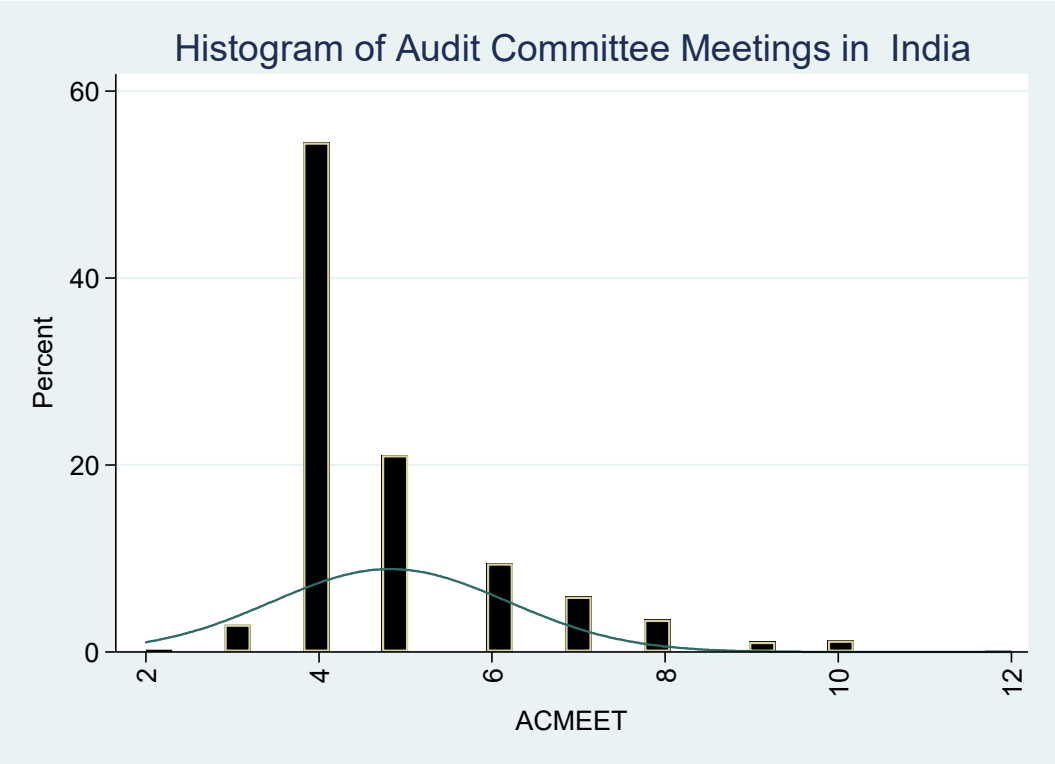

Histogram of Board Size in India
Percent
0
5
10
15
5
10
15
20
25
BSIZE

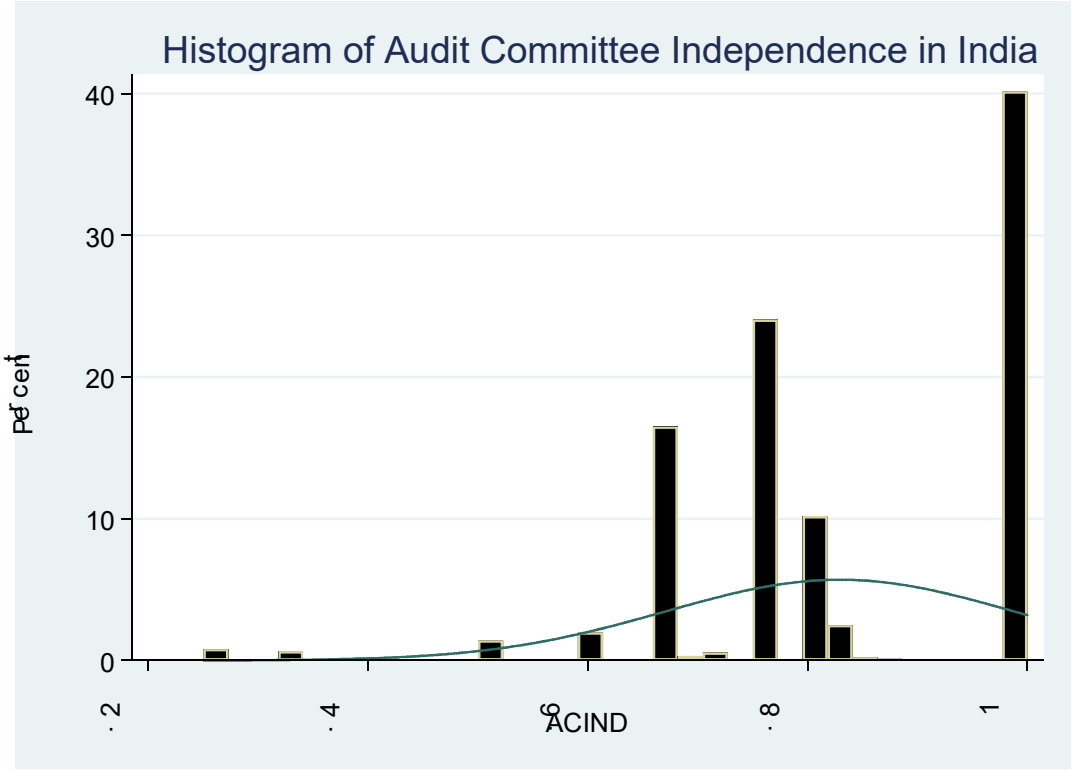

Histogram of Board Meetings in India
