Corporate governance, CEO characteristics and earnings management: Evidence from UK listed companies

**A Thesis Submitted for the
Degree of Doctor of Philosophy**

By

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<u>Declaration</u>

I declare that this research, titled "Corporate Governance, CEO Characteristics and Earnings Management: Evidence from UK Listed Companies," is my own work and has not been submitted is substantially the same form for the award of a higher degree elsewhere.

Where any information has been derived from other source, I confirm that this has been clearly indicated in the thesis. All work done, including analysis, writing, and interpretation, reflects my personal effort unless stated otherwise.

This thesis is submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy at Brunel University London.

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Abstract

This research a novel contribution by explicitly quantifying the impact of behavioural CEO traits, specifically greed and narcissism on earnings management, extending traditional agency theory to a behavioural governance framework within a UK institutional setting. The findings demonstrate that CEOs exhibiting higher levels of greed and narcissism are significantly more likely to engage in earnings management, even in firms that formally comply with established corporate governance codes. This evidence indicates that structural governance compliance alone is insufficient to constrain opportunistic financial reporting when behavioural risks at the executive level are present.

From a policy perspective, the results suggest that UK regulators such as the Financial Reporting Council (FRC) and the Financial Conduct Authority (FCA) should move beyond a narrow focus on formal board structures and strengthen the behavioural dimension of corporate governance oversight. Specifically, governance codes and stewardship guidelines could be enhanced by encouraging greater transparency around CEO incentive intensity, power concentration, and behavioural risk indicators, particularly in firms with high discretionary reporting environments. The findings also support closer regulatory scrutiny of remuneration schemes that amplify short-term performance incentives for CEOs displaying behavioural traits associated with opportunism.

From a practical governance standpoint, the research provides clear recommendations for boards and nomination committees. CEO selection, evaluation, and succession planning should explicitly incorporate behavioural screening alongside traditional measures of experience and competence. Boards should apply heightened monitoring during early CEO tenure and when behavioural indicators of greed or narcissism are present, for example through stronger audit committee engagement, such as, more frequent performance reviews. Furthermore, separating the roles of CEO and chair and strengthening audit committee independence are shown to be particularly effective in mitigating the earnings management risks associated with such behavioural traits.

For institutional investors, especially foreign institutions with active stewardship mandates, the findings highlight the value of integrating behavioural CEO risk assessments into engagement strategies, voting decisions, and portfolio monitoring. Recognising greed and narcissism as systematic risk factors can improve stewardship effectiveness and enhance

long-term investment value. Overall, this research contributes to original UK-based empirical evidence demonstrating that CEO greed and narcissism are economically meaningful drivers of earnings management, and that effective governance requires a behaviourally informed policy and monitoring approach, rather than reliance on formal compliance alone.

CHAPTER 1

Introduction

1. *Introduction*

In the aftermath of repeated corporate failures and financial reporting scandals, the credibility of financial statements remains a central concern for regulators, investors, and policymakers. Despite significant reforms in corporate governance (CG) frameworks, earnings management (EM) continues to undermine financial reporting quality, even in jurisdictions characterised by advanced regulatory oversight such as, the United Kingdom. High-profile corporate collapses, including Carillion (2018) and BHS (2016), alongside earlier global crises such as the 2008 financial crises, have exposed persistent weaknesses in governance monitoring, executive accountability, and ethical leadership (FRC, 2018; Kirkpatrick, 2009). These events demonstrate that formal compliance with governance codes does not necessarily prevent opportunistic CEO behaviour.

Earnings management (EM) defined as the deliberate use of managerial discretion to influence reported earnings has been widely documented in both accrual-based and real activity forms (Healy and Wahlen, 1999; Roychowdhury, 2006). This thesis primarily examines accrual-based earnings management, measured using discretionary accrual models, as it directly reflects accounting discretion exercised by senior executives and remains the most widely adopted approach in the governance earning literature (Dechow et al, 1995; Kothari et al, 2006). Accrual-based EM is particularly relevant in the UK context, where principles-based reporting standards and CEOs judgment play a significant role in financial disclosures.

While prior research emphasises structural governance mechanisms such as, board independence, audit committees, and ownership concentration, recent evidence suggests that these mechanisms alone are insufficient to constrain EM when executive behavioural incentives are misaligned (Larcker and Rusticus, 2010; Dechow et al, 2019). This observation motivates the central premise of this research that EM can not be fully understood without explicitly accounting for CEO behavioural characteristics,

particularly traits associated with self-interest and dominance such as, greed and narcissism.

By integrating behavioural CEO attributes into the corporate governance EM nexus, this research responds to growing calls in accounting and finance research to move beyond "one size fits all" governance models and adopt a more person-centred approach to executive oversight (Bebchuck et al, 2017; Ham et al, 2017).

In today's dynamic global business environment, the integrity of financial reporting is a cornerstone of effective corporate governance (CG) and sustainable economic performance. At the heart of this lies the contentious yet crucial issue of earnings management (EM). The interplay between EM, CEO characteristics, and CG structures presents a complex puzzle for scholars, regulators, and investors alike. This thesis investigates the influence of CEO characteristics on EM practices within the framework of CG in the context of UK listed firms, a research gap that has received limited empirical scrutiny to date (Healy and Wahlen, 1999). CG and EM have become central themes in contemporary financial and accounting research, particularly in the aftermath of several global corporate scandals and financial crises. These incidents have raised questions about the effectiveness of governance mechanisms in curbing opportunistic Chief Executive Officers (CEOs) behaviour and ensuring transparency in financial reporting. As businesses face increasing pressure from regulators, investors, and stakeholders to enhance accountability, the role of governance structures and leadership characteristics in influencing financial decision-making has grown significantly in relevance. This research focuses on the United Kingdom, where a well-developed CG framework exists, yet concerns about EM persist, making it a fertile ground for empirical investigation.

The role of CEOs is especially critical in especially critical in this context, as their characteristics ranging from personal attributes such as, age, tenure, and education to professional experience can significantly influence CG practices and CEO discretion. Prior literature suggests that CEO traits shape risk-taking behaviours, ethical decision-making, and financial reporting choices. These characteristics may either strengthen or undermine the integrity of CG frameworks, thereby affecting the extent of EM practices. By examining the interaction between CEO specific attributes and broader

governance mechanisms, this research aims to contribute to the understanding of how leadership influences financial reporting quality in UK listed companies.

Furthermore, this research bridges gaps in the literature by integrating CEO characteristics into the CG, EM debate, an area that has received limited empirical focus compared to traditional governance factors such as, board independence, ownership structures, and audit committees. By situating the analysis within the UK context, this research also adds to comparative perspective, highlighting how institutional and regulatory environments shape governance outcomes. Ultimately, this investigation seeks to provide valuable insights for regulators, investors, and policymakers who are tasked with strengthening governance frameworks, thereby enhancing the reliability of financial reporting and promoting investor confidence in capital markets.

This chapter provides the foundations of the thesis, introducing the subject, its rationale, historical and theoretical background, and outlining the specific research questions, objectives, and contributions made to the literature.

1.1 *Background of the Research*

CG has emerged as a critical mechanism for enhancing accountability and transparency in the corporate sector, particularly in publicly listed firms (Jensen and Meckling, 1976). With growing instances of financial scandals such as, those involving Enron, WorldCom, and more recently Carillion in the UK, the role of CG mechanisms in deterring EM has come under increasing scrutiny (Dechow, et al, 1995). EM, broadly defined, involves intentional actions by management to influence reported earnings through accounting methods or real activities, often to meet benchmarks, secure bonuses, or satisfy capital market expectations (Roychowdhury, 2006).

Against this backdrop, CEOs play a pivotal role. Their decisions, guided by individual traits such as, tenure, experience, gender, educational background, compensation incentives, and behavioural attributes for example, narcissism or greed can profoundly impact financial disclosure practices (Armstrong, et al, 2010). However, while prior research has explored CG and EM in isolation, the triangular relationship between CEO characteristics, CG structures, and EM remains underdeveloped (Garcia-Meca

and Sanchez-Ballesta, 2009). This research investigates this tripartite nexus, particularly how CEO traits mediate or moderate the efficacy of CG in reducing EM practices, using a robust empirical sample of UK firms. In the contemporary corporate landscape, transparent and ethical financial reporting is fundamental to maintaining investor confidence, ensuring efficient capital markets, and fostering sustainable economic growth.

However, the occurrence of EM, the systematic EM practices of financial statements to meet certain targets, poses significant challenges to these foundational objectives. EM encompasses practices whereby CEOs intentionally influence reported earnings, often blurring the line between legitimate discretion and earnings distortion, with implications for stakeholders, regulators, and policymakers. The phenomenon of EM has historical roots dating back several decades, coinciding with the rise of complex financial markets and the increasing importance of financial reports as tools for decision making. Early research in this domain focuses on the motivations behind EM practices, often linked to CEOs incentives, market pressures, and regulatory environments. Over time, scholars have developed sophisticated models to measure EM such as, the Jones Model and the Modified Jones Model, to better understand its prevalence across different contexts.

The growing recognition of EMs pernicious effects such as, misallocation of resources, erosion of investor trust, and potential for financial crises has prompted extensive research to identify its determinants, especially the roles played by CG, chief executive officer (CEO) characteristics, and ownership structures. Despite this, there remains a notable gap in understanding how these factors interact in specific markets, particularly in the UK, which possesses a unique regulatory framework and corporate culture.

Corporate Governance (CG) is a critical facet of contemporary business management, particularly in the context of publicly listed firms listed in the UK. It represents the mechanisms, processes, and relations by which firms are controlled and directed. In today's dynamic market environment, the importance of effective CG has gained increased scrutiny from academics, practitioners, and regulators alike. One of the pivotal concerns within CG is earnings management (EM), where CEOs has an

influence in financial statements to present an inaccurate picture of the firm's financial health.

EM not only undermines the reliability of financial reporting, but also poses ethical dilemmas, impacting stakeholder trust. As CEOs are key decision-makers in firms, their characteristics such as, years of experience, skillset, educational level, gender, and compensation structure play a significant role in shaping firm's financial practices. By assessing various CEO traits and their influence on EM, this thesis seeks to unravel the complexities of CG mechanisms, aiming to contribute scholarly insight into how governance frameworks can be fortified.

1.2 Motivation and Rationale of the Study

The overarching objective of this research is to advance the empirical understanding of how CEO behavioural traits interact with CG mechanisms and ownership structures to influence accrual-based EM in the UK listed firms. To achieve this, the research first investigates the direct impact of key CEO characteristics including tenure, compensation, and critically the behavioural dimensions of greed and narcissism on discretionary accruals, thereby providing a systematic examination of how personal attributes shape financial reporting decisions. A second objective is to assess the moderating role of corporate governance mechanisms, such as, board independence, audit committee strength, and CEO-chair separation, in constraining EM under varying levels of behavioural risk, recognising that governance effectiveness is not uniform but conditional on executive disposition.

Third, the research distinguishes between domestic and foreign institutional ownership to understand how different investor types of exercise monitoring and mitigate or accentuate the behavioural incentives of CEOs. By integrating these elements into a unified empirical framework, the research not only fills a critical gap in the literature concerning personality-based determinants of EM but also elevates behavioural traits specifically greed and narcissism as central explanatory factors, advancing theory beyond traditional structural governance perspectives. In doing so, the research generates evidence that informs both academic debates and practical governance reforms, highlighting the importance of incorporating CEO behavioural risk assessment into policy, board decision-making, and investment stewardship practices.

EM remains a captivating topic because it directly challenges the integrity of financial reporting, a pillar of modern capitalism. The tension between CEO discretion and the need for accurate disclosures raises fundamental questions about corporate accountability and ethical management. This research is compelling because it systematically examines how individual CEO traits and governance structures contribute to EM, providing insights into the behavioural and structural factors that foster or hinder EM practices (Armstrong, et al, 2010). By elucidating specific relationship, this research informs the design of governance mechanisms and regulatory policies aimed at reducing EM, ultimately contributing to more reliable financial markets.

The importance of this topic is heightened in today's environment, where high profile corporate scandals and financial crises have underscored the devastating effects of EM practices. Understanding the underpinnings of EM allows stakeholders to develop preventative strategies, fostering a culture of transparency and ethical conduct. Furthermore, this research advances the literature by integrating multiple perspectives CEO characteristics, ownership effects, and governance frameworks into a comprehensive analytical model. It moves beyond prior studies that often examine these factors in isolation, offering a nuanced understanding of their interconnections.

The United Kingdom provides a particularly compelling context or examining the interaction between CEO behaviour, corporate governance, EM. Unlike the rules-based governance regime dominant in the United States under the Sarbanes-Oxley Act, the UK operates a principles-based "comply or explain" governance system, codified in the UK Corporate Governance Code (FRC, 2018). This framework grants firm's considerable discretion in how governance principles are implemented, placing greater reliance on executive integrity and board judgment.

While this flexibility encourages proportionality and innovation, it also amplifies CEO discretion, making behavioural traits more consequential for financial reporting outcomes. The failures of firms such as, Carillion despite formal adherence to governance codes, highlighting the limitations of structural compliance and underscore the importance of examining who leads the firm, not merely how it is governed. Furthermore, compared to the US, UK firms exhibit greater reliance on voluntary

governance explanations, higher variability in board practices, strong presence of foreign institutional investors, and lower litigation risk but higher reputational discipline. These features make the UK an ideal empirical laboratory for testing whether governance effectiveness depends on CEO behavioural characteristics, particularly greed and narcissism, which may thrive under discretionary governance regimes.

EM has profound implications. It distorts the reliability of financial statements, misguides investors, and undermines market efficiency (Kothari, et al, 2005). In terms of agency theory, it postulates that CEOs may act in their own interests, especially when performance-based incentives are tied to short term financial metrics. EM therefore becomes a tool for personal gain. Behavioural research reveals that psychological factors such as, overconfidence, hubris, or moral hazard can drive CEOs to engage in EM, especially when monitoring is weak (Roychowdhury, 2006). In terms of market repercussions, EM can inflate share prices temporarily but leads to long term value erosion when discrepancies are uncovered. In addition, what makes EM research particularly interesting is its hidden, strategic nature, not all EM is illegal or overt. Understanding the drivers behind it, especially at the level of executive personality and incentives, is critical to building more ethical and resilient firms.

EM sits at the crossroads of corporate ethics, financial regulation, and market efficiency. It is inherently fascinating because it raises questions about the integrity of the data that underpin economic decision making. While some level of CEO discretion in financial reporting is inevitable serving as a tool for smoothing earnings or signalling performance, excessive or strategic EM practices undermines the very foundation of transparency. Several reasons underpin why does EM matters and its importance. EM distorts true financial performance, misleading investors, inflating asset prices, and creating misallocations. In terms of regulatory and policy implications, it detects and curb EM that is critical for regulators aiming to protect stakeholders and ensure fair markets. EM often reflects underlying ethical concerns within firms, highlighting the role of governance and leadership in fostering transparency. With regard economic stability, excessive EM practices can contribute to financial crises, as seen in the collapse of firms such as, Enron and Lehman Brothers. This research contributes to this discourse by providing a context specific assessment of how CEO traits and governance influence EM, introducing new empirical evidence and refining detection

methodologies. It emphasizes the importance of behavioural factors and institutional settings, offering practical recommendations for enhancing financial integrity.

The UK market offers an ideal setting for this research due to several distinctive feature which are regulatory framework, market characteristics, data accessibility, and cultural and institutional factors. Data accessibilities are rich and publicly available datasets on UK firms enable rigorous empirical testing. Market characteristics is as one of the world's leading financial centres, UK listed firms are influential and representative of broader corporate practices in Europe and beyond. In terms of cultural and institutional factors, the UKs mixed ownership structures, stakeholder-oriented culture, and active regulatory environment provide a compelling backdrop for studying CEO and governance influences on EM. Regarding regulatory framework, the UK has a well-established, evolving CG code aimed at improving transparency and accountability. Exploring EM within the context reveals how effective these reforms are and where gaps remain. To conclude from this section, this research addresses a critical gap in understanding how CEO traits, ownership, and CG interact.

The choice of the UK market is both strategic and significant. The UKs comply or explain CG framework allows for firm level discretion, creating variability in governance practices, ideal for empirical testing. As a global financial hub, UK listed firms are subject to stringent disclosure rules that improve the availability and reliability of data (Aguilera and Cuervo-Cazurra, 2009). The presence of both domestic and foreign institutional investors ownership dynamics on EM. Given the UKs emphasis on accountability and ethics post Carillion, examining EM through the lens of CEO behaviour and CG offers timely insights. In addition, the choice of the UK as the empirical setting is both deliberate and theoretically significant. The UK represents a distinct governance environment characterised by a principle based "comply or explain" regime, rather than the rules-based approach dominant in the United States. This institutional feature creates meaningful variation in governance practices across firms, making the UK an ideal laboratory for examining how governance effectiveness depends not only on formal structures but also on executive behaviour.

Unlike mandatory compliance systems, the UK Corporate Governance Code allows firms discretion in how governance principles are implemented, provided deviations are transparently explained. While this flexibility encourages innovation and

proportionality, it also increases CEO discretion, potentially amplifying the influence of CEO characteristics on financial reporting outcomes. Consequently, the UK setting allows this research to test whether governance mechanisms remain effective when compliance is endogenous and leadership driven. Furthermore, the UK capital market is characterised by high levels of institutional ownership, including both domestic and foreign investors, whose monitoring roles may differ in intensity, objectives, and time horizons. Distinguishing between foreign and domestic institutional investors enables the research to shed new light on how ownership composition interacts with CEO behaviour to influence EM, which is an issue of growing relevance in increasingly globalised capital markets.

From a regulatory perspective, the UK has experienced several high-profile corporate failures for example, Carillion despite formal adherence to governance codes, raising concerns about the limits of structural compliance. This research directly addresses these concerns by demonstrating that governance effectiveness cannot be fully understood with accounting for who the CEO is, not merely how governance is designed.

1.3 *Motivation and Added Contribution*

The motivation for this research arises from a persistent empirical puzzle in the corporate governance (CG) literature: why does earnings management continue to occur in firms that appear to be well governed? Traditional agency theory assumes that CEOs respond uniformly to incentives and monitoring mechanisms (Jensen and Meckling, 1976). However, this assumption overlooks the heterogeneity of CEOs and the behavioural traits that shape executive decision-making under discretion.

Recent behavioural agency theory suggests that executives differ systematically in their risk preferences, ethical orientation, and pursuit of private benefits (Wiseman and Gomez-Mejia, 1998). Yet empirical CG research has largely failed to operationalise these behavioural dimensions, particularly outside the US context. This thesis addresses this gap by introducing CEO greed and narcissism as measurable behavioural traits that materially influence EM decisions.

Despite extensive research on CG and EM, the literature remains fragmented in its

treatment of executive behaviour. Most prior studies examine governance mechanisms or ownership structures in isolation, implicitly assuming that CEOs are homogeneous agents whose behaviour responds uniformly to monitoring and incentives. This assumption overlooks a critical dimension of corporate decision making. CEOs are heterogeneous individuals whose personal traits, behavioural tendencies, and career incentives materially shape financial reporting outcomes. As a result, existing governance models struggle to fully explain why EM persists even in firms that appear to comply with best practice governance standards.

The central motivation of the research arises from this unresolved puzzle. If formal governance mechanisms are designed to constrain opportunistic behaviour, why does earnings management remain prevalent in well governed firms? This thesis argues that the answer lies in the interaction between governance structures and CEO specific characteristics, particularly behavioural traits such as, narcissism and greed, alongside demographic and experiential attributes such as, tenure, general, managerial ability, compensation incentives, age, and gender. By explicitly integrating behavioural agency theory into the corporate governance earnings management nexus, this research advances the literature beyond traditional agency models that focus primarily on structural monitoring and financial incentives. This research responds to growing calls in accounting and finance research to incorporate psychological and behavioural dimensions into empirical governance analysis. In doing so, it provides a more realistic and nuanced understanding of executive discretion and financial reporting behaviour.

The added contribution of this investigation is therefore threefold. First, it develops a multidimensional framework that simultaneously examines CEO characteristics, governance mechanisms, and ownership structures, capturing their joint and interactive effects on EM. Second, it introduces novel behavioural CEO proxies, including greed and narcissism, into large sample UK empirical analysis, variables that have rarely been tested quantitatively outside US centric settings. Third, the research employs rigorous econometric techniques, including instrumental variable approaches and extensive robustness checks, to address endogeneity concerns that have limited causal inference in prior research. In addition, the research provides policy relevant insights by demonstrating that governance effectiveness is conditional on executive

behaviour, thereby challenging the sufficiency of formal compliance-based governance regimes.

1.4 Implications of the Research

This research makes an important theoretical contribution by extending traditional agency theory through the integration of behavioural agency perspectives. The findings demonstrate that governance mechanisms do not operate in a vacuum, rather, their effectiveness is conditional on CEO traits. This challenges the implicit assumption of CEO neutrality embedded in many governance models and supports a more person-centred view of corporate control. By empirically validating the role of behavioural traits such as, narcissism and greed, the research enriches the theoretical dialogue on CEO opportunism, executive power, and financial reporting quality. For regulators and standard setters, particularly the Financial Reporting Council (FRC) and the Financial Conduct Authority (FCA), the findings suggest that formal compliance alone is insufficient to curb EM. Regulatory frameworks may benefit from placing greater emphasis on executive accountability, behavioural risk indicators, and enhanced disclosure around CEO attributes, incentives, and power concentration. The results also provide evidence to inform ongoing debates about strengthening narrative reporting, board evaluations, and stewardship responsibilities under the UK Stewardship Code.

For boards, of directors and nomination committees, the research highlights the importance of incorporating behavioural and experiential considerations into CEO selection, evaluation, and succession planning. Strong governance structures can mitigate EM, but only when they are aligned with appropriate leadership characteristics. Boards should therefore view CEO monitoring not solely as a structural exercise, but as a behavioural one, requiring tailored oversight depending on executive traits and tenure stages. For institutional investors, particularly foreign investors with strong monitoring capabilities, the findings underscore the value of active ownership and engagement. Identifying CEO characteristics associated with higher EM risk can enhance stewardship effectiveness, portfolio risk assessment, and long-term value protection.

1.5 Problem Statement

Despite extensive literature assessing the relationship between CG and EM, there remains a gap in understanding how the respective characteristics of CEOs interact with these governance structures (Davidson, et al, 2005). Given the pressure on CEOs to meet short-term performance targets, individual traits may lead to different degrees of EM practices. Moreover, the influence of institutional ownership on EM behaviour presents an additional layer of complexity, as varying ownership structures can shape the incentives and constraints facing CEOs (Cheng and Warfield, 2005). This research addresses some of the following research questions which are as following:

Q1: How do different CEO characteristics influence EM practices within firms?

Q2: What role does institutional ownership play in affecting CG outcomes and the extent of EM?

Q3: How can firms enhance their governance frameworks to mitigate the risks associate with EM practices?

1.6 *Historical and Theoretical Context*

The genesis of research on EM can be traced back to the seminal work by Jones (1991), who proposed a model to detect discretionary accruals. Since then, an extensive body of literature has examined the motives for EM, which are broadly categorised into managerial opportunism, market pressures, and regulatory constraints. The agency theory provides the primary lens through which EM is understood, highlighting potential conflicts of interest between managers (agents) and shareholders (principals), which incentivise CEO to undertake EM practices to maximise personal utility or reputation (Jensen and Meckling, 1976).

Further theoretical contributions include stakeholder theory and stewardship theory, emphasising the broader implications for multiple stakeholders and the importance of ethical management practices (Donaldson and Davis, 1991). These frameworks underpin the exploration of how characteristics such as, CEO tenure, incentives, and ownership stakes influence the propensity for EM practices. Empirically, prior research has extensively documented the existence of EM and its determinants, yet most studies are geographically concentrated in the US and developed markets with similar

regulatory environments. The literature also suggests that CG mechanisms such as, board independence, audit quality, and executive compensation can mitigate EM practices, but their effectiveness varies across contexts. In the UK, unique aspects of regulatory oversight, shareholder structures, and cultural attitudes toward capitalism necessitate contextualised investigation. Recent reforms such as, the UK Corporate Governance Code, aim to improve transparency, but the persistence of EM practices signals ongoing challenges.

1.7 *Research Gaps and Contributions to Knowledge*

Despite a substantial body of research examining EM and CG, several important gaps remain unresolved in the literature. First, much of the existing research adopts a structural view of governance, focusing predominantly on-board characteristics, ownership concentration, and audit quality, while implicitly assuming that executives respond homogeneously to monitoring mechanisms and incentives (Jensen and Meckling, 1976; Bushman and Smith, 2001). This assumption neglects the growing evidence that CEOs are heterogeneous decision-makers whose personal attributes and behavioural tendencies significantly shape corporate outcomes (Bertrand and Schoar, 2003).

Second, although prior studies have investigated observable CEO characteristics such as, tenure, age, gender, and compensation, behavioural traits remain underexplored in large-sample empirical research, particularly outside the United States. Traits such as greed and narcissism, which are theoretically central to behavioural agency theory and managerial power theory, have been discussed conceptually or examined in limited settings, but rarely incorporated into comprehensive governance earnings management models (Bebchuk et al, 2002; Ham et al, 2017). As a result, the literature provides an incomplete explanation for why earnings management persists even in firms that formally comply with best practice governance standards. Third, existing empirical evidence is heavily US centric, reflecting the dominance of rule-based governance environments such as, Sarbanes-Oxley. Far less is known about how CEO behaviour interacts with governance mechanisms in principles-based regimes such as, the UK's "comply or explain" system. This represents a critical omission, as discretionary governance frameworks arguably amplify executive influence and behavioural effects, making CEO traits more salient determinants of financial reporting

outcomes (Aguilera and Cuervo-Cazurra, 2009). Consequently, findings derived from US settings may not generalise to the UK or other common-law jurisdictions with different institutional arrangements.

Fourth, the literature often examines CG, CEO characteristics, and institutional ownership in isolation, rather than modelling their joint and interactive effects. Studies that do consider ownership structures frequently treat institutional investors as a homogeneous group, overlooking the distinct monitoring roles played by foreign versus domestic institutional investors, and how these roles condition the effectiveness of governance mechanisms in constraining EM (Aggarwal et al, 2011; Ferreira et al, 2011). This fragmented approach limits the ability to draw coherent conclusions about how governance systems function in practice.

Against this backdrop, this research makes several interrelated and original contributions to knowledge, advancing the literature in a logically progressive manner. First, the research extends traditional agency theory by integrating behavioural agency perspectives, explicitly recognising that CEOs differ not only in observable demographics but also in deeper psychological and behavioural traits. By empirically operationalising CEO greed and narcissism, this research moves beyond abstract theorisation and demonstrates that these traits are economically meaningful drivers of accrual-based EM. This provides robust evidence that executive opportunism is not solely a function of incentives or monitoring intensity but is also rooted in behavioural predispositions. In doing so, the research directly addresses calls for more behaviourally informed CG research (Wiseman and Gomez-Mejia, 1998; Larcker and Rusticus, 2010).

Second, this thesis contributes by showing that the effectiveness of governance mechanisms is conditional rather than universal. The findings demonstrate that board independence, audit committee effectiveness, and CEO-chair separation significantly reduce EM only when CEO behavioural risks are adequately constrained. In the presence of highly greed or narcissistic CEOs, formal governance structures alone are insufficient. This insight challenges the implicit neutrality assumption embedded in much of the governance literature and provides a compelling explanation for why EM persists in apparently well-governed firms. Third, the research offers novel UK-specific

empirical evidence, thereby enriching a literature dominated by US-based studies. By exploring the discretion inherent in the UK Corporate Governance Code, the research illustrates how behavioural CEO traits interact with a principles-based governance regime. This contributes to comparative pronounced role in environments where compliance is flexible and monitoring relies heavily on-board judgment and investor scrutiny.

In addition, the research advances the literature by simultaneously modelling CEO characteristics, CG mechanisms, and institutional ownership structures, rather than examining these dimensions independently. By distinguishing between foreign and domestic institutional investors, the research shows the external monitoring effectiveness varies systematically across investor types, and that foreign institutions are more effective in mitigating EM associated with behavioural CEO traits. This integrated approach provides a more realistic and comprehensive understanding of how governance systems operate in practice. From a methodological perspective, this research strengthens causal inference in the EM literature by employing robust econometric techniques, including instrumental variable approaches and extensive robustness checks. By addressing endogeneity concerns that have limited prior studies, the findings offer more credible evidence on the behavioural determinants of EM.

While previous research has contributed extensively to our understanding of EM and its determinants, several gaps persist. Most notably, existing studies have predominantly focused on US and other Western markets, leaving a relative dearth of context specific evidence from the UK (Cohen, et al, 2008). Additionally, many prior investigations lack comprehensive models that simultaneously consider CEO traits, ownership structures, and governance mechanisms (Bushman and Smith, 2001). Furthermore, methodological limitations such as, reliance on cross-sectional data, simplistic regression models, or failure to address endogeneity, restrict the robustness of earlier findings. There is also limited understanding of how evolving regulatory environments influence EM behaviour over time.

This research differentiates itself by addressing these gaps through a rigorous empirical framework that incorporates multiple moderating and mediating variables.

This research employs advanced econometric techniques such as, instrumental variables to mitigate endogeneity concerns, enhancing the credibility of causal inferences. The contributions of this research to the literature are manifold. Firstly, providing empirical evidence on the interaction between CEO characteristics, CG, and ownership in the UK context. Also, developing an integrated model that captures the complex dynamics influencing EM. In addition, offering policy relevant insights that can inform governance reforms and regulatory oversight, and demonstrating the importance of behavioural traits such as, ethical orientation and experience in shaping financial reporting practices.

There is limited integration of CEO behavioural traits for example, narcissism and greed with quantitative models of EM. A lack of focus on UK specific governance environments were voluntary codes such as Cadbury or UK Corporate Governance Code offer flexibility but also pose challenges for enforcement. Another existing literature gap is the sparse empirical evidence assessing multiple CEO traits concurrently, including demographic, experiential, and attitudinal variables. On the other hand, this research addresses these gaps by developing a multidimensional model linking CEO characteristics, CG mechanisms, and EM practices (Larcker and Rusticus, 2010). Introducing novel variables for example, greedy and narcissistic CEO indicators rarely tested empirically. Using robust econometric techniques for example, fixed effects, robustness checks, endogeneity analysis to ensure the credibility of findings, and differentiating between domestic and foreign institutional ownership and assessing the unique moderating roles. Finaly from this section, contributing a UK focused analysis which can inform governance policy in markets with similar legal and institutional settings. In summary, this research contributes to knowledge by demonstrating that EM is fundamentally a behavioural governance problem, not merely a structural one. By empirically establishing CEO greed and narcissism as central drivers of EM in the UK context, and by showing how governance and ownership structures condition these effects, the research advances theory, refines empirical understanding, and provides a foundation for more behaviourally informed governance policy and practice.

1.8 *Methodological Approach*

This thesis is grounded in the empirical and positive research paradigm, which

seeks to explain, predict, and interpret relationships among observable phenomena within corporate financial reporting rather than prescribe normative prescriptions. The positive research approach, widely adopted in accounting and finance studies, holds that theories should be developed and tested through systematic observation of real-world data, enabling the identification of statistically verifiable relationships between variables (Watts and Zimmerman, 1986; Al-Adeem, 2025). Within this paradigm, the current study frames earnings management (EM) as an observable economic behaviour that can be systematically associated with CEO characteristics, governance mechanisms, and ownership structures, and examines how these relationships manifest empirically in the UK context.

By situating the research within a positive accounting framework, this investigation algins with prior work that interprets managerial behaviour as a function of incentives, constraints, and the strategic use of discretion (Healy and Wahlen, 1999; Dechow et al, 1995). Importantly, the positive paradigm supports the inclusion of behavioural variables such as, greed and narcissism as measurable influences on economic decisions, extending traditional agency assumptions to incorporate heterogeneity in executive decision-making (Larcker and Rusticus, 2010; Ham et al, 2017). In doing so, the research contributes to an emerging strand of behaviourally informed positive accounting research that uses objective proxies for personality traits and links them to economic outcomes such as, accrual-based EM. This methodological stance allows the research to generate testable hypotheses, employ robust econometric techniques, and produce findings that are both statistically rigorous and practically relevant to stakeholders including regulators, boards, and investors.

The empirical methodology hinges on a combination of quantitative statistical techniques. Descriptive and inferential statistics to explore data distributions and initial relationships. Regression analysis to test hypotheses concerning the influence of CEO traits on EM. Instrumental variables techniques to address potential endogeneity such as, simultaneous causality or omitted variable bias (Wooldridge, 2010). Additionally, robustness tests including alternative EM measure, subsample analyses, and sensitivity checks (Kothari, et al, 2005). To conclude from this section, this approach allows for a nuanced understanding of the causal pathways and the

strength of the relationship under investigation.

1.9   *Objectives of the Research*

This research aims to critically analyse the interrelationship between CG, CEO characteristics, and EM across UK listed firms. Evaluate how specific traits of CEOs, including their experience, skills and other personal characteristics, correlate with EM practices. This research also aims to investigate the implications of institutional ownership on CG structures and their subsequent effects on EM. In addition, offer recommendations for best practices in CG to mitigate the adverse effects of EM practices, reinforcing stakeholder trust and financial transparency. There are also different objectives considered under this research, which is to empirically analyse the influence of CEO traits for example, tenure, experience, gender, and compensation on EM practices, and to assess the moderating role of institutional ownership such as, foreign and domestic on EM outcomes. Additionally, to examine how CG elements such as, board independence, audit committees, and CEO chair duality interact with CEO characteristics, and to offer actionable recommendations for practitioners and regulators on improving governance practices to reduce EM (Beasley, 1996).

1.10   *Significance of the Research*

Embedding CEO behavioural traits such as, greed and narcissism into EM research aligns with the extends behavioural agency theory and upper echelons theory, which posit that personal attributes significantly shape executive decision-making (Hambrick and Mason, 1984; Wiseman and Gomez-Mejia, 1998). While prior research has recognised the conceptual relevance of executive personality, very few studies systematically test how behavioural traits influence EM, even though they fundamentally affect risk preferences, ethical standards, and strategic choices. Empirical studies increasingly provide evidence that CEO narcissism is positively associated with EM behaviours. For example, Lin, Lin, and Fang show that CEOs in Taiwan with high narcissistic tendencies are more likely to engage in EM to meet key threshold and analysts forecasts, suggesting that narcissistic executives reported earnings to maintain favourable performance narratives (Lin, et al, 2020).

Similarly, research in emerging markets highlights a positive correlation between CEO

narcissism and accrual-based EM, narcissistic executives appear to deploy discretionary accounting choices for personal advantage (Cruz, et al, 2024). These findings are consistent with earlier influential work showing that highly narcissistic CEOs engage in both income increasing and income decreasing accruals, reflecting opportunistic motives aimed at enhancing reputational standing rather than informing stakeholders (Buchholz, et al, 2019). While narcissism has been more commonly investigated, CEO greed defined as an excessive pursuit of personal wealth, status, and material gain has received comparatively less empirical attention in the context of EM. However, recent studies link CEO greed and narcissistic traits with other forms of opportunistic financial behaviour such as, tax avoidance, which share behavioural underpinnings with EM for example, exploitation of discretion for personal or firm advantage. For example, evidence indicates that CEOs displaying both greed and narcissism are associated with higher levels of tax avoidance, reinforcing the notion that behavioural proclivities toward self-interest translate into opportunistic financial decisions (Hidayat and Fadjarenie, 2025).

Our research illustrates that greed and narcissism together capture a broader behavioural risk profile than either trait alone. While narcissism captures grandiosity and self-image concerns, greed reflects insatiable pursuit of personal economic gain both of which can motivate CEOs to distort financial reports to meet performance incentives tied to compensation, stock options, and market prestige.

1.11 *Summary of the Key Findings*

Although the complete findings are detailed in later chapters, the key takeaways from this research include that CEO characteristics such as, tenure, experience, and incentives significantly influence the likelihood and extent of EM practices. Additionally, stronger CG mechanisms, especially independent boards and audit committees can mitigate EM, but their effectiveness is contingent on CEO traits and ownership structures. In terms of ownership concentration, particularly institutional ownership, plays a dual role that sometimes curbing and sometimes inadvertently facilitating EM depending on the governance context. The UK market exhibits unique dynamics, with regulatory reforms and cultural factors shaping EM practices, offering valuable insights for policy and practice (Almazan, et al, 2005).

Furthermore, this research reveals that generalist CEOs are less likely to engage in EM compared to specialists. CEO tenure has a nonlinear impact that early tenure CEOs engage more in EM, while longer tenure CEOs may become entrenched and less monitored. Regarding CEO narcissism and greed, it significantly increases EM practices, confirming behavioural agency theory extensions. This research confirms that institutional ownership particularly foreign mitigates EM by enforcing stricter monitoring, and with stronger CG frameworks, especially those with CEO-Chair separation and effective audit committees, reduce EM practices. These findings provide empirical validation for both traditional and behavioural agency theories, while offering a multidimensional framework for understanding EM in the UK context.

1.12 *Structure of the Thesis*

The thesis is structured as follows:

1.12.1   Chapter 1: Introduction,
This chapter include the context, significance, objectives, and the scope of the research.

1.12.2   Chapter 2: Critical Literature Review,

This chapter establishes the theoretical foundation and contextualises existing research concerning CG, CEO characteristics, and EM. It lays out the key frameworks and theories that underpin the research, providing a lens through which the subsequent chapters will be analysed.

1.12.3 Chapter 3: Methodology, Data Collection, Descriptive Statistics, and Correlation,

This chapter outlines the research design, and the methods used for data collection and analysis. It specifies the empirical models for testing the research hypotheses and the statistical tools employed.

1.12.4   Chapter 4: Results and Discussion,

In this chapter, the thesis present and discuss the empirical findings of the research, emphasising how the results relate to the established literature framework discussed in Chapter 2.

1.12.5   Chapter 5: Earnings Management and CEO Characteristics,

This chapter delves deeper into the primary focus of the research, how CEO traits specifically influence EM practices in firms.

1.12.6   Chapter 6: The Role of Institutional Ownership,

This chapter assess how foreign and domestic institutional ownership affect corporate

decision-making and EM behaviours, adding another layer of analysis to the governance framework.

1.12.7 Chapter 7: Earnings Management and Corporate Governance,

This chapter assess how different CG perspectives including committees index affect corporate governance decision-making and EM practices, adding another chapter to the thesis.

1.12.8 Chapter 8: Robustness and Endogeneity,

Robustness checks and endogeneity considerations are discussed to affirm the validity of the findings presented in earlier chapters.

1.12.9 Chapter 9: Conclusion

This final chapter summarises the key findings of the research, discusses the implications for practice and theory, and offers suggestions for future research.

Through this structured approach, the thesis aims to provide a comprehensive exploration of the intricate dynamics of CG, CEO characteristics, and EM, advocating for improved practices that underpin financial integrity and transparency.

CHAPTER 2
Critical Literature Review

2.0 *Introduction*

This chapter critically reviews the relevant academic literature on earnings management (EM) and its determinants, focusing on corporate governance (CG) mechanisms, CEO attributes, ownership structure, and executive compensation. The review highlights theoretical foundations, empirical evidence, key controversies, and gaps in the existing literature, particularly regarding CEO behavioural traits such as, greed and narcissism, which remain under-examined despite their potential relevance for understanding EM. The section concludes by identifying the unique contribution of this thesis in addressing these gaps. This chapter provides a critical review of prior theoretical and empirical studies on the influences of firm-level corporate governance (CG) on earnings management (EM). We also review the influence of chief executive officer (CEO) characteristics on EM, since prior studies suggest that entrenched managers such as CEOs, may adversely affect firm performance and financial strategy, by failing to abide by the discipline imposed by the firm's CG structure even in the presence of monitoring by the board and shareholders (Stulz, 1988; Berger, et al, 1997).[1] Since Jensen and Meckling (1976), CG and role of directors have been under critical research scrutiny in the assessment of firm performance. Indeed, managerial fixed effects capture a large proportion of firms' investment plans, their financial strategy, and managerial practices (Bertrand and Schoar, 2003; Kaplan et al, 2012).

Since CEO characteristics influence the established CG structure of firms, it therefore becomes critical to evaluate how CEO characteristics influence EM. Jensen and Meckling (1976) provide a theoretical framework for understanding the agency problem in the presence of asymmetric information and moral hazard. Issues associated with moral hazard and asymmetric information are important in our assessment of how the CG of firms and CEO characteristics influence EM. There is agreement in the literature that EM is indicative of intentional manipulation of a firm's financial statements to present managerial performance in a more favourable light. We also examine the

institutional ownership since there are different types of institutional ownership influences EM. Indeed, CG and institutional ownership are two of the fundamental mechanisms for influencing board decisions. This chapter therefore sets the stage for developing the hypotheses that will be explored in the empirical part of the thesis. Section 2.1 examined CG, ownership, CEO characteristics and EM. Section 2.2 examined firm size and EM. Section 2.4 is the summary and conclusion of the chapter.

Prior studies frequently examine structural mechanisms such as, boards and committees and observable demographics but seldom incorporate deep behavioural traits such as, greed and narcissism in large sample EM analysis. This thesis fills this gap by systematically integrating these traits as central explanatory variables. In terms of contextual limitations, much of the empirical literature on CEO personality and EM originates in emerging markets or is limited to specific sample characteristics. There is a scarcity of evidence from advanced market jurisdictions such as, the UK, which combines principles-based governance with high CEOs discretion. This thesis provides robust UK evidence. In terms of integrated governance models, many prior studies examine governance, ownership, and CEO characteristics independently. There is limited research on their joint and interactive effects on EM. The current study's model integrates behaviour, governance, and ownership, revealing conditional relationships absent in segmented analyses. Although executive pay has been linked to EM, few studies investigate how compensation incentives interact with CEO behavioural traits to influence reporting decisions. This thesis addresses this overlooked area, advancing understanding of incentive structures in behavioural governance contexts.

By critically reviewing recent and seminal studies on CEO characteristics which are greed, narcissism, tenure, gender, age, and experience. Also, ownership CG, and compensation incentives, it becomes evident that behavioural explanations offer important and previously under-examined insights into EM practices. The literature has established that governance and compensation matter, but without factoring CEO behavioural heterogeneity, models remain incomplete. This thesis contributes to the literature by extending behavioural agency theory to large sample EM research with direct empirical measures of CEO greed and narcissism. In addition, this research

contributes to the literature by demonstrating that governance effectiveness is conditional on behavioural traits rather than universally binding and providing UK specific evidence that principles-based governance interacts with CEO personality more intensely than in rule-based regimes. Furthermore, integrating institutional ownership types to reveal nuanced external monitoring effects unique to behavioural contexts and showing how agency incentives such as, compensation and behavioural traits jointly influence EM, offering a more holistic model of CEOs reporting behaviour.

This critical literature review highlights both the richness and limitations of existing research on earnings management (EM) determinants. While past studies have significantly advanced understanding of structural governance and executive incentives, they have largely overlooked substantive CEO behavioural traits. By systematically incorporating greed and narcissism and contextualising them within governance and ownership frameworks, the present research makes a significant theoretical and empirical contribution to the accounting and corporate governance (CG) literature.

The EM literature has reached a stage of theoretical saturation but explanatory fragmentation. While a substantial body of research has examined EM through the lenses of agency theory, CG, ownership structure, and executive incentives, findings remain inconsistent and context-dependent (Dechow et al, 2019; Larcker and Rusticus, 2010). Recent methodological reviews in accounting emphasis that such inconsistencies often stem from model under specification, particularly the omission of behavioural heterogeneity among executives (Dechow et al, 2010; Aguilera et al, 2018). Consequently, illustration through synthesis, conceptual figures, and integrative frameworks is not merely presentational but theoretically essential. As advocated by Webster and Watson (2002), and Tranfield et al (2003), visual synthesis enables scholars to expose latent gaps, reconcile competing findings, and clarify marginal contributions. In this thesis, illustration are explicitly used to demonstrate that CEO behavioural traits specifically greed and narcissism constitute a missing theoretical layer in the EM literature.

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[1] Berger et al. (1997) show that firms have lower leverage when CEOs are not facing pressures from

shareholders and when compensation incentives are not under threat. CEO may pursue sub-optimal investment strategies to avoid takeover threats (Stulz, 1988; Berger et al., 1997). By EM we mean modules of EM that have been used in prior research including Jones (1991) and Modified Jones (1995).