Percent
0
5
10
15
20
25
4
6
8
10
12
14
BMEET

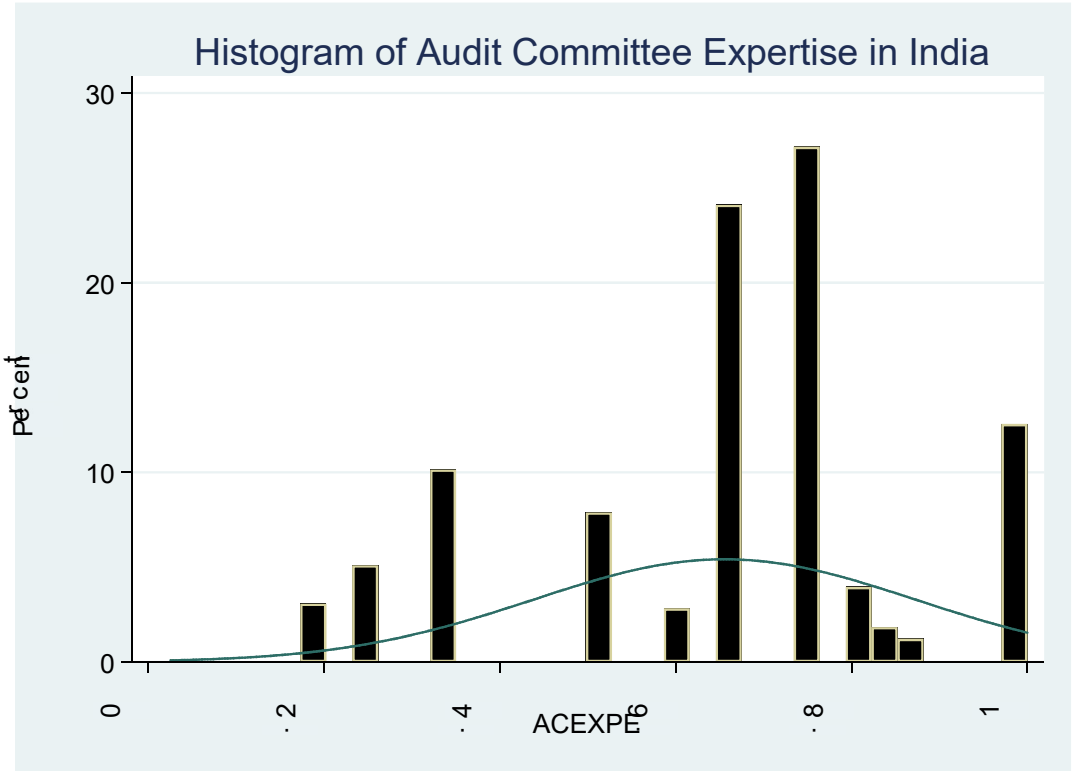

Histogram of Board Independence in India
Percent
0
5
10
15
20
25
.2
.3
.4
.5
.6
.7
BIND