2.1 *Corporate Governance, Ownership, CEO Characteristics and EM*

This section examines the relationship between CG, ownership, CEO characteristics and EM. These elements are linked since agency costs can affect how these elements influence firm performance. Positive board and CG characteristics reduce agency costs, but entrenched CEOs may not enhance firm performance even in the presence of positive CG effects (Morellec et al, 2012). Agency conflicts affect how firm governance influences firm performance (Jensen and Meckling, 1976). CEO compensation plans will also influence EM because their total compensation is more susceptible to changes in the price of their shares (Bergstresser and Philippon, 2006). Thus, an agency problem arises since board remuneration depends on firm performance. However, large dominant shareholders may direct investment policy such that they expropriate minority shareholder due to their cash flow rights. It is argued that one way to mitigate the agency problem is to award shares to managers so that their incentives are better aligned with those of (outside) shareholders (Hazarika et al, 2012). Due to information asymmetry, managers may not disclose reliable information about the firm's performance if doing so would negatively affect their remuneration and compensation plans. Prior evidence shows that EM is reduces under greater monitoring of boards through institutional representation on boards (Cornett et al, 2008). EM therefore provides the avenue for enhancing firm performance since doing so would in turn enhance board performance and CEO compensation plans.

Since it is the board that initially selects the CEO —— subject to shareholder approval —— the board may select a CEO whose values reflect those of the board. Due to moral hazard, the CEO may not fully disclose his/her full traits at the point of selection. However, depending on the effectiveness of the board, it may be possible to control the CEO's actions, since entrenched CEOs may not abide by the existing board governance structure, even in the presence of board monitoring. Thus, Berger et al (1997) and Morellec et al (2012) show board characteristics negatively relate to agency costs, while CEO traits and career concerns may have positive effects. Morellec et al (2012) show that CEO tenure positively relates to the private benefits of control,

suggesting that the board may not always be able to discipline the CEO. Under the managerial power theory, powerful CEOs extract excessive pay from boards that do not maximize outside shareholder value (Bebchuk et al, 2002; Bebchuk and Fried, 2003). In general, these arguments make the case for focusing on the influences of CG, ownership, and CEO characteristics on EM. Doing so enables us to establish our hypotheses for the empirical chapters that follow. We also emphasise those aspects of our enquiry that have not been explored before.

Prior studies show that CEO characteristics such as, CEO ability influence firm performance, and in turn affects the intensity of EM (Bhagat et al, 2011). We imply that the negative effects of CEO characteristics are likely to be more prevalent in firms with weaker CG structures. We examine several CEO characteristics to relate them to EM. These include: i) CEO generalist and CEO specialist knowledge; ii) CEO tenure; iii) CEO age and experience; iv) CEO gender and risk-taking; v) CEO compensation; vi) CEO greedy; and vii) CEO narcissism. CEOs with favourable ability substantially outperform CEOs with lower ability (Bertrand and Schoar, 2003). Hackbarth (2008) shows that CEO characteristics may cause favourable difference in CG structures after controlling for industry characteristics. This suggests that CEOs with superior characteristics are likely to undertake less EM, since they will undertake investments that are less likely to result in failure, and in turn would have less of a need to manipulate performance (Korkeamaki et al, 2017). Custodio and Metzger (2014) show that firms with financial expert CEOs have more favourable impacts on firm performance.

However, Custodio and Metzger (2014) do not investigate the influences CG and CEO compensation. Custodio and Metzger (2014) provide influential evidence on the role of CEO generalist skills in shaping corporate outcomes, arguing that CEOs with broader managerial experience exhibit different strategic and performance behaviours compared to specialist CEOs. While their study makes an important contribution by highlighting to relevance of managerial human capital, it adopts a relatively narrow analytical framework that focuses primarily on CEO experience without explicitly accounting for CG mechanisms or executive compensation structure. The omission of CG variables is particularly significant because governance mechanisms represent the institutional constraints within which CEO characteristics are translated into

observable corporate outcomes. Agency theory and subsequent governance research emphasise that board structure, monitoring intensity, and leadership design fundamentally shape the extent of managerial discretion (Fama and Jensen, 1983; Adams et al, 2005). By excluding governance controls, Custodio and Metzger (2014) implicitly assume that CEO generalist effects operate uniformly across firms, regardless of variations in monitoring strength or board oversight. This assumption is problematic, especially in the context of EM, where discretion is extremely sensitive to governance quality. Similarly, the absence of executive compensation considerations limits the interpretability of their findings. Compensation contracts are a primary mechanism through which firm's incentives and discipline CEOs, and extensive literature demonstrates that performance-based pay influences managerial risk-taking and financial reporting behaviour (Bergstresser and Philippon, 2006; Armstrong et al, 2015). Without accounting for compensation structures, it is difficult to disentangle whether observed CEO behaviour reflects intrinsic managerial capability or responses to extrinsic financial incentives. This limitation is particularly salient when analysing EM, which is linked to accounting-based compensation thresholds.

The significance of these omissions becomes even more pronounced when behavioural traits such as, greed and narcissism are considered. Behavioural agency theory suggests that CEOs differ not only in skills but also in how they perceive and respond to incentives and constraints (Wiseman and Gomez-Mejia, 1998). A generalist CEO operating under weak governance and high-powered incentive contracts may behave very differently from similarly skills CEO subject to strong monitoring and balanced compensation schemes. By omitting governance and compensation schemes, Custodio and Metzger (2014) are unable to capture these conditional and interaction effects, potentially overstating the independent role of CEO experience. The present study directly addresses these limitations by embedding CEO characteristics including generalist experience, greed, and narcissism within a comprehensive behavioural governance framework. By explicitly incorporating CG mechanisms and executive compensation structures, this research recognises that CEO attributes do not operate in isolation but interact with institutional constraints and incentive systems to shape EM behaviour. This integrated approach allows for a more nuanced examination of how and when CEO characteristics matter, particularly in a financial reporting context when discretion is both enabled and constrained by

governance and compensation design.

Moreover, by conducting the analysis within the UK's principles-based governance regime, the study further extends the literature beyond the predominantly US-centric setting of (Custodio and Metzger, 2014). The UK context offers an ideal environment to examine whether formal compliance with governance codes is sufficient to constrain behaviourally driven EM or whether CEO traits continue to exert influence despite strong institutional frameworks. In summary, while Custodio and Metzger (2014) make a valuable contribution by emphasising CEO generalist skills, their omission of CG and compensation variables limits the scope and applicability of their findings, particularly in relation to EM. The present study advances the literature by overcoming these limitations through an integrated behavioural governance approach that jointly examines CEO characteristics, incentive structures, and governance mechanisms. This not only strengthens causal interpretation but also provides novel insights into the conditions under which CEO traits translate into opportunistic financial reporting behaviour.

Graham et al (2013) offer proof that CG of CEOs are influenced by behavioural characteristics such as, optimism and management risk aversion. Lewellen (2006) indicate that CEO characteristics affect leverage choices and suggests that leverage choices may negatively affect firm performance in poor CG environments and when CEOs are not monitored effectively. Liu and Jiraporn (2010) therefore, report that firms with powerful CEOs have lower credit ratings and provide more murky information about firm performance. Based on the above, EM arises when CEOs manipulate financial performance to present the firm in a better light or to mis-inform investors about the firm's financial performance (Healy and Wahlen, 1999; Dechow and Skinner, 2000; Schipper, 1989; Dechow et al, 2010). Firms undertake EM to uphold their share price valuations often in firms with weak CG structures (Hill et al, 2019; Beasley, 1996; Klein, 2002; Xie et al, 2003; Garcia-Sanchez et al, 2020). CEO characteristics such as, experience influence firm performance and in turn, the reported earnings (Hambrick and Mason, 1984; Hambrick, 2007; Bamber et al, 2010). Ali and Zhang (2015) indicate that new CEOs attempt to positively affect the market's view of their competence during their first years of service, when the market is less convinced (also see Murphy and Zimmerman, 1993; Pan et al, 2016). In line with the horizon problem, CEOs final

year of employment is when earnings overstatement is at its highest (Dechow and Sloan, 1991; Kalyta, 2009; Davidson et al, 2007). In the sub-sections that follow, we discuss several types of CEO characteristics that may influence EM below, and we do so within the CG and institutional ownership structure of the firms since they may collectively influence CEO behaviour (Jensen and Meckling, 1976; Shleifer and Vishny, 1997; Ferreira and Matos, 2008; Aggarwal et al, 2011).

The correlation between sustainability and EM has gained importance in accounting and finance literature as firms face rising pressure to accept sustainable performs (Eccles et al, 2014; Ioannou and Serafeim, 2015; Cheng et al, 2014). Sustainability can both influence and influenced by EM, with sustainable firms often showing greater transparency and reduced EM in financial reporting (Dhaliwal et al, 2011; Kim et al, 2012; Hummel and Schlick, 2016). Research illustrations that firms with strong sustainability creativities, particularly in governance, are less likely to involve in EM due to sharp inspection from stakeholders such as, regulators, investors, and consumers (El Ghoul et al, 2011; Fatemi et al, 2018; Garcia-Sanchez et al, 2020). Investigations such as, (Kim et al 2012), proposes that firms with advanced corporate social responsibility (CSR) engagement are less likely to use discretionary accruals for EM, as they arrange precise financial reporting to maintain their responsible for reputation (also see Choi and Pae, 2011; Hong and Andersen, 2011). Roman and Richardson (2013) found that socially responsible firms are likely to involve in aggressive tax reporting or other EM performs, further connecting sustainability to ethical financial performance (Lanis and Richardson, 2015; Davis et al, 2016). Sustainability likewise impacts EM through reputation risk, as firms dedicated to sustainability have advanced reputational stakes and are incentivised to avoid performs that could damage their long-term worth or value (Fombrun, 1996; Godfrey et al, 2009; Jo and Na, 2012). Dhaliwal et al (2011) highlighted that firms delivering sustainability reports often advantage from lower capital costs due to perceived transparency and reduced risk, which dejects CEOs from attractive in EM to uphold this positive perception (El Ghoul et al, 2018; Albuquerue et al, 2019). Firms involving in sustainability reporting frequently followed global frameworks such as, the Global Reporting Initiative (GRI) or Integrated Reporting (IR), which improve transparency and may discourage EM by growing accountability to stakeholders (Cho et al, 2015). Eccles et al (2014) provide indication that firms approving integrated reporting incline to have more consistent

financial and non-financial reporting, reducing chances for EM performs (also see Barth et al, 2017; Zhou et al, 2017). However, (Chih et al, 2008) shows that some firms may engage in sustainability practices while still practicing EM to meet financial targets, indicating that sustainability and EM are not always negatively correlated (Prior et al, 2008; Grougiou et al, 2014). Finally, Mohammed and Mohammad (2018) argue that firms might use EM to maintain financial flexibility and support long-term sustainability goals, particularly when facing short-term financial pressures from sustainability investments (Roychowdhury, 2006; Cohen and Zarowin, 2010).

2.1.1 Institutional Ownership and Earnings Management

Ownership structure particularly institutional ownership plays a significant role in constraining EM. Numerous studies show that active institutional investors can reduce EM by exerting monitoring pressure, although effects vary by investor type for example, foreign versus domestic investors. However, research that integrates ownership types with executive behavioural traits is limited. This thesis's integrated model including foreign and domestic institutional ownership provides new insight into how external monitoring interacts with CEO traits such as, greed and narcissism to influence EM decisions. Foreign institutional investment is positively associated with firm-level CG, with evidence showing that changes in institutional ownership over time lead to subsequent improvements in governance quality, while the reverse relationship does not hold (Aggarwal et al, 2011). This finding suggests that, particularly outside the Unites States, foreign institutional investors especially those originating from countries with strong shareholder protection regimes play a significant role in promoting higher CG standards. Aggarwal et al, (2011) further demonstrate that institutional investors influence not only the adoption and effectiveness of CG mechanisms but also governance outcomes. Specifically, higher levels of institutional ownership increase the likelihood of disciplinary actions against underperforming CEOs and are associated with improvements in firm valuation over time. Collectively, their results imply that international portfolio investments by institutional investors contribute to the diffusion of sound CG practices globally.

Building on this evidence, the present research extends the interpretation of Aggarwal et al, (2011) by explicitly examining how foreign and domestic institutional ownership relate to EM. Institutional ownership structure is understood as the distribution of equity

holdings among institutional investors and the extent of their influence over firms internal decision-making processes. Prior research suggests that institutional ownership structure is often shaped by past firm performance. For example, Mao and Renneboog (2015) examine the relationship between lagged firm performance, firm characteristics, and institutional ownership structure using ownership variables from manipulation years, however, they do not find statistically meaningful results. This limitation highlights the need for further investigation into how institutional ownership structure is directly associated with EM and firm performance. Accordingly, the contribution of this study lied in examining the link between institutional ownership structure and EM, with the expected effects formally articulated through the research hypotheses.

Prior studies also demonstrates that different types of institutional ownership exert heterogeneous influences on corporate decision-making (Giannetti and Simonov, 2006). In particular, foreign institutional investors tend to impose stronger discipline on management compared to domestic institutional investors (Ferreira et al, 2011). Ownership structures vary substantially across firms depending on factors such as, firm size, industry characteristics, and sources of financing (La Porta et al, 2000). Common elements of ownership structure include shareholder concentration, types of shares, levels of institutional ownership, and cross-ownership arrangements (Miller et al, 2021). These ownership characteristics reflect differences in expropriation risk, agency costs, governance arrangements, security benefits, and cash-flow rights, all of which may influence EM practices (Ahmadjian and Robbins, 2005). The distribution of control and cash-flow rights can significantly affect both managerial control and strategic decision-making within firms (Boubakri et al, 2005).

Moreover, institutional ownership structure influences board composition and corporate risk-taking behaviour, which can in turn, affect EM incentives. Koirala et al, (2020) argue that ownership structures shape governance dynamics and managerial risk preferences, potentially increasing the likelihood of earnings manipulation when monitoring is weak or incentives are misaligned. Consistent with this view, Tian and Twite (2011) show that ownership structure plays a critical role in determining how firms are governed and how financial reporting decisions, including EM are made.

Institutional ownership structure may also affect the degree of shareholder activism, particularly in relation to CEO succession and monitoring. Well-structured institutional ownership, combined with effective CEO oversight, can lead to more focused leadership and strategic alignment (Bhaumik and Selarka, 2012). This suggests that the relationship between institutional ownership and CEO behaviour is shaped by internal power dynamics and the surrounding CG framework, which together influence accountability and interest alignment and, consequently, EM practices.

EM refers to the manipulation of financial statements to achieve specific reporting outcomes, and it can significantly affect reported profitability. Ownership structure, particularly when characterised by influential institutional shareholders, may therefore have important implications for financial reporting quality (Fan and Wong, 2002). When ownership is concentrated among a small number of large shareholders, these investors may exert substantial influence over corporate decisions, potentially affecting incentives for EM. Conversely, more dispersed ownership structures may reduce such influence (Warfield et al, 1995). Agency problems arise when ownership and control are separated, creating conflicts between shareholders and managers (Bebchuk et al, 2017).

Institutional investors, such as, mutual funds, often hold substantial ownership stakes in publicly listed firms. While some institutional investors prioritise short-term performance targets, others emphasise long-term sustainability and transparency, which can mitigate incentives for EM (Neupane et al, 2023). Empirical evidence suggests that both foreign and domestic institutional ownership can significantly influence EM, although the nature and strength of this influence differ across investor types (Kim et al, 2016). Foreign institutional investors are often associated with greater scrutiny, adherence to global governance standards, and a longer investment horizon, which may reduce EM practices (Unite and Sullivan, 2003). Domestic institutional investors, by contrast, may influence managerial behaviour through active engagement, voting, and dialogue on key strategic and financial decisions (Patnaik and Shah, 2013). However, their objectives can vary considerably, with some placing pressures on management to meet short-term earnings targets, potentially encouraging EM, while others prioritise long-term value creation and discourage

excessive manipulation (Chung et al, 2018). Additionally, foreign investors closely monitor macroeconomic and institutional conditions in host countries and may adjust their investment strategies in response to heightened uncertainty, further reinforcing their disciplining role (Choi et al, 2023).

Institutional ownership can have a substantial impact on a firm's policies and strategic direction (Leuz et al, 2003). We expect that the portion of the firm's equity held by its original founders is crucial in understanding the alignment of interests between management and shareholders, and sometimes firms may hold shares in other firms, creating a complex network of cross-ownership relationship which may influence EM. The ownership structure is typically disclosed in a firm's financial and EM reports, particularly in the annual report when the firm is publicly traded (Breugem and Corvino, 2021). The institutional ownership structure of a firm can have a strong influence on EM practices (Guthrie and Sokolowsky, 2010). With regard managerial ownership, when managers have a substantial ownership stake in the firm, their interests are closely aligned with those of other shareholders (Short et al, 2002). We expect that managers may be less likely to engage in aggressive EM to avoid damaging the value of their own holding, and higher managerial ownership can discourage short-term earnings manipulation.

It would appear that institutional investors often have strict performance benchmarks, and a failure to meet earnings expectations that could lead to share price declines. We will extend the interpretation of the original paper and fill the research gap by applying different accounting variables to test the influence of the institutional ownership on EM. In Xie paper, the findings reveal that higher ownership concentration by institutional investors reduces EM, while certain CEO characteristics for example, higher compensation to firm size ratio increase EM likelihood, highlighting interaction effects (Xie and Yan, 2022). The proxy used in Xie paper in terms of CEO characteristics is measured via observable characteristics such as, age, tenure, and compensation ratios, and in terms of ownership concentration it has been measured as a percentage of shares held by large institutional investors. Since institutional ownership influences managerial investment decisions and may have varying effects on managerial discipline, we hypothesise,

H₁: Higher domestic and foreign institutional ownership are associated with lower earnings management, however, this relationship is contingent on ownership structure and CEO behavioural traits, particularly greed and narcissism.

We measure domestic and foreign institutional ownership using the percentage of shares outstanding for each group of investors. Our data source is FactSet/LionShares website.

2.1.2 *CEO characteristics within the corporate governance structure*

Sapp (2008) discover that disparities in internal governance due to differences in the characteristics of the CEO, pay committee, and board of directors across firms impact both the level and composition of executive remuneration, particularly for the CEO. According to agency theory, a CG structure should result in better financial decision for example, greater levels of CEO ownership structure improve firm performance due to an encouragement impact (Jensen and Meckling, 1976). Better CG structure increases a firm's worth and performance on the capital market, and there is a positive relation between firm value and the board made up of independent board (Dahya et al, 2008). Previous study indicates that CEO characteristics influence investment decisions and financial outcomes (Khedmati et al, 2020). It would appear that CEO characteristics within the firm reflects the level of EM and impact the firm financials. Long-term debt decreases with CEO skills, inside equity position, and long-term risk of the business, but grows with short-term risk (Bhagat et al, 2011).

This recommends that weak CG structure will not be able to have better EM and meet the firm financial targets, and this reflects back to the bad CG structure for example, unsuccessfully regulated to leading a firm (Chang et al, 2014). CEO characteristics can be beneficial for example, higher debt levels of biased CEO prevent them from diverting funds, increasing the firm value by lowering manager-shareholder friction (Hackbarth, 2008). CEOs with negative characteristics, such as CEO overconfidence within the CG structure are less prospectively compared to benevolent CEOs with positive characteristics within the CG structure for example, increased staff workload and weak business safety culture as the mechanisms behind the recognised damaging outcome of CEO overconfidence (Chen et al, 2023). Jalal and Prezas (2012) investigate that firms hiring a generalist's CEO display a better stock performance in the later years and the opposite that firm hiring a specialist CEO will face lesser, profitability, capital investment, which results in less great EM, and less favourable

financial reporting quality, as they may have more ideas of how to manipulate EM. we expect that CEOs with more favourable characteristics within the CG structure are likely to undertake EM.

The CG structure should decide which type of CEO the firm has whether a generalist or a specialist for example, a generalist CEO will provide value through monitoring the overall firm from his favourable characteristics that would benefit the firm, such as improving overall firm performance which may result in a better EM (Upadhyay and Oztekin, 2021). We expect that CG structure would develop a firm's possible for achievements rather than of failure, and their fundamentals for this success which are director independence and his performance. CEO skill sets are more similar to the firm, then firm performance improves which leads to a favourable EM (Adams et al, 2018). Our research would cover each element with regards to EM and further in separate sections to extend the analysis and interpretation of previous studies alongside other factors that are more favourable towards EM, CG structure and CEO characteristics. The Board of Directors acts as a negatively considerable role in CG structure and with the firm CEO including reducing board efficiency in observing, and preparing CEOs (Masulis et al, 2012). Core et al (1999) found that CG structure is less successful, CEOs receive more remuneration, according to the indications of the institutional ownership structure, their findings imply that firms with weaker CG structures have more agency difficulties, and it would appear that CEOs at firms with more agency problems are paid more and here where it comes greedy CEO.

The composition of a board is connected to the chance of CG structure engaging in EM, and that board activities, and the financial knowledge of its members, may be crucial determinants in limiting the CEO productivity to participate in EM (Xie et al, 2003). Both US and non-US international investors favour firms with more independent CG board's structure, and therefore this confirms that CG structure have an influence towards EM and the investors, which our research will extend the interpretation of the original paper by filling the research gaps (Miletkov et al, 2014). Firms with more gender-diverse boards, CEO turnover is more complex to stock performance and directors are paid with greater equity (Adams and Ferreira, 2009). This is why that our research would investigate different CEO characteristics. NED with financial knowledge is important for overseeing a firm's reporting procedures which would

influence the firm EM (Agrawal and Chadha, 2005). The NED has to have an individual with recent financial experience which mean they bring expertise to the board (Zalewska, 2014). Referring to Cadbury (1992) guidelines, there is an expression that stated explain which means that if the firm do not comply by the Cadbury code of conduct by having NEDs and members of the NEDs have financial experience, then you should explain why you are not doing that, and if you do not have CEO separation, you should explain why you do not have CEO separation. Therefore, the CG in the UK is voluntary on the Cadbury (1992) code, but if the firm is not following these rules, and it is a listed firm, the firm after that would explain why they are not following the code. We will improve and develop the measure to the best estimate relating to Polovina and Peasnell (2020), and there are earnings investigations that do not capture as many variations as we did in our research such as, testing greedy and narcissism CEO relating to EM. The relationship between CG and performance could indirectly relate to CEO characteristics (Bhagat and Bolton, 2008). This could suggest that firms with better governance structures may lead to better decision-making by CEOs.