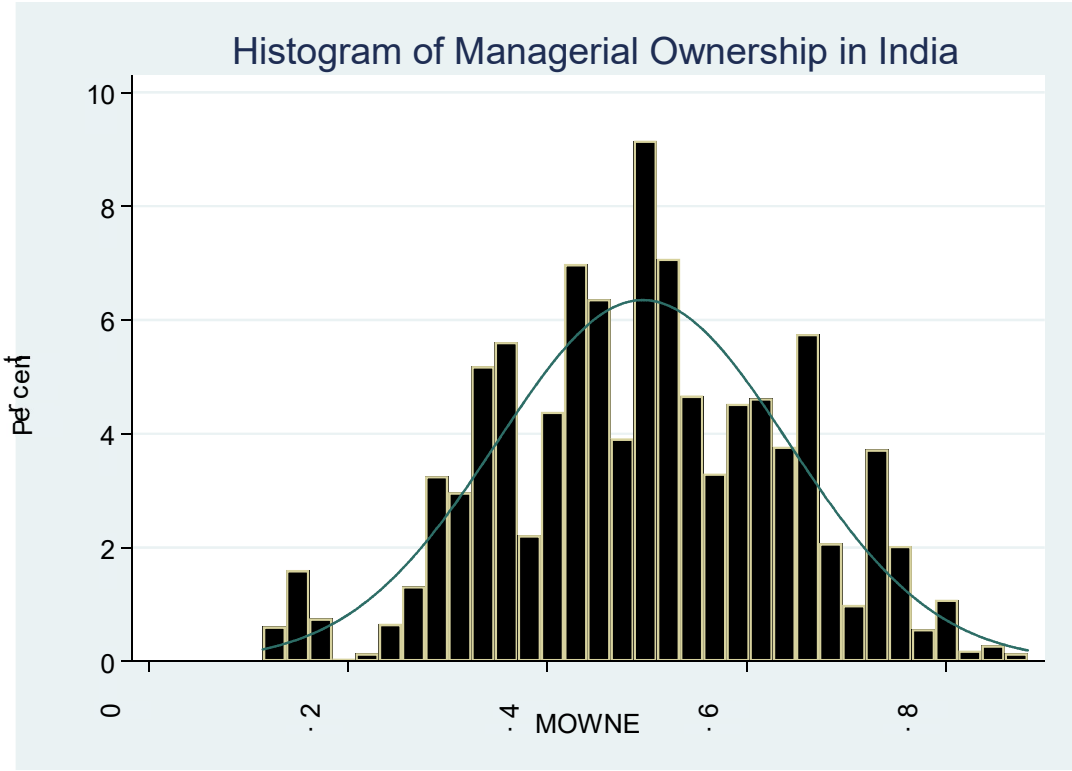

Histograms of Females on Boards in India
Percent
0
20
40
60
0
.1
.2
.3
.4
BFEM

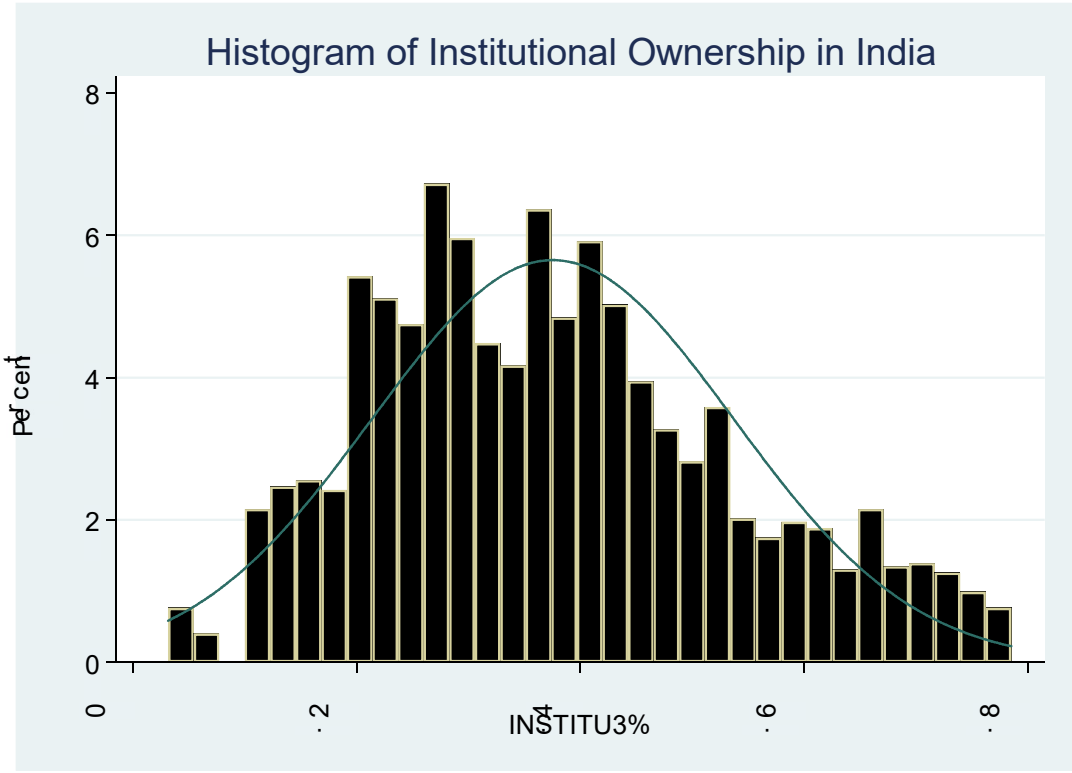

Histogram of Audit Committee Size in India
Percent
0
10
20
30
40
2
4
6
8
10
ACSIZE


Histogram of Audit Committee Meetings in India
Percent
0
20
40
60
2
4
6
8
10
12
ACMEET


Histogram of Audit Committee Independence in India
Percent
0
10
20
30
40
.2
.4
.6
.8
1
ACIND


Histogram of Audit Committee Expertise in India
Percent
0
10
20
30
0
.2
.4
.6
.8
1
ACEXPE


Histogram of Managerial Ownership in India
Percent
0
2
4
6
8
10
0
.2
.4
.6
.8
MOWNE


Histogram of Institutional Ownership in India
Percent
0
2
4
6
8
0
.2
.4
.6
.8
INSTITU3%

Appendix 2: Hausman Test and Breusch and Pagan Test in the UK and India

2.1. The relationship between REM and Corporate Governance Mechanisms in the UK

```
. hausman fe re
```

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
BSIZE	.0114522	.0111843	.0002679	.000751
BMEET	.0016607	.00147	.0001907	.0006053
BIND	.0160422	.0147659	.0012762	.0113937
BFEM	.1438574	.1374929	.0063645	.0122754
ACSIZE	-.0174241	-.0190524	.0016284	.0010175
ACMEET	-.0139466	-.0133485	-.000598	.0008729
ACIND	.0086249	.006942	.0016829	.0023663
ACEXPE	-.0211928	-.0246985	.0035058	.0057518
MOWNE	-.180439	-.1066091	-.0738298	.0397125
INSTITU3	-.0383617	-.0375399	-.0008218	.0094304
FSIZE	-.0335589	-.030449	-.00311	.0117586
FLEVER	.0030688	.0014146	.0016541	.0049035
ROA	-.1058684	-.109908	.0040396	.0121958
FGROW	-.0229428	-.0218065	-.0011362	.0019396
Big4	-.0106435	.0031643	-.0138079	.0168622
ZSCORE	.0006783	.002355	-.0016767	.0017054

```
                b = consistent under Ho and Ha; obtained from xtreg
     B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                chi2(16) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                         =         9.93
              Prob>chi2 =       0.8702

.

. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

        RM_1[companyname1,t] = Xb + u[companyname1] + e[companyname1,t]

        Estimated results:
                     |       Var     sd = sqrt(Var)
             ---------+------------------------------
                RM_1 |    .0673331       .2594862
                   e |     .024897       .1577878
                   u |    .0432544       .2079769

        Test:   Var(u) = 0
                              chibar2(01) =  3672.93
                           Prob > chibar2 =   0.0000
```