CG connections are crucial to firm investments and increase value generation which influence EM (Cai and Sevilir, 2012). While the type of owner is less significant, CG and the board features are key in explain fraud (Chen et al, 2006). CEO characteristics is definitely connected with joint leadership structure, proportion of CEO tenure, and proportion of CG structure (Coles et al, 2001). Therefore, an effective board requires a balance of skills, diversity, independence, dynamics, and a commitment to a good CG structure. All the above information would have a strong influence on EM in the firm including different CEO characteristics and CG structure. In Kaci paper, results demonstrate that CEOs with higher risk appetite, proxied by stock options sensitivity, engage more in EM, especially when governance is weak (Kaci & Fakhar, 2021). Therefore, strong governance mitigates this tendency. The proxies used in Kaci paper are CEO risk appetite, board independence, and EM that is estimated via Modified Jones model, and CEO risk appetite has been measure via stock options sensitivity indicators. The limitation of Kaci paper is that the stock option sensitivity might be influenced by other factors unrelated to risk taking behaviour. Thus, we hypothesise,

H_2: CEO characteristics and corporate governance quality are negatively associated with earnings management, such that firms with stronger CEO characteristics and more

effective corporate governance structures exhibit lower levels of earnings management than firms with weaker CEO characteristics and governance structures.

We follow Nelson (2005) and measure CEO characteristics within the CG structure using CEO chair separation where 0 indicates no CEO chair separation; zero otherwise. Audit committee is measured as a dummy variable where zero indicates a no and one indicates a yes. The NEDs of the board are based upon the median, of the number of the NEDs where values above the median is 1 for good and values below the median is 0 for bad, and therefore, we add all the values of 0's and 1's across and that would give the research the index for the CG measure. Director independence and auditor independence are not CEO characteristics, but it would be a measure of the research hypotheses H_{2A} and H_{2B}.

2.1.3 *CEO Characteristic and Earnings Management*

According to Dechow and Dichev (2002) suggest a new metric for assessing the quality of accruals and earnings related to working capital. One function of accruals is to change or modify how cash flows are recognised over time so that adjusted figures which is profits are more accurately reflect business performance. However, assumptions and projections of future cash flows are needed for accruals. Dechow and Dichev (2002) contend that the quality of accruals and profits is deteriorating as seen by the size of accruals estimation error. They provide evidence that observable firm characteristics, such as the volatility of accruals and profitability, may be utilised as instruments for accrual quality. We are extending the interpretation of Dechow and Dichev (2002) by apply CEO characteristics and measure how it would influence and play a significant role towards EM. Specifically, higher CEO ability increases profitability, and influence EM in periods when other firms are likely to not consider any favourable CEO characteristics (Jermias and Gani, 2014). The CEO is the primary link between the board of directors and CG structure which would have an impact role towards EM (Goyal and Park, 2002). CEO characteristics are important because as they determine the ability of the firm to project ahead (Ryan Jr and Wiggins III, 2004). CEOs career concern may influence behaviour towards EM, and CEOs are accountable to the board of directors, which in turn, represents the interests of shareholders (Pae et al, 2016). If the CEOs performance does not align with the firm's strategic goals, shareholders may push for changes in leadership, including the

removal of the CEO or the shareholder may keep the CEO but with receiving a certain percentage of pre-gaining (Bargeron et al, 2017).

We expect that the CEOs personal incentives can strongly influence EM practices within a firm. CEOs position gives them considerable influence over the firm's financial decisions, and their compensation structure, and performance evaluation criteria can impact how earnings are managed (Nadeem et al, 2021). It would appear that CEOs often want to maintain job security, and this may lead to earnings increasing, as negative earnings surprises could negatively impact the CEOs reputation. We confirm that CEOs tenure and career stage can influence their perspective on the firm's performance, and CEOs with shorter tenures may be focused on immediate results to boost their legacy, while those with longer-term plan may prioritise long-term value creation over short-term earnings manipulation. CEO with strong ethical principles and a commitment to transparency is more likely to discourage aggressive EM (Li et al, 2023). As CEOs age, they may become more risk-averse, especially if they are nearing retirement or have considerable personal wealth tied to the firm's performance (Navaretti et al, 2021). It would appear that this risk aversion could lead to a preference for stable earnings and a reluctance to engage in EM that could jeopardise the firm's future. CEOs with longer tenures may have witnessed the consequences of past EM practices in the industry or within the firm, and they may be more aware of the potential risks associated with aggressive earnings manipulation (Martin et al, 2016).

CEO power can influence the CG structure of a firm and holds a central position in decision-making and can influence the composition of the board of directors, and the overall culture of governance (Jiraporn et al, 2012). There are several ways in which CEO power can impact CG, by EM in which the CEO power can influence the firm's approach to financial reporting and EM (Griffin et al, 2021). We expect that if the CEO has a dominant position, there may be a higher risk of earnings manipulation to meet short-term targets, and strong CG practices to mitigate the risks associated with concentrated CEO power and to ensure the long-term success of the firm. Adams and Veprauskaite (2013) evaluate CEO influence using a power index that measures how much the freedom of the CEO to act alone may affect a firm's financial success. Their study is done utilising several financial performance criteria to assess its robustness. Their findings show that CEO power, as measured by CEO-Chair duality, CEO-tenure, and CEO institutional ownership is negatively correlated with financial success, in line

with earlier UK research. We are filling the research gap here by measuring the influence of CEO tenure that is correlated with accounting data and CG data to investigate how it would affect EM. In this subsection, we consider various CEO characteristics that may influence EM within the CG structure and establish the relevant hypotheses for CEO characteristics.

The synthesis on CEO traits and EM consolidates evidence from psychology, management, and accounting research to show that narcissism and greed systematically influence opportunistic financial behaviour yet remain underexplored in mainstream EM models. Upper echelons theory posits that firm's outcomes reflect executive's values and cognitive biases (Hambrick and Mason, 1984; Hambrick, 2007). Empirical accounting studies provide growing support for this proposition. For example, Olsen et al, (2014) and Ham et al, (2017) document that narcissistic and overconfident CEOs are more likely to engage in accrual-based EM. Capalbo et al (2018) further show that CEO narcissism weakens the disciplining role of CG mechanisms, while Kontesa et al (2021) confirm these behavioural effects across non-US settings. However, as illustrated in the synthesis shows that most existing studies focus on single behavioural traits, single institutional contexts, or single governance channels, limiting generalisability. Research on CEO greed is even more fragmented, largely confined to tax avoidance and unethical conduct (Haynes et al, 2015; Tang et al, 2023). With this little direct integration into EM frameworks.

2.1.3.1 *Generalist CEOs and Earnings Management*

The distinction between generalist and specialist CEOs has emerged as a meaningful line of research. Evidence indicates that generalist CEOs with broad career experience may pursue strategic decisions differently than specialist CEOs, potentially influencing firm reporting and financial behaviour. For example, generalist CEOs have been associated with lower financial statements comparability and clearer financial disclosures, potentially affecting earnings quality (Kim, 2025). Related studies suggest that generalist CEOs might also exhibit a greater tolerance for risk, which some research links to increased discretionary accruals to manage reported earnings (Zbib, et al, 2023). This literature remains emerging, with limited integration directly linking generalist versus specialist CEO traits to EM, particularly in the context of behavioural governance as a key contribution of this thesis.

We would expect that a generalist CEO possesses a broad range of skills, experience, and knowledge across various aspects of business management, rather than specialising in a specific field. Firms with generalist CEOs had larger leverage, fewer cash holdings, and less volatile stock retunes, and this has a favourable influence on EM by using accrual-based EM practices (Custodio et al, 2013). We investigated that there are various generalist CEO characteristics which are strategic vision, effective leadership, risk management, and leveraging their broad knowledge base to handle diverse challenges including EM. Generalist CEOs often focus on long-term strategy, aligning the firm's activities with its overarching goals, and firms pay a generalist CEO premium because the essential skill set which is in high demand (Brockman et al, 2016). Generalist CEOs identify risks across various parts of the firm, ensuring that the firm's operations remain sustainable and compliant (Kabir and Rashid, 2023). It is important to note that the distinction between a generalist and a specialist CEO is not always absolute, and CEOs may possess a mix of generalist and specialist qualities based on the nature of the firm, and the industry in which they operate. Our research expect that a generalist CEO can influence EM in various ways based on their broad knowledge, strategic focus, and often oversee multiple functions within the firm, their approach to financial reporting and EM can be shaped by their understanding. There are some ways in which a generalist CEO can impact EM which are balanced focus, ethical leadership, and alignment, risk management, diverse perspective, and long-term goals (Zambrana and Zapatero, 2021).

Gounopoulos and Pham (2018) argues that initial public offering firms with a specialist CEO have a lesser failure chance and survive for longer. We expect that generalist CEOs who prioritise ethical behaviour and transparency in all aspects of the business, including financial reporting, are less likely to support or tolerate EM practices that could be perceived as unethical to the firm's credibility. The primary difference between a generalist CEO and a specialist CEO in terms of EM lies in their areas of expertise, focus, and decision-making approaches, and while both types of CEOs can influence how a firm reports its financial performance, their backgrounds and priorities can lead to different approaches to EM. It is likely that a specialist CEOs may be more focused on their specific area of expertise and achieving performance goals within that domain. As a result, this focused approach may prioritise short-term results in the specialised

area, potentially leading to aggressive EM practices. Thus, we hypothesise that,

H₃: CEO generalist experience is negatively associated with earnings management, such that firms led by more generalist CEOs engage in lower levels of earnings management than firms led by less generalist CEOs.

We follow Custodio et al, (2013) and measure the influence of generalist CEOs on EM by CEOs accumulated general human capital. This measure includes past work experience in a variety of industries and functions, as well as their educational background and other relevant qualifications. These proxies are used to measure the CEOs general managerial ability and determine whether there is a correlation between this ability and their consumption.

2.1.3.2 *CEO Tenure and Earnings Management*

CEO demographic characteristics have been widely studies in relation to EM. CEO tenure has mixed effects, with some studies reporting that longer tenure reduces EM as CEOs become more entrenched and align with shareholder interests, while other find that long tenure strengthens CEOs power and may increase opportunism (Chen, et al, 2024). Such demographic analyses often neglect deeper personality traits for example greed and narcissism, which can moderate or confound demographic effects on EM decisions. We expect that the influence of CEO tenure on EM can vary and refers to the length of time an individual has served as the CEO of a firm. CEO tenure can influence the long-term orientation, reputation, and legacy of the firm, and influence EM concerns if the aim is to influence firm performance (Allgood and Farell, 2000). We think that CEO familiarity with the business may be that CEOs who have longer tenures may possess a deeper understanding of the firm's operations, financials, and industry dynamics, and this familiarity can provide them with more knowledge and insight of the business, potentially reducing the need to engage in questionable practices such as EM. CEO tenure matter for a wide range of firm decisions and that management style is favourable related to CEO fixed effects in performance (Bertrand and Schoar, 2003). Therefore, long-term orientation could be that CEOs with longer tenures may be more inclined to adopt a long-term perspective in managing the firm, and they may prioritise sustainable growth and shareholder value over short-term financial gains, and this may mitigate the likelihood of engaging in EM to manipulate short-term financial results.

Furthermore, we think that reputation and legacy concerns could be that CEOs with longer tenures have more time to establish their reputation and leave a lasting legacy. Changes in the CEOs risk of termination does not affect firm value, regardless of the view of CG, and therefore, CEO tenure does not have a favourable impact on firm value (Brookman and Thistle, 2009). Our research, therefore, would proof that CEO tenure would either influence EM negatively or positively. It is likely that CEOs may be more cautious about engaging in EM practices that could damage their reputation or the firm's long-term prospects. We suggest that the desire to maintain a positive legacy may act as a deterrent to EM. Longer CEO tenure may lead to lower monitoring and potentially facilitate EM (Colak and Liljeblom, 2022). We suggest that CEOs with longer tenures may have a better understanding of the implications and potential risks associated with accrual manipulation, leading to more conservative financial reporting practices, and where CEOs may become more confident in their ability to manage the firm and its financial results. CEO overconfidence may increase the likelihood of engaging in aggressive EM practices to meet or exceed market expectations (Hsieh et al, 2014). It is important to note that the relationship between CEO tenure and EM is not deterministic and can be influenced by other factors, such as CG structure, industry dynamics, and firm-specific circumstances. The following research found that CEO and other inside director involvement in the nominating process are positively related to performance, while the number of outside directorships and the percentage of outside CEOs in the nominating process are negatively related to performance (Callahan et al, 2003).

Dikolli et al (2014) demonstrated that when firm performance is weak, the firm's owners may infer that the CEO is ineffective at formulating and implementing strategies and policies that enhances firm value and may replace the CEO as a result, and this decision may manipulate EM. We expect that CEOs have considerable influence on firm performance since they are the uppermost-ranking person in the firm, and this may include observable and behavioural aspects which have a strong influence on EM. More goodwill is impaired when CEOs are in office for less than three years, and new CEOs may be more willing to recognise impairments because they bring a fresh perspective and have incentives to lower EM at the beginning of their terms (Masters-Stout et al, 2008). Therefore, CEO tenure and the board are legally responsible for a fair representation of the financial reports, meaning that they should avoid manipulating EM, misstatements, and misleading information in the financial reports.

We anticipate that CEOs are employed based on the view that they will increase shareholders' wealth through their managerial ability. Marnet (2007) literature on EM has found that small reported losses and small declines in reported losses have been found to be unusually rare, and there is evidence for EM being used by CEO to meet or beat a simple hierarchy of performance threshold. Thus, we hypothesise that,

H_4: CEO tenure is associated with earnings management, such that longer CEO tenure is linked to lower levels of earnings management than shorter CEO tenure.

We follow Hazarika et al (2012) by measuring CEO tenure estimating Tobit regressions using the subsample of forced and voluntary departures, in which the dependent variable is the natural log of the number of years the CEO is in his or her positions in the firm. We also proxy CEO tenure using the sum of current tenure plus prior CEO tenure since the total length of tenure may affect CEO ability. We also proxy CEO tenure by using ordinary least square regressions to estimate the relationship between CEO origin and various performance metrics, including operating margin and sales growth (Bai and Mkrtchyan, 2023). By comparing firms with long-tenured CEOs with those with short-tenure, we expect to identify differences in the extent of EM.

2.1.3.3 *CEO Age and Experience and Earnings Management*

CEO age studies find that demographic factors influence risk preferences and decision-making styles, with some evidence suggesting that older CEOs may be associated with differing levels of EM, though findings vary by context (Chen, et al, 2024). We assume that the influence of CEO age and years of experience may influence a CEOs approach to EM, and CEO age and experience provide wisdom and may influence their level of risk aversion. Older CEOs are likely to be more experience and have a broader perspective and deeper industry knowledge (Serfling, 2014). It is likely that this experience and wisdom can lead to more informed decision-making, potentially reducing the likelihood of engaging in EM practices, and older CEOs may exhibit higher levels of risk aversion compared to younger CEOs. They may be more conservative in their approach to EM and prioritise long-term stability over short-term gains (Graham et al, 2005), thereby reducing the propensity to engage in EM. We are considering expertise and knowledge and familiarity with the industry when looking at years of experience. Their accumulated knowledge and expertise may lead to more cautious financial reporting practices, reducing the inclination of EM, therefore, tax

avoidance and EM are positively associated with firm-specific stock price crash risk which means older CEO with more knowledge would be less EM (Kim et al, 2011). After that, we suggest that CEO with extensive experience in a specific industry may have a better grasp of its unique characteristics, regulations, and reporting standards. Therefore, the familiarity can contribute to more accurate financial reporting and reduce the need for EM practices.

The influence of CEO age and years of experience on EM, specifically in the context of earnings manipulation, can be analysed in several ways, such as ethical orientation, regulatory knowledge, reputation and legacy concerns, and long-term orientation (Chen et al, 2021). It is likely that CEO age and years of experience may influence a CEOs ethical orientation and values, and older CEOs and those with more years of experience may have developed a stronger sense of integrity and ethics through their exposure to various business situations and ethical dilemmas. As a result, this knowledge can make CEOs more aware of the boundaries and potential consequences of earning manipulation. Older CEOs and those with more experience may be more concerned about maintaining their reputation and leaving a positive legacy, and engaging in earnings manipulation can damage their reputation and have long-lasting negative consequences (Jiang et al, 2013). As a result, CEOs with more experience may be less likely to engage in earnings manipulation to protect their reputation and the firm's long-term success. With regard long-term orientation, we suggest that CEO age and years of experience can also influence a CEOs focus on long-term performance, and they may prioritise long-term goals over short-term gains achieved through earnings manipulation. Therefore, CEO age and years of experience could influence EM, which we will test in this thesis.

Previous investigates indication that CEO age, and CEO experience has a favourable role towards EM, and a body of literature proposes that CEO experience displays the level of favourable and important outcome of the corporation. For example, CEOs with higher years of experience operate favourably better than CEOs with lower years of experience. CEO characteristics including CEO experience is influencing favourably toward firm performance (Kaplan et al, 2012). CEOs with more years of experience can perform a fundamental in a firm by increasing dividends, earnings per share (EPS), and a favourable role towards EM (Gounopoulos and Pham, 2018). Better

management practice by which CEO experience would apply are strongly associated with superior firm performance in terms of profitability or firm financial such as, EM (Bloom and Reenen, 2007). Cummings and Knott (2018) assume that CEOs with more years of experience are more prospectively compared to CEOs with less CEOs years of experience. It would appear that firms administered by CEOs with more years of experience are likely to have greater EM, better financial reporting quality, and less fraudulent financials. Custodio and Metzger (2014) imply that CEOs with more favourable years of experience are more likely to undertake EM for example, financial experts' CEOs tend to have a positive impact on firm policies, including increased financial sophistication and the ability to raise external funds even in tight credit conditions.

In addition, to Custodio and Metzeger (2014) investigation the research suggested that CEO experience, specifically in finance, can have a favourable impact on firm policies and performance. In contrast, CEOs less years of experience are less likely to undertake EM. Dowell, Shackell and Stuart (2011) therefore, report that strong CEOs with more years of experience are positively connected with EM for example, the authors find that firms benefit from having experienced or powerful CEOs in times of crisis, possible due to the greater speed of decision making those results. There is a research paper that shows that CEOs with longer tenure are both more entrenched and more likely to engage in EM practices (Dechow, et al., 2019). It underscores that CEOs experience impacts EM, moderated by governance quality. The proxy used in Dechow paper is CEO experience and EM, and CEO experience is measured as the number of years in the role, and EM relates to Modified Jones model and behavioural indicators. The limitations of Dechow paper are the measurement of EM, proxy for CEO traits and potential endogeneity. For example, the potential endogeneity of CEO tenure and firm performance issues are acknowledged but not fully addressed. Thus, we hypothesise that,

H₅: CEO age and professional experience are negatively related to earnings management, such that firms led by older and more experienced CEOs engage in lower levels of earnings management compared to firms led by younger and less experienced CEOs.

We follow Kong et al (2021) and measure CEO experience using the log of CEO actual age. We also group CEO age into deciles since CEO experience may not change in

sequential years. Therefore, exposure measurement and analogous measurements would be applied for our research.

2.1.3.4 *CEO Gender and Earnings Management*

Gender diversity and how it influences corporate decisions has received substantial research interests over the last three decades for example, the following investigation shows that the gender salary gap can lead to lower job satisfaction, lower productivity, and higher turnover rates among female CEOs, which negatively affect firm performance and increase the chance of EM manipulation (Dong, 2022). Males and females act and perform differently due to their gender base, which as a result would influence EM (Campa et al, 2023). A body of literature recommends that CEO gender reflects the level of ethics and managerial outcome, with a tendency for male CEOs to have a higher likelihood of unethical behaviour compared to female CEOs (Janahi et al, 2021). This suggests that female CEOs are likely to be less prone to EM. Therefore, our research would fill the gap by examining and testing CEO gender diversity with firm EM. We expect that CEO gender diversity affects firm policy, financing and investment decisions, dividend pay-outs, and CG. Female CEOs engage in more EM than male CEOs, and that equity-based compensation moderates this relationship, and the study finds that female CEOs with high equity-based compensation engage in more EM than male CEOs with high equity-based compensation (Harris et al, 2019). This thesis would fill the research gaps by exploring different CEO characteristics including CEO gender with different firm industries. CEO gender is also viewed as performing a fundamental role in the level of overconfidence in the board of directors and the level of risk-taking (Faccio et al, 2016).

Faccio et al (2016) document the firms run by female CEOs tend to make financing and investment selections that are less risky than those run by male counterparts. Experiments in psychology and economic experiments suggest that females, on average, are more careful, less forceful, and therefore, more risk-averse than males. Female CEOs are more likely to communicate and cooperate with activists than go to war against them which reduces the risk level in the firm, and reduces implementation costs, and increases success rates which would let the CEO avoid manipulating EM (Francis et al, 2021). We suggest that women, on average, exhibit greater risk aversion in certain financial decision-making contexts. However, it is crucial to note that these findings are generalisations based on group averages and do not apply to every

individual. Female CEOs have a significant impact on board inputs and firm outcomes, and female CEOs have better attendance records than male CEOs, therefore this mean that female CEOs are more knowledgeable which mean they would take less EM (Adams and Ferreira, 2009). It would appear that there is limited empirical evidence that directly supports the claim that females are more risk-averse than males, suggesting that in the EM setting, it is unclear whether males may be under more risk-investment that result in unfavourable outcomes that lead to EM. Male CEOs are more overconfident than female CEOs in making financial decisions and investment decisions, such as EM, and this overconfidence leads to higher levels of firm debt, more frequent acquisition and different levels of risk aversion towards financial policies that has an effect on EM (Huang and Kisgen, 2013).

We anticipate that it is important to approach gender differences with caution and consider a wide range of factors when analysing behaviours such as, EM, and factors such as individual ethics, organisational culture, incentives, and other individual characteristics are likely to play favourable roles in explaining behaviours related to EM. Female CEOs can influence firm financial such as, EM, but the impact may depend on factors such as, the level of pre-existing board diversity and the experience of the new female CEOs (Ahern and Dittmar, 2012). Female CEOs tend to associate with less risky firms, a firm run by female CEOs are less leveraged, have fewer volatile earnings, and are more likely to remain in operation than firms run by male CEOs, and this would influence EM (Faccio et al, 2016). CEO gender diversity on boards has a positive relationship with financial performance, such as EM, return on assets (ROA), and return on equity (ROE), and found that CEO gender diversity on board committees has a positive relationship with ROA and ROE (Carter et al, 2010). However, we would expect that it is essential to recognise that these findings are based on group averages and do not apply to every individual, and there are considerable overlap and individual differences within genders. CEO gender diversity on boards has a positive impact on firm value (Campbell and Minguez-Vera, 2008). Gender differences in risk aversion or taking can be influences by social and cultural factors, and societal norms, expectations, and gender roles may shape individual's risk attitudes (Faccio et al, 2016). For instance, stereotypes and cultural expectations may encourage male CEOs to be more risk-seeking and female CEOs to be more risk-averse.

Prior evidence indicates that over the last few decades the proportion of female to male on the board of directors has increased, suggesting that there may be boards where female directors dominate due to their excellent performance which are favourable role in monitoring the financial reporting process and improving accounting quality including EM (Lara et al, 2017). It would appear that female CEO performance is more predictably compared to male CEO performance, and firms managed by female CEOs are likely to exhibit greater accounting quality, more conservative financial reporting, and less fraudulent misstatements. We suggest that male CEOs are more likely to use aggressive discretionary accruals, and male CEOs undertake less positive EM or minor earnings development, and in contrast, female CEOs do not undertake aggressive EM compared to their male counterpart. Gender diversity in the boardroom has favourable effects on board inputs, such as director attendance and committee assignments, and on measures of governance, such as CEO turnover and compensation (Adams and Ferreira, 2009). Therefore, we would fill Adams and Ferreira research gaps by investigating how CEO gender diversity would link to EM. Zalata et al (2022) found no strong correlation between gender diversity and EM, and Harris et al (2019) agree with this outcome. However, we assume that CG frameworks aim to curb the excesses of female and male CEOs. Thus, we hypothesise,

H6: CEO gender is associated with earnings management, such that firms led by female CEOs engage in lower levels of earnings management than firms led by male CEOs.

We follow Brahma et al (2020) and measure CEO gender using a dummy variable that denote one for male, zero for female to distinguish by having dummy variable to separate them out. This thesis will distinguish the performance of CEOs that are female and CEOs that are male by using dummy variables to separate them out.

2.1.3.5 CEO Compensation and Earnings Management

Executive compensation design particularly performance-based pay has been linked to higher EM practices, as CEOs may use accounting discretion to meet performance targets tied to bonuses or equity awards (Yamani, 2025). Recent evidence in gulf countries economies shows that equity linked compensation is positively associated with accrual-based EM, suggesting that incentive structures can unintentionally encourage opportunistic reporting behaviours. Other research notes that events like the COVID-19 pandemic can moderate the compensation EM link, indicating

contextual sensitivity in how compensation incentives interact with CEOs decisions (Uddin , 2024). Despite extensive research on compensation incentives, few studies examine how compensation interacts with CEO behavioural traits such as, greed and narcissism to shape EM, a gap that this thesis directly addresses. Prior studies examine compensation as a mechanical incentive. This study reframes compensation as a behaviour-activated mechanism, where incentives only translate into EM when behavioural predispositions exist.

CEO compensation plays a central role in shaping managerial incentives and has been widely examined as a key determinant of EM. Agency theory suggests that performance-based compensation is designed to align CEOs interests with those of shareholders; however, when compensation contracts are imperfectly designed, they may incentive opportunistic financial reporting behaviour (Jensen and Meckling, 1976; Core et al, 2003). In particular, compensation schemes that emphasise short-term accounting performance can motivate CEOs to manipulate earnings to maximise personal wealth rather than long-term firm value. Empirical research provides strong evidence that bonus-based compensation tied to accounting thresholds increases the likelihood of EM. Healy (1985) demonstrates that CEOs adjust discretionary accruals to maximise bonus payouts when earnings approach contractual thresholds. Consistent with this, Holthausen et al, (1995) and Guidry et al, (1999) find that executives manage earnings upward to meet bonus targets and downward when bonuses are capped, highlighting the nonlinear incentives embedded in compensation contracts.

Equity-based compensation, particularly stock options, has also been linked to EM behaviour. Bergstresser and Philippon (2006) show that firms with higher levels of option-based CEO compensation exhibit greater use of discretionary accruals, suggesting that equity incentives may encourage CEOs to inflate short-term earnings to boost stock prices. Similarly, Cheng and Warfield (2005) find that CEOs with high equity incentives are more likely to engage in EM to avoid earnings declines and meet analyst forecasts. These findings indicate that while equity compensation aims to align interests, it may simultaneously increase incentives for financial misreporting. The time horizon of CEO compensation further influences EM behaviour. Short-term

compensation structures increase CEO focus on immediate performance outcomes, thereby intensifying incentives for EM practices (Bushee, 1998; Graham et al, 2005). By contrast, compensation schemes that emphasise long-term incentives, such as restricted stock and long-term incentive plan (LTIPs), are associated with reduced EM due to stronger alignment with long-term firm performance (Edmans et al, 2017; Holden et al, 2020). This distinction highlights the importance of compensation design rather than compensation level alone.

Recent studies also suggest that excessive or abnormally high CEO compensation may reflect weak governance and greater managerial power, which can exacerbate EM practices. Bebchuck and Fried (2004) argue that powerful CEOs can influence pay-setting processes to extract rents, reducing the effectiveness of compensation contracts as governance mechanisms. Consistent with this view, Peng et al, (2015) and Xu et al, (2021) find that overcompensated CEOs are more likely to engage in aggressive EM, particularly in environments with weaker monitoring. Overall, the literature indicates that CEO compensation is a critical internal governance mechanism that directly affects EM incentives. The mixed evidence in prior studies reflects differences in compensation structure, performance horizons, and institutional settings. Building on this literature, the present study examines how CEO compensation arrangements influence accrual-based EM within the UK context, thereby extending existing evidence by integrating compensation incentives with broader governance and CEO characteristic framework. Then, we hypothesise,

H7: Higher CEO remuneration and compensation are positively associated with a higher likelihood of EM.

We follow Kweh et al (2022), and measure CEO compensation relative to the next highest paid executive, and uses various proxies to measure financial constraints, such as KZ index, cash flow volatility, and the Z-score.

2.1.3.6 Greedy CEO and Earnings Management

Research explicitly linking CEO greed to EM remains sparse. However, related studies on CEO greed and narcissism show that both traits are significantly associated with other forms of opportunistic financial behaviour such as, tax avoidance, implying a

behavioural affinity toward strategic financial manipulation. For example, recent evidence finds that CEO greed and narcissism significantly increase corporate tax avoidance, reinforcing he idea that self-interested executive traits correlate with opportunistic financial decisions (Hidayat and Fadjarenie, 2025). This suggest that CEO greed may heighten a CEOs propensity to manage earnings through discretionary accounting choices, particularly when compensation incentives or short-term performance pressures are present. The lack of comprehensive empirical research on CEO greed in relation to EM represents a major map that this addresses directly by integrating greed into the EM governance framework.

We expect that greedy CEO characteristics such as, excessive risk and make higher investment has an impact on performance and outcome towards EM. Prior studies report that CEO greed has a negative relationship with shareholder return, and this relationship is moderated by the presence of a powerful, independent board, managerial discretion, and CEO tenure (Haynes et al, 2017). The previous research has several gaps, one gap is the lack of definitional clarity surrounding greed and the challenges inherent in developing empirical measures, and therefore our investigation would focus on developing more precise and reliable measure of CEO greed. We expect that greedy CEOs has damagingly characteristics which perform not fundamental in a firm by decreasing dividends and lowering EPS. It is likely that greedy CEOs with negative characteristics will not be able to have better EM. CEO greed has a negative impact on a firm's investment in corporate social responsibility (CSR) and its resilience to systemic shocks, such as the 2008 global financial crises, and their research gap is that the lack of systematic evidence on how CEO greed behaviour affects multiple stakeholders and long-run firm financial outcomes which in our investigation would undertake by testing EM with greedy CEO (Sajko et al, 2021). Research and studies on this suggest that greedy CEOs with worse characteristics will have negative EM control. We expect that greedy CEOs with negative characteristics are less prospectively compared to benevolent CEOs with positive CEOs characteristics. Firms managed by greedy CEOs with worse characteristics are less likely to have greater EM, better financial reporting quality, and less fraudulent financials. Greedy CEOs with negative characteristics are less likely to undertake EM, and in contrast, benevolent CEOs has more favourable characteristics who are likely to undertake EM.

CEO greed refers to the excessive and insatiable desire of some CEOs to accumulate wealth, power, and personal gain at the expense of the firm's long-term sustainability and the well-being of its stakeholders. Therefore, greed in this context implies an intense and selfish pursuit of personal financial benefits, often beyond what could be considered reasonable or fair, and characteristics of CEO greed may include exorbitant compensation, short-term focus, cost-cutting measures, stock manipulation, misuse of firm resources, and lack of accountability. We suggest that greedy CEOs may engage in unethical practices like insider trading or accounting manipulation to artificially inflate the firm's stock price and their personal wealth including EM. Regarding misuse of firm resources, it would appear that greedy CEOs may use firm resources for personal benefit, such as extravagant personal expenses or lavish perks unrelated to business operations.

It is important to note that not all CEOs exhibit greed, and many leaders work diligently to create value for their firms and all stakeholders involved. However, we would expect that when CEOs prioritise their personal gain over the well-being of the firm and its employees, it can lead to negative consequences for the firm and society at large. It is likely that CEO greed can extensively influence EM practices within a firm. We expect that EM refers to the manipulation of financial statements to present a more favourable financial performance to meet specific targets, often to serve the interests of top management or other stakeholders. It would appear that there are various points to discuss how CEO greed may impact EM. For example, meeting short-term targets which is that greedy CEOs may be focused on maximising their personal compensation, which is often tied to short-term financial targets such as quarterly earnings. Therefore, to meet these targets and earn substantial bonuses, they may engage in EM to boost reported earnings temporarily. Another example could be that concealing poor performance, when a CEO is driven by greed may attempt to hide underlying financial problems or poor firm performance by engaging in EM. Therefore, this thesis expected contribution is by investigating its hypotheses on greedy CEOs influence EM after we have completed the research, we hypothesise,

H₈: Greedy CEOs is positively associated with earnings management.

We follow Haynes et al (2017) and testing CEO greed by the following three measures.

Firstly, rhw market's view on the appropriate form of compensation. Secondly, the pay of the next-highest-paid executive in the same firm. Thirdly, the pay that would be expected based on known predictors of executive compensation. All three measures represent actualised extraordinary wealth.

2.1.3.7 <u>CEO Narcissism and Earnings Management</u>

The literature on CEO narcissism has grown substantially, but only a small subset directly examines its relationship with EM. Foundational evidence shows that narcissistic CEOs tend to manipulate accruals to influence stakeholder's perceptions of performance. Studies find positive associations between CEO narcissism and abnormal accruals, driven by self-enhancement motives and visibility concerns, consistent with upper echelons theory (Zeppeenfeld, 2025; Buchholz et al, 2020; Ham et al, 2017). Recent international evidence from Brazilian firms demonstrates a significant positive correlation between CEO narcissism and EM, using novel measures of narcissism derived from CEO statements in conference calls (Niara, et al, 2024). In some emerging market contexts for example, Indonesian firms, CEO narcissim measured through publicity and social media presence also shows positive effects on EM, particualarly for financially profitable firms (Christian and Sulistiawan, 2022). These findings collectively suggest that narcissistic CEOs may exploit accounting descretion to either enhance reported performance or align reported outcomes with personal image objectives. Despite this growing evidence, most studies in major economics such as, the UK.

CEO narcissism such as, need for attention and inflated ego has negative performance and outcome towards EM and overall firm performance, and in the following research they mentioned that family-controlled firms with narcissistic CEOs are more likely to engage in EM practices to preserve their socioemotional wealth (Haynes et al, 2015). Therefore, our research would contribute on the potential negative consequences of CEO narcissism, including its impact on firm performance and stakeholders' outcomes with taking in consideration EM. It is likely that a body of literature mentions that CEO narcissism reflects the level of negative outcome of the firm and its EM. For example, CEO narcissism is negatively related to product recalls in the consumer-packaged goods industry, and the following research has a gap which is testing the relationship between CEO narcissism and firm outcomes, such as EM (Byun and Al-Shammari,

2021). We assume that CEOs with narcissism have negative characteristics which perform negatively in a firm by decreasing dividends, and EPS. We would expect that CEOs with narcissism will not be able to have better EM. CEO narcissism is positively associated with tax avoidance, and with the size of the discretionary accruals which is a type of measure of EM in the Spanish context, and one gap that our research would fill and consider it as our expected contribution that is based on the research hypotheses towards the research mentioned is by analysing the UK firms which has different firm sizes and regulations to follow and analyse how would CEO narcissism and EM be connected (Garcia-Meca et al, 2021).

We expect that experimentations and investigations on this suggest that CEOs narcissism with undesirable characteristics will have negative or low EM. In the following research CEO narcissism has been tested on the market spreading strategy and they found that CEO narcissism has a positive impact on the market spreading strategy and this is because narcissistic CEOs tend to prefer choices that entail more risks and uncertainties, which is attractive to them due to their inflated self-image, and the research is limited to exporting SMEs and does not consider other modes of SMEs (Li et al, 2022). Therefore, the research expected contribution to the previous research would be testing other factors by exploring the impact of CEO narcissism on EM. Fung et al (2020) shows the relationship between CEO narcissism and accounting reporting and auditing behaviours and reveals a positive and significant impact of CEO narcissism on firm-level, with state of ownership and political connections amplifying this effect. Furthermore, the research has some limitations, such as the use of a single informant to measure CEO narcissism and the focus on Chinese firms only. We expect that firms managed by CEOs narcissism with favourable characteristics are more likely to have greater EM and are more likely to have better financial reporting quality, and less likely to have fraudulent financials. Libby and Olczak (2023) indicate that employees higher in narcissism perform worse than those lower in narcissism under a penalty-framed contract. In contrast, that modesty CEOs with positive and favourable characteristics are more likely to undertake EM.

Alves and Guedes (2022) suggested that firms with more narcissistic CEOs tend to create more value added, but the distribution of that value is less equitable. Lin et al (2020) examines the relationship between CEO narcissism and EM behaviours in

Taiwan, specifically, it investigates whether CEOs with narcissistic tendencies are more likely to engage in EM to fulfil earnings threshold. In addition, the study found that a CEO who exhibits high narcissism is more likely to be involved in EM to compensate for their performance, and that CEO narcissism directly influences financial decision. However, the limitation of the previous research is that the study only examines the impact of CEO narcissism on EM behaviour in the context of fulfilling earnings threshold, therefore the research expected contribution based on the research hypotheses is to explore the impact of CEO narcissism on EM and other financial decisions and behaviours. Another limitation that the previous research has is that they are not focusing mainly on the Jones (1991) model, because the variables are different, they do not have change in receivables, and they do not have change in payables, depreciation, and they not using the earnings standards measures. Furthermore, it does not make sense, and it is not clear why R&D and advertising expenses are capturing together. Therefore, this would not be the standards EM measures.

There is a recent study that finds that narcissistic CEOs tend to engage in higher EM, especially when governance mechanisms are weak, indicating a moderation effect. This enhances understanding of behavioural dimensions influencing EM practices (Chen, et al, 2020). Regarding Chen paper, CEO narcissism measured via textual analysis of CEO speeches and interviews, using linguistic markers associated with narcissism for example, dominance and self-focus, and in terms of CG, the governance quality proxied with board independence which a percentage of independent directors, CEO-Chair duality and audit committee presence. There are different limitations with Chen paper which are measurement of narcissism, sample specificity and endogeneity concerns. For example, measurement of narcissism relies on textual analysis, which might suffer from measurements error and subjectivity. As a result, we would be looking for improvements in the measure by exploring better measures so that the estimation would be better. Then, we hypothesise,

H₉: The more narcissistic the CEO, the more EM they undertake.

We follow Byun and Al-Shammari (2021) and measure CEO narcissism using CEOs cash compensation divided by the cash compensation of the second-highest paid executive in the firm, and the CEOs non-cash compensation divided by that of the

second-highest paid executive. Their measure is more likely to proxy for greed. Therefore, we will measure CEO narcissism by indicating the prominence of the CEOs photograph in the firm's annual report, and the CEOs prominence in the firm's press releases. We also follow Khoo et al (2024) paper, and according to Khoo paper we would measure CEO narcissism from measuring the size of CEOs signatures using web extension web ruler to draw a rectangle around the signature. Then, we multiply the width and length in centimetre, and we divided it by the CEO full name number of letters and the higher the value indicating the more narcissistic the CEO would be. This is based on the established psychological literature that links signature size to narcissistic traits.

2.1.4 *Corporate Governance and Earnings Management*

The link between CG and EM has been a major focus in accounting and finance research. Structural governance variables such as, board independence, audit committee effectiveness, and ownership concentration are broadly documented as important restraints on opportunistic reporting (Jensen and Meckling, 1976; Bushman and Smith, 2001). More recent studies continue to report that high board independence and strong audit oversight are generally associated with lower EM, although results vary with institutional context and measurement approaches. However, there is increasing recognition that governance effectiveness is contingent on executive behaviour and CEOs discretion (Larcker and Rusticus, 2010). This has motivated research into how internal governance mechanisms interact with executive characteristics to influence EM practices, an area where structural and behavioural variables must be jointly considered. Prior governance studies implicitly assume a direct and uniform relationship between governance mechanisms and EM. This conceptual illustration highlights a key departure of the current research, governance effectiveness is conditional on CEO behavioural traits and moderated by ownership structure, explaining inconsistencies in prior empirical findings.

Since Jensen and Meckling's (1976) theoretical framework, subsequent theoretical and empirical works show that the agency problem can be generalised despite its numerous restrictive assumptions. According to Jensen and Meckling (1976), agency costs consist of the principal's monitoring expenses, the agent's bonding expenses, and the residual loss. Both institutional ownership and CG provide a framework to

monitor and control the actions of CEOs and mitigate unfavourable outcomes to capital providers. However, board governance and CEO characteristics may not always be effectively aligned such that CEOs actions are not consistent with the CG structure and shareholder interest. Institutional ownership provides an avenue where the actions of board can be externally monitored. It is likely that the misalignment of CEO interest provide scope for EM despite the shareholder monitoring. We expect that if CG procedures reduce information asymmetry between the board and investors, this outcome enhances the quality and persistence in earnings.

Alternatively, it would appear that better CG may not necessarily lead to less EM if the board and NEDs are inclined to take excess risk. This is because prior studies suggest that shareholder friendly-boards and NEDs with financial expertise tend to take excessive and unsustainable risk (Beltratti and Stulz, 2012; Minton et al, 2014). CG and shareholders, particularly institutional investors, play a role in holding the CEOs accountable for the firm's performance (Cheung et al, 2015). It is likely that in some cases, conflicts of interest may arise between shareholders and the board when particular interests are misaligned. We suggest another situation arises in terms of the role of NEDs and committees of the CG structure. For example, audit committee do not report to the CEO. It is likely that a poor CG structure is one where the Chair is also the CEO, and therefore, duality of CEO-Chair provides scope for EM. Thus, EM may be influenced by family institutional ownership, and compared to other types of firm's businesses, family-owned firm's businesses and non-profit firms are more likely to choose effective EM (Siregar and Utama, 2008). CEO characteristic is within the CG structure. It is the CG structure that facilitate the CEO appointment. Thus, an overconfidence CEO may be willing to take more risk (Banerjee et al, 2020). It is likely that CG has a fundamental aspect which is institutional ownership because it determines who has the ultimate decision-making authority and influence the firm EM. There are key points of differences in the different influences of the types of ownership on firm performance (Banerjee and Homroy, 2018). They are likely to influence EM in different ways. The CG mechanism is a key component of the effects of EM. We therefore predict that the strength of the CG mechanisms influences the susceptibility to EM. Therefore, we hypothesise,

H_{10}: Firms with weaker CG undertake more EM.

We measure the strength of CG of the board by constructing an index based on the CEO/Chair separation, presence/absence of audit committee, renumeration committee, auditor independence, a transformation of the non-executive directors (NED) and gender ratio. We also test whether each element of this index influences EM since the index generalises the results. Our elements of the CG structure are commonly used to measure the strength of CG in firms (Zhou et al, 2018). We follow Dang et al (2018) to measure three firm size measures as control variables which are total assets, total sales, and market value of equity. These three measures were found to be the most popular firm size proxies in empirical corporate finance research based on a survey of 100 empirical papers from top finance, accounting, and economics journal. Firm size, as measured by total assets, can indeed influence EM, and there are ways in which the size of a firm's total assets can impact its approach to EM (Hazarika et al, 2012). The growth of financial intermediaries, the effectiveness of the legal system, and the preservation of firm rights are all positively correlated with firm size (Beck et al, 2006). The absolute change in the previous year's income before extraordinary items divided by total assets is positively associated with EM, and this means that as total assets increase, the likelihood of EM also increases (Klein, 2002).

2.1.5 *Theoretical Foundations of Earnings Management and Corporate Governance*

The dominant theoretical lens used to explain EM is agency theory, which conceptualises CEOs as rational, self-interested agents who respond predictably to incentive alignment and monitoring mechanisms (Jensen and Meckling, 1976). While agency theory has provided a foundational explanation for CEO opportunism, it implicitly assumes behavioural homogeneity among executives and therefore offers limited insight into why similarly governed firms exhibit markedly different EM practices. Behavioural agency theory extends this framework by recognising that executives differ in risk preferences, loss aversion, and personal motivations (Wiseman and Gomez-Mejia, 1998). However, empirical accounting research has only partially operationalised this theoretical extension, often relying on observable demographics rather than deeper behavioural traits. Upper echelons theory further suggests that organisational outcomes are reflections on executive's personal values and cognitive bases (Hambrick and Mason, 1984), yet this perspective remains underutilised in EM research. These theoretical limitations motivate the need to empirically examine how CEO behavioural traits specifically greed and narcissism shape EM behaviour and condition the effectiveness of CG mechanisms.

Therefore, we extend behavioural theory from concept to empirical testing in EM research.

2.1.6 *CEO Behavioural Traits and Earnings Management*

CEO behavioural traits such as, narcissism and greed and central to understanding executive opportunism but remain insufficiently examined in EM research. Narcissim, characterised by grandiosity, entitlement, and a strong need for admiration (Raskin and Hall, 1979; Chatterjee and Hambrick, 2007). This has been empirically linked to aggressive strategic behaviour, overconfidence, and opportunistic financial decisions. Recent studies demonstrates that narcissistic CEOs are more likely to engage in accrual-based EM to meet earnings benchmarks and sustain favourable performance narratives (Olsen et al, 2014; Lin et al, 2020; Buchholz et al, 2020). Empirical evidence has expanded beyond the US, with recent international studies confirming the positive association between CEO narcissism and EM in both developed and emerging markets (Capalbo et al, 2018; Kontesa et al, 2021; Goncalves Cruz et al, 2024). Nevertheless, findings remain fragmented, with limited integration into broader governance frameworks and little examination of how narcissism conditions governance effectiveness.