2.2. The relationship between AEM (Modified Jones Model) and unexpected REM and Corporate Governance Mechanisms in the UK

```
. hausman fe re
```

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
UnexpREM1	-.0273953	-.0255499	-.0018455	.0024862
BSIZE	-.002143	-.0019952	-.0001478	.0003772
BMEET	.001379	.000705	.0006739	.0003164
BIND	-.0451754	-.0488253	.0036499	.0059165
BFEM	-.0419118	-.042935	.0010232	.006179
ACSIZE	.0071783	.0069144	.0002639	.0005269
ACMEET	.0052719	.0056232	-.0003513	.0004559
ACIND	-.0345178	-.0402529	.0057351	.0010619
ACEXPE	-.011155	-.0114809	.0003258	.0029972
MOWNE	.0282573	.0216126	.0066447	.0203425
INSTITU3	.0094144	.0122104	-.002796	.0049501
FSIZE	-.0106651	-.0105963	-.0000688	.0053509
FLEVER	.0024013	.0034101	-.0010089	.002554
ROA	.0485647	.0591835	-.0106187	.006389
FGROW	.0176732	.0152456	.0024276	.0009045
Big4	-.0103036	-.0220181	.0117145	.0077939
ZSCORE	-.0014119	-.0019785	.0005665	.0008891

```
                b = consistent under Ho and Ha; obtained from xtreg
     B = inconsistent under Ha, efficient under Ho; obtained from xtreg

  Test:  Ho:  difference in coefficients not systematic

              chi2(17) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                       =       45.24
            Prob>chi2 =      0.0002
```

```
Breusch and Pagan Lagrangian multiplier test for random effects

        AcMJones[companyname1,t] = Xb + u[companyname1] + e[companyname1,t]

        Estimated results:
                         |       Var     sd = sqrt(Var)
                ---------+------------------------------
                AcMJones |    .0060612        .077854
                       e |    .0035762       .0598016
                       u |    .0026359       .0513414

        Test:   Var(u) = 0
                                chibar2(01) =   932.99
                            Prob > chibar2 =   0.0000
```

2.3. The relationship between AEM (Kothari et al. Model) and unexpected REM and Corporate Governance Mechanisms in the UK

```
. hausman fe re
```

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
UnexpREM1	-.0440456	-.038071	-.0059745	.0049525
BSIZE	-.0033805	-.0028656	-.0005148	.0006586
BMEET	-.0003828	-.0002462	-.0001366	.0005726
BIND	-.0094418	-.0176201	.0081783	.011046
BFEM	-.0441512	-.0478316	.0036804	.0110133
ACSIZE	.0032258	.0038504	-.0006246	.0010137
ACMEET	.00584	.006178	-.0003381	.0008375
ACIND	-.0575679	-.0630052	.0054373	.0024725
ACEXPE	-.0075491	-.0083642	.0008151	.0056563
MOWNE	.0035724	.024792	-.0212196	.0344876
INSTITU3	.0100159	.013141	-.0031251	.0089645
FSIZE	-.0216937	-.0095406	-.0121531	.0078965
FLEVER	-.0042723	-.003789	-.0004833	.0047541
ROA	-.0857003	-.0707064	-.014994	.0116722
FGROW	.0066201	.0043401	.00228	.0020668
Big4	.0122716	-.0025978	.0148694	.0115815
ZSCORE	-.0023437	-.0013129	-.0010308	.0016052

```
                b = consistent under Ho and Ha; obtained from xtreg
     B = inconsistent under Ha, efficient under Ho; obtained from xtreg

 Test:  Ho:  difference in coefficients not systematic

              chi2(17) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                       =       16.27
            Prob>chi2 =      0.5045
```

```
Breusch and Pagan Lagrangian multiplier test for random effects

        KAModel[companyname1,t] = Xb + u[companyname1] + e[companyname1,t]

        Estimated results:
                         |       Var     sd = sqrt(Var)
                ---------+------------------------------
                 KAModel |    .0075079       .0866484
                       e |    .0061152       .0781995
                       u |    .0017328       .0416265

        Test:   Var(u) = 0
                                chibar2(01) =   147.66
                            Prob > chibar2 =   0.0000
```