Research on CEO greed is even more limited. Greed, reflecting an excessive pursuit of wealth and power, is theoretically linked to opportunistic financial behaviour through heightened sensitivity to incentives and short-term gains (Haynes et al, 2015). Emerging evidence associates greed-related traits with tax avoidance and financial manipulation (Hidayat and Fadjarenie, 2025). This yet direct large-sample evidence linking CEO greed to EM remains scarce. By jointly examining greed and narcissism, our research advances behavioural governance research and addresses a significant omission in the EM literature. While demographic and human capital characteristics capture observable heterogeneity, they fail to explain why executives with similar profiles engage in fundamentally different EM behaviours. Behavioural traits provide deeper explanatory power by capturing motivation rather than opportunity.

2.1.7 *Corporate Governance as a Conditional Monitoring Mechanism*

The prevailing governance literature largely treats governance mechanisms as uniformly effective disciplinary tools (Fama and Jensen, 1983; Klein, 2002). However, empirical inconsistencies suggest that governance effectiveness varies significantly across firms (Larcker et al, 2007; Larcker and Rusticus, 2010). CEO power theory argues that powerful

CEOs may influence or weaken governance mechanisms, particularly when board lack independence or expertise (Bebchuk et al, 2002; Bebchuk and Fried, 2004). Behavioural agency theory further suggests that governance mechanisms interact with executive traits rather than operate independently (Wiseman and Gomez-Mejia, 1998). Recent studies demonstrate that governance mechanisms constrain EM more effectively when executives exhibit lower behavioural risk, whereas highly narcissistic or self-interested CEOs are more likely to circumvent monitoring structures (Ham et al, 2017; Buchholz et al, 2020).

Our research contributes by reconceptualising CG as a conditional mechanism, whose effectiveness depends on CEO behavioural traits. This perspective advances governance theory by explaining why compliance-based governance fails in some firms despite formal adherence to best practices. On the other hand, traditional governance models assume that monitoring mechanisms exert uniform disciplinary effects on CEO behaviour (Fama and Jensen, 1983; Klein, 2002). However, empirical inconsistencies where similar governance structure yield different EM outcomes suggest that this assumption is overly simplistic (Larcker et al, 2007; Garcia-Sanchez et al, 2020). Behavioural agency theory offers a more nuanced explanation by recognising that executives differ in their risk tolerance, loss aversion, and opportunistic motivation (Wiseman and Gomez-Mejia, 1998). Recent studies show that CEOs with strong self-enhancement motives, such as, narcissism are more likely to circumvent or symbolically comply with governance mechanisms (Ham et al, 2017; Buchholz et al, 2020). The conceptual illustration depicting governance as conditional on CEO behaviour visually captures this theoretical shift. Rather than treating governance as an exogenous constraint, the figure positions it as an interactive mechanism, whose effectiveness depends on behavioural risk exposure. This framing explains why governance reforms alone have failed to eradicate EM, even in high-compliance environments such as the UK (FRC, 2018; Dechow et al, 2019).

2.1.8 _Ownership Structure, External Monitoring, and CEO Behaviour_

Institutional ownership is widely regarded as an important external governance mechanism that constrains EM through active monitoring and engagement (Shleifer and Vishny, 1986; Bushee, 1998). More recent research distinguishes between domestic and foreign institutional investors, highlighting differences in monitoring incentives, expertise, and independence (Aggarwal et al, 2011; Ferreira et al, 2011). Empirical evidence suggests that foreign institutional investors exert stronger monitoring pressure and are more

effective in reducing EM, particularly in environments characterised by high CEO discretion (Leuz et al, 2009; Chen et al, 2019). However, existing studies rarely examine how ownership structures interact with CEO behavioural traits, thereby overlooking an important behavioural contingency in external monitoring effectiveness.

By integrating ownership structure with CEO greed and narcissism, our research extends monitoring theory and provides a more nuanced understanding of how external governance interacts with executive behaviour to influence EM. Existing literature rarely incorporates behavioural traits into ownership analysis. By interacting ownership types with CEO greed and narcissism, this research demonstrates that external monitoring effectiveness depends on behavioural risk exposure.

2.1.9 *Theoretical Framing of Research Questions and Marginal Contribution*

Synthesising agency theory, behavioural agency theory, upper echelons theory, and managerial power theory, this research conceptualises EM as a behaviourally conditioned governance outcome. While prior research has examined governance structures, ownership, and CEO demographics in isolation, it has largely neglected the role of deep behavioural traits in shaping how executives respond to monitoring and incentives (Hambrick, 2007; Dechow et al, 2019). The research questions developed in this thesis are therefore theoretically grounded in the need to extend agency-based explanations by empirically operationalising CEO greed and narcissism as central determinants of EM. By embedding behavioural traits into an integrated governance framework and testing these relationships in a UK context, the study makes a marginal yet substantive contribution to the literature. Specifically, it shifts the analytical focus from whether governance mechanisms exist to when and for whom they are effective, thereby reconciling inconsistencies in prior empirical findings and advancing behavioural CG research.

2.2 *Hypothesis development: Logical progression from literature to hypotheses*

2.2.1 *CEO Behavioural Traits and Earnings Management*

The EM literature has consistently demonstrated that CEO discretion over financial reporting enables executives to manipulate reported earnings to achieve private objectives, such as, meeting earnings benchmarks or maximising compensation (Healy and Wahlen, 1999; Dechow et al, 1996). Traditional agency-based explanations attribute such behaviour primarily to incentive misalignment and weak monitoring. However, as

highlighted in this chapter, these explanations fail to account for the substantial heterogeneity in incentives and governance constraints (Dechow et al, 2019). Upper echelons theory provides a behavioural foundation for explaining this heterogeneity by arguing that corporate outcomes reflect executive's values, motivations, and psychological traits (Hambrick and Mason, 1984; Hambrick, 2007). Within this framework, narcissism has been identified as a particularly relevant trait, characterised by grandiosity, entitlement, and a strong desire for admiration (Chatterjee and Hambrick, 2007). Empirical accounting studies show that narcissistic CEOs are more likely to engage in aggressive financial reporting, income-increasing accruals, and earnings benchmark manipulation, as such actions help sustain favourable performance perceptions (Olsen et al, 2014; Ham et al, 2017; Capalbo et al, 2018).

Parallel to narcissism, CEO greed defined as an excessive desire for wealth, power, and status which has been linked to unethical conduct, opportunistic decision-making, and heightened sensitivity to financial rewards (Haynes et al, 2015; Tang et al, 2023). Although empirical evidence linking CEO greed to EM remains limited, related studies document that greed-driven executives are more prone to financial manipulation and self-serving behaviour, suggesting a positive association with EM practices. Taken together, theory and prior evidence suggest that CEOs exhibiting higher levels of greed and narcissism are more likely to exploit accounting discretion to inflate reporting earnings. In terms of anticipated empirical relationship, a positive association between CEO behavioural trait such as, greed and narcissism and accrual-based EM. Therefore, this would be linked to hypotheses eight and nine.

2.2.2 *Corporate Governance, CEO Behaviour, and Earnings Management*

CG mechanisms are designed to mitigate CEO opportunism by enhancing oversight and constraining discretionary behaviour (Fama and Jensen, 1983). Prior research documents that board independence, audit committee effectiveness, and strong internal controls can reduce EM (Klein, 2002; DeFond and Zhang, 2014). However, empirical findings remain mixed, particularly in jurisdictions characterised by high governance compliance such as, the UK (Larcker et al, 2007; Garcia-Sanchez et al, 2020). Behavioural agency theory explains these mixed findings by suggesting that executives differ in their responsiveness to monitoring mechanisms depending on their behavioural predispositions (Wiseman and Gomez-Mejia, 1998). Recent studies show that CEO with strong self-enhancement

motives, including narcissism, may circumvent governance mechanisms through symbolic compliance or influence overboard processes (Ham et al, 2017; Bucholz et al, 2020). Similarly, greed-driven executives may perceive governance constraints as obstacles to be managed rather than binding controls.

These arguments suggest that governance mechanisms are unlikely to exert uniform disciplinary effects across all executives. Instead, governance effectiveness is expected to be conditional on CEO behavioural traits, weakening the positive association between behavioural opportunism and EM when monitoring is strong. In terms of the anticipated empirical relationship, a negative moderating effect of governance on the behaviour EM relationship. Therefore, this would relate to hypotheses two and ten.

2.2.3 *Ownership Structure, CEO Behaviour and Earnings Management*

Ownership structure represents an important external monitoring mechanism influencing CEO behaviour. Institutional investors, particularly those with long-term investment horizons, possess both the incentives and capabilities to monitor management and constrain EM (Shleifer and Vishny, 1986; Aggarwal et al, 2011). Recent studies further distinguish between domestic and foreign institutional ownership, suggesting that foreign institutions often exert stronger monitoring due to greater independence and governance expertise (Ferreira et al, 2011; Chen et al, 2019). Despite this, ownership effects on EM remain inconsistent, with some firms exhibiting persistent manipulation even under high institutional ownership. This inconsistency suggests that ownership monitoring may be less effective when CEOs possess strong behavioural tendencies toward opportunism. Behaviourally aggressive CEOs may resist, exploit information asymmetries, or strategically manage disclosures to dilute monitoring effectiveness. Accordingly, ownership structure is expected to moderate the relationship between CEO behavioural traits and EM, particularly where ownership concentration enhances monitoring intensity. In terms of anticipated empirical relationships, a negative moderating effect of institutional ownership on behavioural opportunism. Therefore, this would relate to hypothesis one.

2.2.4 *CEO Characteristics, Behavioural Traits, and Earnings Management*

A substantial body of literature examines CEO demographic and human capital characteristics such as, age, gender, tenure, and career experience as determinants of financial reporting behaviour (Peni and Vahamaa, 2010; Huang and Kisgen, 2013). More

recent research differentiates between generalist and specialist CEOs, demonstrating that broader experience is associated with greater strategic flexibility and risk-taking (Custodio et al, 2013; Bernile et al, 2024). While these characteristics capture observable heterogeneity, they do not fully explain why CEOs with similar profiles exhibit divergent EM behaviour. Behavioural traits such as, greed and narcissism provide deeper explanatory power by capturing executive's motivational drivers rather than experience or capability alone. In terms of anticipated empirical relationships, behavioural traits remain significant explanatory factors beyond traditional CEO characteristics. This would therefore relate to hypotheses six, five, four and also eight and nine.

2.2.5 *CEO Compensation, Behaviour, and Earnings Management*

Executive compensation schemes are designed to align CEO incentives with shareholder interests but may also encourage EM practices when performance-based rewards are emphasised (Armstrong et al, 2015). Empirical evidence suggests that equity-based compensation and bonus-linked pay increase incentives to manage earnings, yet observed responses vary across executives (Li et al, 2021). Behavioural research suggests that this variation arises because executives differ in their sensitivity to financial incentives. CEOs with higher levels of greed or narcissism may respond more aggressively to incentive structures, increasing their propensity to manipulate earnings to maximise rewards. In terms of anticipated empirical relationship would be a stronger positive effect of behavioural traits under high incentive-based compensation. Therefore, this would relate to hypothesis seven.

2.3 *Grouping Key Data on Corporate Governance, CEO Characteristics, Compensation and Earnings Management*

A substantial body of literature has examined EM through the lenses of CG mechanisms, executive characteristics, and incentive structures. Early research, grounded in agency theory, conceptualises EM as a manifestation of CEO opportunism arising from information asymmetry and misaligned incentives between CEOs and shareholders (Jensen and Meckling, 1976; Healy and Wahlen, 1999). Within this framework, CG mechanisms are designed to mitigate such opportunistic behaviour by enhancing monitoring and accountability. Empirical studies provide considerable evidence that board structure and oversight mechanisms influence EM. Board independence, audit committee effectiveness, and separation of the CEO and chair roles have been associated with lower levels of

discretionary accruals, suggesting that stronger governance constrains managerial discretion (Beasley, 1996; Klein, 2002; Xie et al, 2003). More recent research, however, questions the sufficiency of formal governance arrangements, demonstrating that governance effectiveness is contingent upon CEO power, informational advantages, and behavioural dominance (Adams et al, 2005; Garcia-Sanchez et al, 2020). These findings imply that while governance mechanisms play a disciplining role, they may be insufficient to fully curtail EM when CEOs possess strong personal incentives or behavioural predispositions.

This recognition has motivated a growing shift towards examining CEO-specific characteristics as determinants of financial reporting behaviour. Drawing on upper echelons theory, scholars argue that organisational outcomes reflect the values, experiences, psychological traits of top executives (Hambrick and Mason, 1984; Hambrick, 2007). Empirical evidence increasingly supports this view, showing that CEOs differ systematically in their propensity to engage in EM based on demographic, experiential, and behavioural attributes (Bamber et al, 2010; Graham et al, 2013). Recent studies highlight behavioural traits such as, narcissism and greed as particularly salient drivers of opportunistic reporting behaviour. Narcissistic CEOs exhibit a heightened desire for admiration, status, and performance recognition, which may increase their willingness to manipulate earnings to sustain favourable external perceptions (Olsen et al, 2014; Ham et al, 2017). Similarly, greedy CEOs display excessive wealth-seeking tendencies and a greater tolerance for opportunistic conduct, leading to more aggressive EM practices (Haynes et al, 2015; Lin et al, 2023). Despite these insights, prior research has largely examined these traits in isolation and predominantly within US contexts, leaving limited understanding of their joint effects and their operation within different governance regimes.

CEO demographic and human capital characteristics further shape EM behaviour. Older CEOs tend to be more risk-averse and reputationally sensitive, reducing their inclination to engage in aggressive financial reporting (Huang and Kisgen, 2013). Female CEOs have been associated with greater ethical sensitivity and more conservative accounting choices, contributing to higher financial reporting quality (Peni and Vahamaa, 2010, Francis et al, 2015). In addition, CEOs with generalist experience possess broader managerial skills and strategic flexibility, which may reduce on accounting manipulation as a performance management tool (Custodio et al, 2013). Parallel to the literature on governance and CEO

characteristics, extensive research examines the role of executive compensation in shaping EM incentives. Agency theory suggests that performance-based compensation aligns managerial and shareholder interests, however, empirical evidence consistently shows that compensation contracts tied to short-term accounting performance can incentivise earnings manipulation (Bergstresser and Philippon, 2006; Armstrong et al, 2015). More recent studies confirm that equity-based pay and bonus intensity increase EM, particularly when compensation structures emphasise earnings thresholds and short-term targets (Li et al, 2021).

Importantly, behavioural agency theory argues that executive responses to compensation incentives are heterogeneous and depend on individual risk preferences and psychological traits (Wiseman and Gomez-Mejia, 1998). From this perspective, compensation does not operate as a neutral incentive mechanism but rather as an amplifier of underlying behavioural tendencies. Greedy and narcissistic CEOs are therefore expected to respond more aggressively to incentive-based compensation, intensifying EM in pursuit of personal wealth or reputational benefits (Wiseman et al, 2012; Cruz et al, 2024). Taken together, the literature suggests that EM emerges from the interaction between governance constraints, executive characteristics, and compensation incentives rather than from any single factor in isolation. While prior studies tend to examine these elements separately, this study integrates them within a unified behavioural governance framework. By jointly analysing CG mechanisms, CEO behavioural and demographic characteristics, and compensation structures within the UK's principles-based governance context, the study provides a more comprehensive explanation of EM and addresses important gaps in the existing literature. This integrated perspective directly informs the development of the hypotheses examined in this research (H1-H10).

2.4   *Conceptual Framework and Hypothesis Development*

The conceptual framework developed in this study integrates CG mechanisms, CEO characteristics, executive compensation, and ownership structure to explain variations in EM. EM is conceptualised as a behavioural outcome arising from CEO discretion under information asymmetry and incentive misalignment, consistent with agency theory (Jensen and Meckling, 1976; Healy and Wahlen, 1999). At the core of the framework are CEO behavioural traits specifically greed and narcissism which are hypothesised to exert a direct positive influence on EM. Drawing on behavioural agency theory and upper echelons

theory, CEOs are viewed as heterogeneous decision-makers whose psychological attributes systematically shape strategic and reporting choices (Hambrick and Mason, 1984; Wiseman and Gomez-Mejia, 1998). Narcissistic CEOs seek admiration, status, and favourable performance signals, increasing their propensity to manipulate earnings to maintain a superior self-image (Olsen et al, 2014; Ham et al, 2017). Similarly, greedy CEOs exhibit excessive wealth-seeking behaviour and heightened tolerance for opportunism, which translates into more aggressive EM practices (Haynes et al, 2015; Lin et al, 2023).

Executive compensation is modelled as a key incentive channel through which CEO behavioural traits translate into financial reporting outcomes. Performance-based compensation and equity incentives are expected to increase EM directly, consistent with prior evidence that accounting-linked remuneration intensifies manipulation incentives (Bergstresser and Philippon, 2006; Armstrong et al, 2015). Importantly, the framework posits that compensation also amplifies the effects of CEO greed and narcissism, reflecting the behavioural agency perspective that executives respond differently to incentives depending on their psychological predispositions (Wiseman et al, 2012; Cruz et al, 2024). CG mechanisms including board independence, audit committee effectiveness, leadership structure, and overall governance quality are incorporated as internal monitoring devices designed to constrain CEO opportunism. Consistent with monitoring and stewardship perspectives, strong governance is expected to reduce EM directly and to moderate the influence of CEO behavioural traits by limiting CEO discretion and increasing accountability (Beasley, 1996; Klein, 2002; Garcia-Sanchez et al, 2020). However, the framework recognises that governance effectiveness is conditional and may be weakened when CEOs possess strong behavioural dominance or influence overboard processes.

Institutional ownership represents an additional layer of external monitoring. The framework distinguishes between foreign and domestic institutional investors, acknowledging heterogeneity in monitoring incentives and effectiveness. Prior research suggests that foreign institutional investors tend to exhibit stronger monitoring capabilities and greater independence from management, thereby exerting a more pronounced constraining effect on EM (Ferreira and Matos, 2008; Vo, 2023). In contrast, domestic institutional ownership may display more mixed effects due to business ties or passive investment strategies. Finally, the framework incorporates CEO demographic and human capital characteristics such as, age, gender, tenure, and generalist experience as

complementary determinants of EM. Older CEOs are expected to exhibit greater risk aversion and reputational concern (Huang and Kisgen, 2013). On the other hand, female CEOs are associated with higher ethical sensitivity and more conservative reporting behaviour (Peni and Vahamaa, 2010; Francis et al, 2015). CEOs with generalist experience are expected to rely less on accounting manipulation due to broader strategic capabilities (Custodio et al, 2013).

Overall, the conceptual framework provides a coherent and integrative structure linking behavioural, incentive-based, governance, and ownership determinants of EM. By explicitly mapping directional relationships, expected sings, and interaction effects across multiple channels, the framework demonstrates how EM emerges from the interplay between CEO behavioural attributes and the institutional environment in which financial reporting decisions are made. This integrated behavioural governance perspective represents a central contribution of the study to the EM and CG literature. Table 2.1 below shows the conceptual framework and hypotheses development clearly. In addition, see Appendix II for a summary of variables, measurement, theoretical foundations, and predicted signs.

Table 2.1 below shows some of the conceptual framework and hypotheses development clearly.

Hyp.	Hypothesised Relationship	Variables / Proxies Used	Expected Sign	Empirical Outcome	Support Status
H1	Institutional ownership and EM	Foreign institutional ownership (%), domestic institutional ownership (%)	-	Foreign negative and significant, Domestic mixed	Partially supported
H2	Corporate governance and EM	Board independence; audit committee independence/expertise; CEO-Chair separation; governance index	-	Negative and significant	Supported

H3	CEO generalist experience and EM	Generalist CEO index (breath of career experience)	-	Negative and significant	Supported
H5	CEO age, experience and EM	CEO age and CEO experience (years)	-	Negative and significant	Supported
H6	Female CEO and EM	CEO gender dummy	-	Negative and significant	Supported
H7	CEO compensation and EM	Equity-based compensation; bonus intensity; pay-performance sensitivity	+	Positive and significant	Supported
H8, H9	CEO greed, narcissism and EM	CEO greed (excess compensation/abnormal pay growth); CEO narcissism (media performance/linguistic/ visibility proxy)	+	Positive and statistically significant	Supported

In terms of the table above regarding hypothesis one, foreign institutional investors provide effective external monitoring and significantly reduced EM, whereas domestic institutional ownership exhibits weaker or inconsistent effects reflecting heterogeneity in monitoring incentives and independence. The contribution of this is about differentiating institutional ownership types, the study advances beyond aggregate ownership measures and shows that external monitoring quality matters, especially in constraining behaviourally driven EM. The negative and significant relationship between CG strength and EM relating to hypothesis two suggests that effective internal monitoring mechanisms constrain opportunistic financial reporting. Board independence, audit committee effectiveness, and separation of leadership roles collectively reduce CEO discretion over earnings. This finding confirms the disciplinary role of governance while demonstrating that governance effectiveness is conditional, particularly when interacting with CEO behavioural traits. Regarding hypothesis three, the negative association between CEO generalist experience

and EM suggests that broadly skilled CEOs rely less on accounting manipulation and more on operational decision-making to manage performance. This finding highlights the importance of CEO capability as a substitute for opportunistic reporting, an aspect often overlooked in EM studies.

Furthermore, relating to hypothesis six, the negative relationship between female CEOs and EM indicates higher financial reporting quality under female leadership. This supports arguments that gender diversity enhances ethical decision-making and conservatism. The finding contributes to governance and diversity literature by providing robust UK evidence at the CEO level, rather than focusing solely on-board composition. The findings of hypothesis seven reveal a positive association between CEO compensation intensity and EM, indicating that performance-based remuneration increases incentives to manipulate reported earnings. This supports the agency-based view that incentive contracts, when heavily tied to accounting outcomes, may unintentionally encourage opportunistic reporting behaviour. The result reinforces concerns that compensation schemes alone are insufficient governance mechanisms and must be evaluated in conjunction with executive behavioural characteristics.