2.4. The relationship between REM and Corporate Governance Mechanisms in the UK

```
. hausman fe re
```

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
BSIZE	-.0000293	.0011151	-.0011444	.0005204
BMEET	.0002433	.0001785	.0000647	.0004194
BIND	-.0127123	-.0220874	.009375	.0078179
BFEM	.0265127	.0192978	.007215	.0084608
ACSIZE	-.0087598	-.0101362	.0013764	.0006908
ACMEET	-.0083159	-.0081265	-.0001894	.0006021
ACIND	.0042572	.0040785	.0001787	.0014058
ACEXPE	.0061478	-4.32e-06	.0061521	.0039343
MOWNE	.0090832	.0209641	-.011881	.0277498
INSTITU3	-.0107423	-.0074795	-.0032628	.0065357
FSIZE	-.0370441	-.0228702	-.0141739	.0082072
FLEVER	.0048185	.005131	-.0003125	.0033694
ROA	-.5025481	-.4989496	-.0035984	.0084305
FGROW	-.0176727	-.0156907	-.0019821	.00117
Big4	.0075321	.0073547	.0001774	.0117806
ZSCORE	.00009	.0006057	-.0005157	.0011819

```
                b = consistent under Ho and Ha; obtained from xtreg
     B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                chi2(16) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                         =       18.26
              Prob>chi2 =      0.3089
```

```
Breusch and Pagan Lagrangian multiplier test for random effects

        RM_2[companyname1,t] = Xb + u[companyname1] + e[companyname1,t]

        Estimated results:
                         |       Var     sd = sqrt(Var)
                ---------+------------------------------
                    RM_2 |     .034696       .1862687
                       e |    .0118059       .1086551
                       u |    .0192978       .1389165

        Test:   Var(u) = 0
                              chibar2(01) =  3695.29
                           Prob > chibar2 =   0.0000

.
```

2.5. The relationship between REM and Corporate Governance Mechanisms in India

```
. hausman fe re
```

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
BSIZE	.0007781	.0017007	-.0009225	.0018202
BMEET	.0035383	.0025124	.0010259	.0009227
BIND	-.1226557	-.0614626	-.0611931	.0342581
BFEM	.5741726	.4202675	.1539051	.0618005
ACSIZE	.0063754	.0006762	.0056991	.0016913
ACMEET	.0024573	.0041035	-.0016463	.0029858
ACIND	.0384317	.0441899	-.0057582	.0068058
ACEXPE	-.060145	-.0751667	.0150217	.0278713
MOWNE	-.0303984	.004306	-.0347044	.0529099
INSTITU3	.2912719	.3064393	-.0151675	.0246313
FSIZE	-.0029872	.0096479	-.0126351	.0120518
FLEVER	-.0801133	-.0689916	-.0111217	.0114248
ROA	-.2126587	-.2117332	-.0009255	.0195223
FGROW	-.0055911	-.0071324	.0015413	.0017072
ZSCORE	.0043719	.0048748	-.0005029	.0044034

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(15) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 23.11
Prob>chi2 = 0.0819

Breusch and Pagan Lagrangian multiplier test for random effects

RM_1[companyname1,t] = Xb + u[companyname1] + e[companyname1,t]

Estimated results:

	Var	sd = sqrt(Var)
RM_1	.0969594	.3113831
e	.06269	.2503797
u	.0311251	.1764229

Test: Var(u) = 0

chibar2(01) = 973.88
Prob > chibar2 = 0.0000

2.6. The relationship between AEM (Modified Jones Model) and unexpected REM and Corporate Governance Mechanisms in India

```
. hausman fe re
```

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
UnexpREM_1	-.0344622	-.0328164	-.0016458	.0025292
BSIZE	-.0046198	-.003165	-.0014548	.000669
BMEET	.0006872	.0001731	.0005141	.000332
BIND	-.0672231	-.0862269	.0190038	.01273
BFEM	-.0210496	-.0183563	-.0026933	.0228939
ACSIZE	.005046	.0032005	.0018455	.0006256
ACMEET	-.0010805	-.0007424	-.000338	.0011067
ACIND	-.0121011	-.0165264	.0044254	.0024183
ACEXPE	-.0729313	-.0579039	-.0150274	.0102594
MOWNE	-.0795705	-.044988	-.0345825	.0191368
INSTITU3	.0258995	.0161459	.0097536	.0089997
FSIZE	-.0081117	.0013027	-.0094144	.0043531
FLEVER	.0126825	-.0076014	.0202838	.004205
ROA	.0795546	.114629	-.0350744	.0072074
FGROW	.0145771	.0141722	.0004049	.0002763
ZSCORE	-.0014261	-.001535	.0001089	.0016371

```
                b = consistent under Ho and Ha; obtained from xtreg
     B = inconsistent under Ha, efficient under Ho; obtained from xtreg

  Test:  Ho:  difference in coefficients not systematic

              chi2(16) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                       =       86.60
            Prob>chi2 =      0.0000
            (V_b-V_B is not positive definite)
```

```
Breusch and Pagan Lagrangian multiplier test for random effects

        AcMjones[companyname1,t] = Xb + u[companyname1] + e[companyname1,t]

        Estimated results:
                         |       Var     sd = sqrt(Var)
                ---------+------------------------------
                AcMjones |    .0102074       .1010315
                       e |    .0068061        .082499
                       u |    .0020418       .0451865

        Test:   Var(u) = 0
                             chibar2(01) =   502.21
                          Prob > chibar2 =   0.0000

.
```

2.7. The relationship between REM and Corporate Governance Mechanisms in India

```
. hausman fe re
```

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
BSIZE	.0006782	-.0002786	.0009568	.0014626
BMEET	.0030032	.0030711	-.0000679	.0007495
BIND	-.0004159	.0250247	-.0254406	.0277553
BFEM	.3659455	.2362342	.1297113	.0497993
ACSIZE	.004045	.0021289	.0019161	.001376
ACMEET	.0081227	.0070629	.0010598	.0024137
ACIND	.03758	.0386567	-.0010767	.0055326
ACEXPE	-.0386675	-.0423231	.0036556	.0224136
MOWNE	.0704357	.0494046	.0210311	.0422399
INSTITU3	.339036	.3181166	.0209194	.0200156
FSIZE	-.0214749	-.0003043	-.0211706	.0096156
FLEVER	-.0562475	-.0582732	.0020257	.0092569
ROA	-.5084513	-.5156213	.00717	.0158451
FGROW	-.0106138	-.0102427	-.0003712	.0013735
ZSCORE	.0051392	.0038483	.0012909	.003563

```
                b = consistent under Ho and Ha; obtained from xtreg
     B = inconsistent under Ha, efficient under Ho; obtained from xtreg

 Test:  Ho:  difference in coefficients not systematic

              chi2(15) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                       =       24.51
            Prob>chi2 =      0.0569
```

```
Breusch and Pagan Lagrangian multiplier test for random effects

        RM_2[companyname1,t] = Xb + u[companyname1] + e[companyname1,t]

        Estimated results:
                         |       Var     sd = sqrt(Var)
                ---------+------------------------------
                    RM_2 |    .0601001        .2451531
                       e |    .0371167         .192657
                       u |     .015649        .1250958

        Test:   Var(u) = 0
                                chibar2(01) =   790.38
                            Prob > chibar2 =   0.0000

.
```