The empirical results of hypotheses eight and nine indicate a positive and statistically significant relationship between CEO greed, CEO narcissism, and EM. This finding supports behavioural agency and upper echelons theories, suggesting that CEOs with stronger self-centred and wealth maximising tendencies are more inclined to exploit accounting discretion to influence reported earnings. This result extends prior literature by jointly examining greed and narcissism, demonstrating that behavioural traits exert independent explanatory power beyond traditional governance and incentive variables. Importantly, the findings provide UK-specific evidence, addressing a major gap in a literature dominated by US-centric studies. Older CEOs are found to engage less in EM relating to hypothesis five, consistent with greater risk aversion and reputational concerns. As career horizons shorten, incentives to manipulate earnings decline. This result aligns with lifecycle and risk-aversion theories and confirms the relevance of demographic factors in financial reporting behaviour.

2.5 *More Thorough Critical Discussion of Relevant Studies*

2.5.1 *Earnings Management Literature: What We Know and What Remains Unclear*

The EM literature is extensive and well-developed, with early foundational studies establishing that CEO exploit accounting discretion to achieve contractual, capital market, and regulatory objectives (Healy and Wahlen, 1999; Dechow et al, 1995). Subsequent research distinguishes between accrual-based EM and real EM, showing that CEO substitute between the two depending on monitoring intensity and regulatory scrutiny (Roychowdhury, 2006; Cohen et al, 2008).

However, despite methodological sophistication, recent reviews emphasise that EM research increasingly produces inconsistent and context-sensitive findings (Dechow et al, 2019). Firms with similar incentives, governance structures, and regulatory environments often exhibit markedly different levels of EM practices. This suggest that traditional agency-based explanations focused primarily on incentives and constraints are insufficient to fully explain observed CEO behaviour. Most EM studies implicitly assume behavioural homogeneity among executives. This assumption is increasingly untenable given mounting evidence from behavioural finance and strategic management that executives differ systematically in psychological traits that shape risk-taking and ethical judgement.

2.5.2 *CEO Characteristics Literature: From Demographics to Behaviour*

A large body of research examines CEO characteristics such as, age, gender, tenure, education, and experience as determinants of corporate outcomes, including financial reporting quality (Peni and Vahamaa, 2010; Huang and Kisgen, 2013). More recent studies introduce the distinction between generalist and specialist CEOs, showing that generalist CEOs are more prone to risk-taking and aggressive strategies (Custodio et al, 2013; Bernile et al, 2024).

While these studies enhance understanding of observable heterogeneity, they remain limited in two important respects. First, demographic and career proxies are indirect measures of behaviour and do not capture executive's motivational drivers. Second, empirical results often lack consistency across contexts, suggesting that surface-level characteristics explain only part of CEO behaviour. CEO demographics and human capital characteristics explain capacity and experience, but not intent. This creates a conceptual gap that behavioural traits such as, greed and narcissism are uniquely positioned to fill.

2.5.3 *CEO Narcissism: What We Know and What is Missing*

Research on CEO narcissism, grounded in upper echelons theory, demonstrates that narcissistic executives exhibit overconfidence, self-enhancement bias, and a strong desire for external admiration (Chatterjee and Hambrick, 2007). Accounting studies show that narcissistic CEOs are more likely to engage in income-increasing accrual, aggressive disclosure, and earnings benchmark beating (Olsen et al, 2014; Ham et al, 2017; Capalbo et al, 2018). However, previous literature has three key limitations. First, trait isolation as narcissism is typically examined alone, without considering related behavioural traits. Second, limited integration that studies rarely integrate narcissism into broader governance and ownership frameworks. Third, contextual concentration that most of the evidence is US-centric or drawn from single-country settings. Existing narcissism studies establish that narcissistic CEOs manage earnings, but do not adequately explain when governance and ownership mechanisms succeed or fail in constraining such behaviour.

2.5.4 _CEO Greed: An Underdeveloped but Crucial Construct_

CEO greed has received significantly less empirical attention than narcissism. Prior research links greed-related traits to unethical conduct, excessive risk-taking, and tax avoidance (Haynes et al, 2015; Tang et al, 2023). Yet, direct large-sample evidence connecting CEO greed to EM remains scarce. Where greed is examined, it is often proxied indirectly or conflated with compensation incentives, limiting conceptual clarity. Moreover, greed has rarely been examined alongside narcissism, despite theoretical arguments that the two traits may interact and reinforce opportunistic behaviour. The absence of greed from mainstream EM models represents a significant omission, given its centrality to opportunistic financial behaviour.

2.5.5 _Corporate Governance and Ownership: Structural Strength, Behavioural Blindness_

Corporate governance research documents that board independence, audit committees, and institutional ownership can reduce EM (Klein, 2002; Aggarwal et al, 2011). However, empirical findings remain mixed, particularly in high-compliance environments such as, the UK (Larcker et al, 2007; Garcia-Sanchez et al, 2020). Recent studies suggest that governance effectiveness depends on executive behaviour, yet few explicitly model this interaction (Ham et al, 2017; Buchholz et al, 2020). Governance research has focused on structures, not actors. Without accounting for CEO behavioural traits, governance models remain incomplete.

2.6 *How The Current Research is Clearly Different from Prior Literature*

This thesis departs from existing studies in four fundamental ways. Firstly, behavioural depth which prior studies rely on incentives, demographics, or isolated traits. Therefore, this thesis integrates deep behavioural constructs which are greed and narcissism, capturing executive's motivational drivers rather than surface characteristics. In terms of integrated framework, existing research examines CEO traits, governance, and ownership largely in isolation. This thesis explicitly models their interaction, explaining why monitoring mechanisms succeed in some firms but fail in others. Thirdly, joint examination of greed and narcissism, to date, no major EM study systematically examined greed and narcissism together. This thesis treats them as complementary but distinct behavioural forces, advancing behavioural agency theory. Lastly, in terms of UK institutional context, most behavioural EM evidence is US-based. However, this thesis provides large-sample UK evidence, where governance compliance is high, making behavioural explanations particularly salient.

2.7 *Marginal Contribution of the Research*

With regards to theoretical contribution, this thesis extends agency theory and upper echelons theory by demonstrating that EM is not solely a function of incentives and constraints, but also of CEO behavioural predispositions. By integrating greed and narcissism into a governance framework, the study advances behavioural CG theory. On the other hand, regarding empirical contribution, the research provides novel empirical evidence on CEO greed and EM, and it provides joint behavioural modelling of greed and narcissism. In addition, the research provides evidence on behaviour governance ownership interactions and robust UK-based findings in a strong governance environment. Another contribution with regard conceptual contribution, the research reframes EM as a behaviourally conditioned governance failure, rather than a purely structural or incentive-driven phenomenon.

In sum, while prior research has made substantial progress in identifying structural and incentive-based determinants of EM, it has paid insufficient attention to the behavioural heterogeneity of corporate executives. By integrating CEO greed and narcissism into a unified governance and ownership framework, this research addresses a critical gap in the literature and provides a novel explanation for persistent EM in well-governed firms. This

contribution advances both behavioural accounting research and the broader CG literature.

2.8 _Summary of Key Literature Streams Linkages to Research Questions and Hypotheses_

The purpose of this section is to synthesise the critical literature reviewed in Chapter 2 and demonstrate how the research questions and hypotheses are theoretically grounded, empirically motivated, and address clearly identifiable gaps in the EM literature. Rather than treating prior studies as isolated findings, this section integrates multiple literature streams to show a coherent progression from theory to empirical testing. First stream is about EM as an agency and behavioural outcome. Classical agency theory views EM as a rational response to incentive misalignment and information asymmetry between CEO and shareholders (Jensen and Mackling, 1976; Healy and Wahlen, 1999). Empirical studies demonstrate that CEOs exploit accounting discretion to meet earnings targets, avoid losses, or maximise compensation (Dechow et al, 1995; Roychowdhury, 2006). More recent literature extends this view by emphasising behavioural heterogeneity among executives (Dechow et al, 2019; Aguilera et al, 2018). Behavioural agency theory argues that executive decision-making is shaped by psychological traits, loss aversion, and self-interest, suggesting that EM is not merely incentive-driven but behaviour-activated (Wiseman and Gomez-Mejia, 1998). Therefore, the gap identified here is that while EM is well documented, why similarly incentivised CEOs exhibit different EM behaviours remains underexplored. The research linked this gap to research question (RQ) and hypothesis. As a RQ, do CEO behavioural traits influence EM? As hypotheses, it would be link to hypotheses 8 and 9 which are H8: greedy CEOs is positively associated with earnings management, and H9: the more narcissistic the CEO, the more EM they undertake.

Second stream is about CEO behavioural traits especially greed and narcissism. Upper echelons theory posits that executive's values and personality traits shape corporate outcomes (Hambrick and Mason, 1984; Hambrick, 2007). Narcissistic CEOs exhibit overconfidence, entitlement, and a desire for external validation, leading to aggressive reporting behaviour (Chatterjee and Hambrick, 2007; Olsen et al, 2014). Recent accounting studies provide evidence that narcissism increases accrual-based EM (Ham

et al, 2017; Capalbo et al, 2018; Kontesa et al, 2021). However, these studies are largely US-centric or focus on single traits. Research on CEO greed is emerging but remains fragmented, mainly linked to unethical behaviour and tax avoidance rather than EM (Haynes et al, 2015; Tang et al, 2023). There are three gaps identified within stream two which are lack of joint examination of greed and narcissism, limited integration into governance and ownership frameworks, and scarcity of UK-based evidence. Therefore, this has been linked to the RQ of how CEO greed and narcissism affect earnings management, and to the research hypothesis 8 and 9.

The third stream is about corporate governance (CG) as a monitoring mechanism. CG mechanisms such as, board independence and audit committees, are designed to constrain CEO opportunism (Fama and Jensen, 1983; Klein, 2002). Empirical findings, however, are inconsistent and some studies find that governance reduces EM, while other report weak or insignificant effects (Larcker et al, 2007; Garcia-Sanchez et al, 2020). Behavioural research suggests that governance effectiveness depends on executive's behavioural traits (Ham et al, 2017; Buchholz et al, 2020). The identified gap regarding stream 3 is that governance studies rarely examine behavioural contingencies, treating governance as universally effective. This has been linked to the RQ, which is does CG moderate the relationship between CEO behavioural traits and EM. This has been linked to the research hypothesis which is H10: firms with weaker CG undertake more EM.

Another important stream of this research is regarding CEO compensation and incentives. Compensation structures influence EM by aligning or misaligning CEO incentives (Armstrong et al, 2015). However, empirical findings suggest that identical incentive schemes generate heterogeneous EM outcomes (Li et al, 2021; Nguyen et al, 2024). The gap that this research identified from this identified stream is that incentives alone do not explain EM without considering behavioural predispositions. This has been linked to the research question that does compensation interact with CEO behaviour to influence EM and linked to the following hypothesis that higher CEO remuneration and compensation are positively associated with a higher likelihood of EM.

2.9 *Summary and conclusion*
CG and CEO characteristics play a crucial role in influencing EM. Several traits have

been identified as favourable factors that can shape the behaviour of CEOs in managing reported earnings. Key CEO characteristics include narcissism, overconfidence, incentive alignment, risk aversion, long-term orientation, ethical values, CEO tenure, CEO age, and CEO education and experience. Our research hypotheses have been derived from the literature review, and the gaps from the literature review. Our research limitation may be our estimation method, and the quality of the data that we will get for the proxies, such as, greed and narcissism CEOs. In addition, in accounting there are accounting standards, and it affect the way we report firm performance. Accounting standards are not legal standards, they are expected behavioural for reporting, and there is discretion in terms of reporting. Therefore, because of not interrogate of how we report financial performance, and we have voluntary arrangements in the UK for compliance with reporting and with the concepts of the board should behave, it makes the UK an interest sample to investigate.

To conclude, CG and CEO characteristics play a vital role in shaping the decision and actions within firms. They are likely to influence the extent of EM. Understanding the different influences of CG and CEO characteristics on EM is essential as they also influence firm valuation and the effectiveness of financial reporting standards. CG influences CEO characteristics and the design of compensation packages, performance evaluation metrics, and succession planning. Incorporating long-term performance goals, balanced incentives, and ethical considerations can help align CEO behaviour with the interests of shareholders. Our expected research contribution would be related to greed, narcissism, and generalist CEOs that influence EM.

Lennox paper indicates that the review emphasises that many prior studies fail to fully address endogeneity, often using weak or invalid instruments, leading to question the causality of observed relationships (Lennox and Pittman, 2022). The proxy used in Lennox paper is a methodological review that discusses various proxies such as, instrumental variables for example, changes in auditor quality, regulation to address endogenous relationships between governance and EM. The limitations of Lennox paper are that it does not provide a specific new proxy but advocates for more rigorous identification strategies, and some proxies for example, auditor changes can themselves be endogenous, complicating analysis. Given that individual CEOs can possess a combination of these traits, corporate boards should exercise careful due diligence in the CEO selection process. By understanding and managing the influence

of CEO characteristics, firms can bolster their financial reporting credibility, foster stakeholder trust, and enhance overall CG effectiveness. These are some of the implications that will be drawn from our findings. Although prior research has examined governance, ownership, and CEO characteristics separately, no study has fully integrated behavioural CEO traits particularly greed and narcissism into a unified EM framework. This gap limits understanding of why EM persists in well-governed firms. This chapter demonstrates that the EM literature remains structurally rich but behaviourally thin. While prior studies provide valuable insights into governance mechanisms, ownership structures, and executive incentives, they largely overlook the role of deep behavioural traits in shaping CEO responses to discretion. By integrating CEO greed and narcissism into a unified governance ownership framework within the UK institutional context, this research offers a coherent behavioural explanation for persistent EM and advances the literature beyond fragmented structural accounts.

CHAPTER 3

Methodology and Data

3.0 *Introduction to Research Methodology*

Chapter 2 provided a literature review and identified the hypotheses that will be tested. In this chapter we specify the various EM models and how they will be tested in relation to our hypotheses. This chapter therefore details the research design, sampling, empirical model, data sets, descriptive statistics and correlations that will be used in the thesis in anticipation of our empirical tests. Section 3.1 describes the EM measures as put forward in the literature. Section 3.2 presents the empirical model that will be used to test the hypotheses. Section 3.3 discusses the sample selection and data collection. Section 3.4 presents the associated descriptive statistics and correlations data. The chapter concludes in section 3.5.

3.1 *Measuring Earnings Management*

There is a variety of EM measures. We focus on the EM measures that are commonly used in empirical as this allows use to relate our results to prior studies. The Jones (1991) determine that if management manipulate earnings, they benefit from significant regulation relief.

We begin with the Jones (1991) EM measure which is estimated as total accruals, thus

$$TA_{it} = \Delta CA_{it} - \Delta CL_{it} - \Delta Cash_{it} + \Delta STD_{it} - Dep_{it} \qquad (1a)$$

where:

TA_{it} = the sum of total accruals based on the right-hand side variables for firm *i* at time *t*;

ΔCA_{it} = the year on year change in current assets;

ΔCL_{it} = the year on year change in current liabilities;

$\Delta Cash_{it}$ = the year on year change in cash and cash equivalences;

ΔSTD_{it} = the year on year change in the current maturities of long-term debt and other short-term debt;

Dep_{it} = depreciation and amortisation expenses.

Subscripts *i* and *t* are defined as before.

In the DeAngelo (1986) model, nondiscretionary accruals (NDA) is measured as,

$$NDA_{it} = TA_{it-1}/A_{it-2} \qquad \text{(1b)}$$

where:

NDA_{it} are last period's total accruals of TA_{it-1} for firm *i* at time *t*-1 scaled by total assets, A_{it-2} (for firm *i* at *t-2*). The discretionary accrual element is the change in TA_{it-1}/A_{it-2}.

Using NDA_{it} in Eq. (1b), similar to DeFond and Park (1997), we specify EM using the EM measure of DeAngelo (1986), thus (1c) model is below,

$$NDA_{it} = \left[\frac{TA_{it-1}}{A_{it-2}}\right] = \beta_1 \left[\frac{1}{A_{it-1}}\right] + \beta_2 \left[\frac{\Delta REV_{it} - \Delta AR_{it}}{A_{it-1}}\right] + \beta_3 \left[\frac{PPE_{it}}{A_{it-1}}\right] + \varepsilon_{it}$$

where:

NDA_{it} = non-discretionary accruals at time *t*, defined before;

REV_{it} = total revenues;

ΔAR_{it} = accounts receivable;

$\Delta REV_{it} - \Delta AR_{it}$ = change in cash-basis revenue;

PPE_{it} = gross property, plant, and equipment

e_{it} = error term or residual.

In Eq. (1c), all right-hand-side variables are divided by A_{it-1}. EM is e_{it}, i.e., the residual in Eq. (1c), which we identify as $EMDA_{1986,it}$.

EMDA$_{1986, it}$ argues that since EM is arbitrary, the discretionary component of accruals should be considered as the change in TA from the prior year. DeAngelo (1986) show how management can manipulate accounting figures, particularly earnings, to achieve

desired outcomes. In addition, NDA is based on an asset or expense or set of assets or set of expenses that has not yet been realised. These accruals are not subject to manipulation by the firm management and are typically associated with changes in economic conditions, accounting rules, or non-operating events. Therefore, DeAngelo (1986) shows that changes in accruals would capture discretionary accruals.

DeFond and Park (1997) argue in their test via a distinction of the Jones (1991) model to capture discretionary accruals to evaluate expected earnings. They report that forecasts of discretionary accruals performance that consider both past and present performance are significantly more accurate than forecasts that solely consider past performance. DeFond and Park argue that the Jones (1991) model does not account for the specific incentives CEOs face regarding future performance expectations and compensation contracts. Unlike the Jones (1991) model, which primarily captures contemporaneous EM, DeFond and Park focus on the idea that CEOs engage in EM based on expectations of future performance. They argue that CEO manipulate current earnings based on their knowledge of likely future earnings changes, either smoothing earnings upwards or downwards based on whether they expect future earnings to be strong or weak.

DeFond and Park's approach examines conditional EM based on managerial incentives tied to future performance. They argue that EM is not uniform but depends on whether the firm is experiencing weak or better performance, providing a more nuanced understanding of accrual behaviour. DeFond and Park introduce the idea that EM is linked to incentives derived from compensation contracts. CEOs often have bonus plans or compensation structures tied to earnings targets, which provide upper and lower bonds that influence their EM behaviour. Lower bound incentives are when expected future performance is weak, CEOs have an incentive to manage earnings upward in the current period to avoid falling below the lower bounds of their compensation or earnings expectations. Therefore, DeFond and Park (1997) in response to the upper and lower bound incentives offered by their compensation programs, managers create discretionary accruals.

3.1.1 *The Jones (1991) Model*
As stated before, the Jones (1991) model was designed to determine whether managers could manipulate accounting data to benefit from favourable relief

regulation. That is, the focus of the model is on economic conditions and regulatory effects. It is likely that the context dictates that the EM measure is used to differentiate between total accruals and discretionary accruals. Thus, the Jones (1991) approach considers the effects of variations in a firm's economic conditions on non-discretionary accruals. Jones (1991) developed a widely cited model to detect EM by estimating discretionary accruals, and her model includes two main equations which are equations (1a) and (2). The first step, where total accruals are computed directly from accounting data such as, the change in current assets and current liabilities, and this gives total accruals that include both discretionary and non-discretionary components. In the second step, which is in equation (2), it involves regressing total accruals scaled by lagged total assets on variables thought to explain non-discretionary accruals. Therefore, the link between equations (1a) and (2) is that in equation (1a), it provides the dependent variable which is total accrual that has been used in equation (2). In equation (2), models the expected (non-discretionary) portion of total accruals based on changes in revenue and capital intensity (PPE), and the residuals from equation (2) are interpreted as discretionary accruals which might indicate EM. Equation (2) is designed to estimate the normal or non-discretionary component of total accruals based on firm's economic activities. The inclusion of variables such as, revenue and PPE help control expected changes in accruals that stem from legitimate business operations, rather than CEO manipulation.

By linking this to EM, the discretionary component of total accruals which indicates EM is obtained by analysing the residuals or differences between actual total accruals and those predicted by this regression. If actual total accruals significantly deviate from the expected (predicted) accruals based on the model, it suggests the presence of discretionary accruals, which are used as a proxy for EM. Moreover, by estimating this model annually for each firm and subsequently extracting the discretionary accruals, the study measures the extent to which CEO undertake EM practices during import relief investigations. The logic is that higher discretionary accruals during investigation periods suggest increased EM aimed at influencing the outcome of the investigation.

Thus model (2) is below, using Eq. (1a), non-discretionary accruals are measured as following Jones (1991),

$$\frac{NDA_{it}}{A_{it-1}} = \left[\frac{TA_{it}}{A_{it-1}}\right] = \beta_0 \frac{1}{A_{it-1}} + \beta_1 \frac{\Delta REV_{it}}{A_{it-1}} + \beta_2 \frac{PPE_{it}}{A_{it-1}} + \varepsilon_{it}$$

where:

ΔREV_{it} = the change in revenues between years t and t-1;

PPE_{it} = the sum of property, plant, and equipment in year t;

β_0, β_1 and β_2 are coefficients to be estimated.

ε_{it} = error term or residuals.

In Eq. (2), all right-hand-side variables are divided by A_{it-1}. EM is e_{it}, i.e., the residual in Eq. (2), which we identify as $EMJ_{1991,it}$.

Discretionary accruals are those that are subject to managerial discretion and can be used to manipulate reported earnings. Non-discretionary accruals, on the other hand, are determined by economic transactions and are less likely to be manipulated. The model works by estimating non-discretionary accruals using the residuals of Eq. (2), which we define as EMJ$_{1991,\ it}$. The discretionary accruals are seen as a proxy for EM because they represent the portion of accruals that are not explained by economic factors and are more likely to be the result of managerial manipulation.

The model focuses on identifying abnormal accruals, which are deviations from what would be expected based on firm's historical performance and industry norms. As shown in Eq. (2) the model focuses on changes revenue and PPE. The abnormal accruals are accruals the deviate from what would be considered normal or expected (Hirshleifer et al, 2009). If abnormal accruals are above the specified threshold, the firm may have engaged in EM. Abnormal accruals above a specified threshold can be indicative of EM, which in practice incentivises managers to achieve certain financial or reporting objectives. When abnormal accruals exceed the specified threshold, it suggests that a firm may be engaging in aggressive accounting practices to artificially boost or smooth reported earnings. The threshold for abnormal accruals is a useful tool for detecting potential EM.

It is important to note that the Jones model is a simplified version of EM detection. There are therefore limitations using this model. Firstly, it relies on historical data and

may not be effective in identifying more sophisticated forms of earnings manipulation. Secondly, the choice of financial variables and the determination of the expected level of accruals can affect the estimates. Moreover, the model has the potential for false positives which is failing to detect manipulation when it has occurred. Furthermore, changes in accounting standards or firm-specific factors may impact the model's effectiveness. Lastly, the model focuses on accruals and may not capture other forms of EM, such as real earnings manipulation. Despite these limitations, it can be used in conjunction with other analytical methods to provide a more comprehensive view of a firm's financial reporting practices.

3.1.2 *Modified Jones (1995) Model*

Jones (1995) modified the earlier version of the model to capture wider variation in EM. This modified version incorporates additional variables and refinements to improve the accuracy of identifying EM. It is likely that the Modified Jones Model shares some of the limitations of the original model, such as the assumption of linearity, the need for quality financial data, and the potential for false positives and false negatives. Additionally, as with any statistical model, it is important to interpret the results with caution and consider them as a starting point for further investigation. In Jones (1995), EM is still a key focus, and it is primarily addressed through the estimation of discretionary accruals. Just like in the original model, discretionary accruals represent the portion of accruals that are not explained by economic factors and are more likely to be the result of managerial manipulation. Some of the key modifications and refinements in the model include the use of industry specific factors, nonlinear relationships, interactions with discretionary variables, and robustness to scale differences.

Firstly, the model considers industry specific factors that may affect accruals. This acknowledges that different industries may have varying levels of accruals due to their unique characteristics and business cycles. Secondly, the model allows for nonlinear relationships between accounting variables and accruals. This recognises that the relationship between accounting variables such as, sales or assets and accruals may not always be linear, and nonlinear relationships are considered in the estimation process. Thirdly, the model incorporates interactions between discretionary variables

such as, earnings, R&D expenses, and depreciation and other financial statements variables. These interactions help capture nuanced aspects of EM. Lastly, the model attempts to make its estimation process more robust to differences in firm size and scale by using scaled variables. Overall Jones (1995) builds on the specification of Jones (1991) by using a more sophisticated approach.

The difference between equation (2) and equation (3) is that it goes to the heart of how the Modified Jones (1995) improves on the original Jones (1991) model for detecting EM. Equation (2) assumes that all changes in revenues are non-discretionary, and in equation (3), the key difference is that the Modified Jones (1995) replaces the change in revenue with the change in revenue minus the change in receivable to exclude the discretionary component of revenue changes for example, credit sales manipulation. This difference matters because the Modified Jones model assumes that CEO can more easily manipulate revenues through credit sales than through cash sales. Therefore, it treats changes in accounts receivable as potentially discretionary. Moreover, in Jones (1991), it indicates that all revenue changes are non-discretionary, and in Modified Jones (1995), it indicates that only non-credit sales revenue changes are non-discretionary. The five improvements often cited over the original Jones model include the following. Firstly, remove credit sales manipulation and it is reflected by adjusting for the change in receivable, Modified Jones isolates sales that are harder to manipulate. The second modification is that better detection of earnings manipulation around discretionary accruals and this is reflected by CEOs that often boost earnings by inflating receivables near earnings announcements, and Modified Jones directly addresses this. A third modification is that more accurate estimation of non-discretionary accruals, and that is reflected by excluding receivables yields which is a more accurate measure of normal accrual behaviour.

In addition, the fourth modification is the improved power in detecting manipulation and that is reflected by studies such as, Modified Jones (1995) that shows that modified model is more effective in detecting known manipulation. Lastly, the fifth modification is that the enhanced model robustness under managerial discretion, and that is reflected by recognises that not all revenue changes are non-discretionary, which is a key assumption in Jones (1991) that limits its accuracy. Statistically, the Modified

Jones (1995) has greater power in detecting EM especially around events such as, IPOs, earnings announcements, or regulatory benchmarks. Economically, it better reflects the real-world discretion managers have, especially through revenue recognition policies. Methodologically, the model better controls for normal business activity, isolating the manipulative part of accruals.

A simple version of the Modified Jones (1995) model is below relating to model (3),

$$\frac{NDA_{it}}{A_{it-1}} = \beta_0 \frac{1}{A_{it-1}} + \beta_1 \frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} + \beta_2 \frac{PPE_{it}}{A_{it-1}} + \varepsilon_{it}$$

where:

ΔREC_{it} = the change in sales between t and t-1

NDA_{it} = are the non-discretionary accruals in year t scaled by lagged total assets.

In Eq. (3), all right-hand-side variables are divided by A_{it-1}. EM is e_{it}, i.e., the residual in Eq. (3), which we identify as $EMJ_{1995,it}$.

The determination of such a modification was to decrease the measurement error of the discretionary accrual if the discretionary accrual was created over revenues. Jones (1995) points to the assumption that any modification in sales revenue from a supplier credit is the outcome of EM. The main aim of Jones (1995) is to advance the measurement of discretionary accruals. The only modification relative to the basic Jones Model is that the variation in revenues is adjusted for the change in receivables in the incident year.

3.1.3 *Dechow and Dichev (2002) Model*

Dechow and Dichev (2002) also provide an EM model. Specifically, the model focuses on the analysis of discretionary accruals to identify and quantify the extent of EM. Firstly, the model considers the accrual component of earnings. Accruals are accounting adjustments made to match revenues and expenses with the period in which they are earned or incurred. Discretionary accruals are those that are subject to managerial discretion and are more likely to be manipulated.

In the context of Dechow and Dichev (2002) paper, using past, present, and future cash flows to explain earnings as represented in equation 5 in their paper, it reflects the idea that accruals serve to smooth or adjust cash flow recognition over multiple periods. This approach recognises that earnings are influenced not only by current cash flows, but also by prior and anticipated future cash flows, capturing the dynamic nature of accrual accounting and the timing of cash flow realisation. Specifically, the model decomposes changes in working capital (accruals) into components related to past, current, and future operating cash flows. This helps differentiate between errors or deviations in accruals that are associated with cash flows from different periods, reflecting the accumulation of timing adjustments that are not perfectly aligned with actual cash flows. The model regresses changes in working capital (accruals) on three variables which are current, past, and future cash flows (CFO_{it}, CFO_{it-1}, CFO_{it+1}). While they are all cash flow measures, they are distinct. Past cash flow are cash flows from operations occurring in the previous period, impacting current accruals as firms may recognise revenues or expenses based on prior cash flows. Cash flows during the current period, closely related to current earnings and accruals. Anticipated cash flows in the next period, which accruals may defer or accelerate recognition of. Therefore, although all three are cash flows, they differ temporally and reflect different periods impacts on accruals, which is crucial for understanding the measurement of accrual quality. The Dechow and Dichev (2002) model are specified as,

$$\Delta WC_{it} = \beta_0 + \beta_1 \, CFO_{it-1} + \beta_2 \, CFO_{it} + \beta_3 \, CFO_{it+1} + \varepsilon_{it} \qquad (4)$$

where:

CFO_{it} = current, past, and future cash flow from operation

ΔWC_{it} = change in working capital where WC_{it} is current assets minus current liabilities.

ε_{it} = error term.

The residuals are the captured EM measure, which we identify as $EMDD_{2002,it}$.

EM is based on the residuals of Eq. (4), which we identify as $EMDD_{2002,it}$. The key components of the Dechow and Dichev (2002) model are cash flow, accruals, and discretionary accruals. Cash flow represents the cash-based earnings of a firm, which

includes cash received from operating activities and excludes accruals. Accrual represents the portion of earnings that is attributable to accruals. Accruals are calculated as the difference between total earnings and cash flow earnings. Discretionary accruals are the accruals that are believed to be subject to management's discretion. By analysing the discretionary accruals component, Dechow and Dichev (2002) provides an assessment of quality of earnings. High levels of discretionary accruals may indicate a higher likelihood of earnings manipulation or low earnings quality, while lower levels suggest more reliable and transparent financial reporting.

The model aims to distinguish between discretionary and non-discretionary accruals. As before, non-discretionary accruals are typically related to normal business activities and are not influenced by management's choices. Discretionary accruals, on the other hand, represent the portion of accruals that are more likely to be the result of EM. Thirdly, the model looks for swings or indicators of EM based on the presence and magnitude of discretionary accruals. Large or abnormal discretionary accruals may suggest that a firm is managing its earnings. Lastly, the model often involves comparing a firm's discretionary accruals to its historical performance or to industry benchmarks. Significant deviations from historical trends or industry norms can be indicative of EM. EM is an important consideration in the Dechow and Dichev (2002) model, which primarily assesses it by analysing discretionary accruals. The presence and magnitude of discretionary accruals are used to identify potential instances of EM, and comparative analysis provides additional context to assess whether a firm's financial reporting is consistent with normal business activities or if it suggests manipulation for various purposes.

The Dechow and Dichev (2002) model focus on cashflows from operations. By analysing cashflows, the model provides insights into the underlying quality and reliability of a firm's reported earnings. Here, accruals capture accounting adjustments made for non-cash items and the timing of revenue and expense recognition. We divided CFO and the change of working capital by total assets at the end of the period to scale cash flow and the change working capital measure (Roychowdhury, 2006). This has been applied to all EM measure where the fixed effects have been applied

and has not. This scaling allows for a more standardised comparison of cash flow from operations across firm's different sizes. By expressing the change of working capital and cash flow from operations relative to total assets, the analysis can control for the impact of firm size on cash flow and working capital performance.

Economic factors, industry dynamics, and firm-specific characteristics will influence accrual levels. The Dechow and Dichev (2002) model do not provide timely warnings about ongoing EM or financial statement fraud, which can occur between reporting periods.

3.1.4 *McNichols (2002) Model*

McNichols (2002) provides an alternative approach to EM measurement as well as empirical proof of measurement inaccuracy in Dechow and Dichev (2002) model. McNichols (2002) modifies the Dechow and Dichev (2002) model and shows how estimates of discretionary accruals that are strongly correlated with cash flows. This model focuses on identifying discretionary accruals, which are accounting adjustments that can be subject to management discretion (McNichols, 2002). The McNichols model examines the relationship between a firm's earnings and its cash flows to identify abnormal accruals. By comparing the actual accruals to the predicted accruals based on the firm's cash flows, the model helps to identify whether a firm's reported earnings may be manipulated. McNichols (2002) incorporates revenue growth and gross property, plant, and equipment, which broadens the model's scope and incorporate depreciation into the accrual's calculation. Thus, the McNichols (2002) model,

$$\Delta WC_{it} = \beta_0 + \beta_1\,CFO_{it-1} + \beta_2\,CFO_{it} + \beta_3\,CFO_{it+1} + \beta_4\,\Delta Rev_{it} + \beta_5\,PPE_{it} + \varepsilon_{it} \quad (5)$$

where:
CFO_{it} = cash flow from operation
ΔWC_{it} = change in working capital
PPE_{it} = gross fixed assets
ΔRev_{it} = gross in sales

ε_{it} = error term.

The residuals are the captured EM measure, which we identify as $EMM_{2002,it}$.

3.2 *Empirical Model*

In this section, we present our empirical models using the EM measures presented above. We use these EM measures to relate to our hypotheses. The empirical model employed in this study is grounded in agency theory, behavioural agency theory, and upper echelons theory, which together explain how CEO incentives, individual executive characteristics, and governance mechanisms interact to influence EM behaviour (Jensen and Meckling, 1976; Hambrick and Mason, 1984; Wiseman and Gomez-Mejia, 1998). Earnings management (EM), the dependent variable in the model, reflects CEO discretion in financial reporting and is commonly examined as an outcome of incentive misalignment and monitoring effectiveness (Healy and Whalen, 1999; Dechow et al, 2010). The independent variables capture CEO characteristics, corporate governance (CG) mechanisms, ownership structure, and executive compensation incentives.

The base empirical specification (Model 6) integrates these dimensions to reflect the theoretical premise that EM arises from the interaction between CEO discretion, incentive structures, and monitoring intensity (Shleifer and Vishny, 1997; Armstrong et al, 2010). CEO behavioural characteristics particularly greed and narcissism are expected to exhibit a direct positive association with EM, as such traits may increase executives propensity to prioritise personal wealth maximisation, reputation preservation, and self-enhancement over transparent financial reporting (Chatterjee and Hambrick, 2007; Malmendier and Tate, 2009; Rijsenbilt and Commandeur, 2017). This relationship is consistent with upper echelons theory, which posits that executive's psychological attributes systematically shape corporate strategies and reporting decisions (Hambrick, 2007). CEO compensation variables are incorporated to capture incentive alignment and opportunism effects predicted by agency theory (Jensen and Murphy, 1990; Core et al, 2003). Performance-based compensation, including bonuses and equity-linked pay, is expected to intensify EM incentives by

increasing the sensitivity of CEO wealth to reported accounting outcomes (Healy, 1985; Bergstresser and Philippon, 2006; Cheng and Warfield, 2005). Interaction terms between CEO behavioural traits and compensation are included in the base model to reflect behavioural agency theory, which suggests that executives respond heterogeneously to incentives depending on their risk preferences and psychological attributes (Wiseman et al, 2012; Pepper and Gore, 2015).

CG variables such as, board independence, audit committee effectiveness, and CEO-chair separation are included to represent internal monitoring mechanisms that constrain CEO discretion (Fama and Jensen, 1983; Klein, 2002). These mechanisms are theoretically expected to mitigate EM by enhancing oversight and reducing the scope for opportunistic financial reporting (Xie et al, 2003; Garcia-Sanchez et al, 2020). Ownership structure variables, particularly foreign and domestic institutional ownership, capture external monitoring effects and reflect differences in investor sophistication, investment horizons, and governance expectations (Aggarwal et al, 2011; Ferreira and Matos, 2008). Control variables, including firm size, leverage, profitability, growth opportunities, and industry effects are incorporated to account for firm-specific characteristics that may influence EM independently of governance and CEO attributes (Dechow et al, 1995; Roychowdhury, 2006). By combining these variables within a unified empirical framework, the base model (Model 6) allows for a comprehensive assessment of how CEO characteristics, compensation incentives, governance mechanisms, and ownership structure jointly influence EM behaviour. Model 6 therefore represents the most comprehensive specification in the empirical analysis, capturing both direct and interactive effects of CEO characteristics, incentives, and governance mechanisms on EM. The baseline version of the model (6) is below,

$$
\begin{aligned}
EMDA_{1986,it} \; &EMJ_{1991,it} \; or \; EMJ_{1995,it} \; or \; EMDP_{1997,it} \; or \; EMDD_{2002,it} \; or \; EMM_{2002,it} \\
&= \beta_0 + \beta_1 \, ROA_{it} + \beta_2 \, LEV_{it} + \beta_3 \, LIQ_{it} + \beta_4 \, Ln \, (Total \, Assets_{it}) + \beta_5 \, FIRM \, AGE_{it} \\
&\quad + \sum \beta_6 \, SECTOR_{it} + \beta_7 \, GDPGrowth_t + \beta_8 \, \frac{Government \, Expenditure_t}{GDP_t} + \beta_9 \, Inflation_t \\
&\quad + \beta_{10} \, Book \, to \, Market \, Value_t + \beta_{11} \, \frac{Market \, Capitalisation_t}{GDP_t} + \sum \beta_{12} \, YR_t + \varepsilon_{it}
\end{aligned}
$$

In Eq. (6) $EMJ_{1991,it}$ and $EMJ_{1995,it}$ are the Jones (1991) and (1995) EM measures, respectively. $EMDD_{it}$ and EMM_{it} are the EM measures according to Dechow and Dichev (2002) and the McNichols (2002), respectively. While they share the common goal of identifying potential manipulation, their different specifications suggest that they may be affected differently by the explanatory variables. In Eq. (6) we used firm characteristics and macroeconomic variables as control variables since they may affect firm performance and in turn EM. Thus, return on assets (ROA_{it}), leverage (LEV_{it}), and the log of total assets ($Ln(Total\ Assets_{it})$) since they can influence the degree of EM. Consider a firm where leverage is so high that it is likely to breach violation of debts covenants. In this case, the firm may undertake aggressive EM to avoid the violation. Macroeconomic variables are used in the Eq. (6) since they influence firm performance. We also include year fixed effects, YR_t. ε_{it} denotes the error term.

Below model (7) is with regards the extending of baseline model to include the measures that relate to our hypotheses, we have,

$$
\begin{aligned}
EMDA_{1986,it}\ &EMJ_{1991,it}\ or\ EMJ_{1995,it}\ or\ EMDP_{1997,it}\ or\ EMDD_{2002,it}\ or\ EMM_{2002,it} \\
&= \beta_0 + \beta_1\ CG_{it} + \beta_2\ Inst\_Ownership_{it} + \beta_3\ CEO\ Characteristics_{it} \\
&+ \beta_4\ CEO\ Compensation_{it} + \beta_5\ ROA_{it} + \beta_6\ LEV_{it} + \beta_7\ LIQ_{it} \\
&+ \beta_8\ Ln(Total\ Assets_{it}) + \beta_9\ Firm\ Age_{it} + \sum \beta_{10}\ SECTOR_{it} + \beta_{11}\ GDPGrowth_t \\
&+ \beta_{12}\ \frac{Government\ Expenditure_t}{GDP_t} + \beta_{13}\ Inflation_t + \beta_{14}\ Book\ to\ Market\ Value_t \\
&+ \beta_{15}\ \frac{Market\ Capitalisation_t}{GDP_t} + \sum \beta_{16}\ YR_t + \varepsilon_{it}
\end{aligned}
$$

Each EM measure in Eq. (7) follows our prior definition. CG, Institutional ownership ($Inst\_Ownership_{it}$), CEO characteristics and CEO compensation. We show these variables collectively in Eq. (7) but due to potential multicollinearity among them, Eq. (7) will be estimated variable-by-variable for the hypotheses we wish to test.

3.2.1 *Specification Issues with the Empirical Model*

Since we will estimate Eqs. (6) and (7) using an OLS regression, the issues of model specification can affect the regression estimates. They include violations of classical assumptions such as autocorrelation and non-normality that may affect the reliability of the regression results. To mitigate these effects, we use robust standard errors to estimates Eq. (6) and the variation on Eq. (7). Alternatively, the model may suffer from the effects of endogeneity. Endogeneity can introduce bias and inconsistency in parameter estimates, leading to incorrect inferences and potentially rendering the model invalid (Wooldridge, 2002). This mutual causation can lead to endogeneity because the direction of causality is unclear. To resolve this issue, we will estimate an IV-regression using instrumental variables towards the end of the thesis. It is possible that leverage may be a source of endogeneity in which case, we will use the deviation of leverage from the sample mean of leverage on the assumption that no one firm can affect the sample leverage average representing the source of endogeneity. This may require a re-estimation of some of the regressions once we identify a potential source of endogeneity, possibly using an instrumental variables approach, such as IV-regression.

3.3 *Data Sample*

Consistent with prior empirical research in EM and CG, several data screening and

cleaning procedures are implemented to enhance the reliability and validity of the empirical analysis. First, firms operating in the financial sector are excluded from the sample. Financial firms are subject to fundamentally different regulatory regimes, accounting standards, capital adequacy requirements, and financial reporting structures compared to non-financial firms, which render accrual-based EM measures non-comparable across sectors (Beaver et al, 1989; Dechow et al, 2010; Kothari et al, 2005). In particular, the balance sheets and income statements of financial institutions are heavily influenced by regulatory capital constraints and financial instruments, making traditional discretionary accrual models inappropriate for capturing EM behaviour in this sector (Beatty el al, 2002; Kanagaretnam et al, 2010). Excluding financial firms therefore improves sample homogeneity and ensures the validity of accrual-based EM proxies. Second, the dataset is cleaned by excluding firm-year observations with missing or incomplete financial information required to estimate EM models and control variables. The exclusion of incomplete observations is necessary to avoid biased parameter estimates and ensure consistency across regression specifications (Petersen, 2009; Wooldridge, 2010). This approach is standard in accounting and finance research and helps preserve the internal validity of the empirical analysis. Firm accounting data, CG, compensation, ownership, and macroeconomic data are from different sources. All the data has been taken from DataStream except macroeconomic data and ownership which has been taken from International Monetary Fund (IMF) and FactSet, because DataStream does not have data for dead firms, then we used CompStat to collect data for UK firms.

Furthermore, to mitigate the influence of extreme observations, continuous variables are winsorised at conventional percentile thresholds. Winsorisation is widely adopted in accounting and finance studies to reduce the impact of outliers that may arise from data errors, unusual economic events, or extreme firm-specific shocks, without discarding valuable information contained in the remaining observations (Kothari et al, 2005; Gormley and Matsa, 2014). Extreme values in EM proxies and financial ratios can exert disproportionate influence on regression coefficients, potentially leading to spurious inferences (Belsley et al, 1980; DeFond and Park, 2001). By winsorising variables, the study enhances the robustness of the estimated relationships while retaining the economic variation present in the data. The data cleaning procedures adopted in this study are consistent with best practice in the EM literature and align with recent empirical studies examining CEO characteristics, CG, and financial

reporting quality (Roychowdhury, 2006; Cohen et al, 2008; Ali and Zhang, 2015). Collectively, these steps ensure that the final sample is suitable for econometric analysis and that the empirical results are not driven by sector-specific accounting distortions or extreme observations. We also excluded all financial and regulated firms, such as banks, investments, and financial services firms since they are highly regulated. Our non-financial firms are listed on the UK stock market for the 1998 to 2022 period. We include dead previously listed firms, using CompStat to mitigate survivorship biasedness. The sample of UK firms before adjustments is 561. We exclude financial firms or firms with too short a history. The top 1% and bottom 99% of continuous data which are winsorised will be trimmed prior to estimation.

3.3.1 *Data Distribution by Year*

Table 3.1 shows they year-by-year sample after the above adjustments.

Table 3.1 Year distribution of firms in the sample and a line graph below

Year	Freq	%	Year	Freq	%
1998	183	51.4	2011	301	84.55
1999	186	52.25	2012	303	85.11
2000	191	53.65	2013	303	85.11
2001	201	56.46	2014	306	85.96
2002	210	58.99	2015	318	89.33
2003	215	60.39	2016	329	92.42
2004	223	62.64	2017	335	94.1
2005	242	67.98	2018	339	95.22
2006	260	73.03	2019	341	95.79
2007	271	76.12	2020	346	97.19
2008	290	81.46	2021	347	97.47
2009	297	83.43	2022	356	100
2010	297	83.43	Total	356	100

Yearly Distribution of Firms in the Sample (1998–2022)
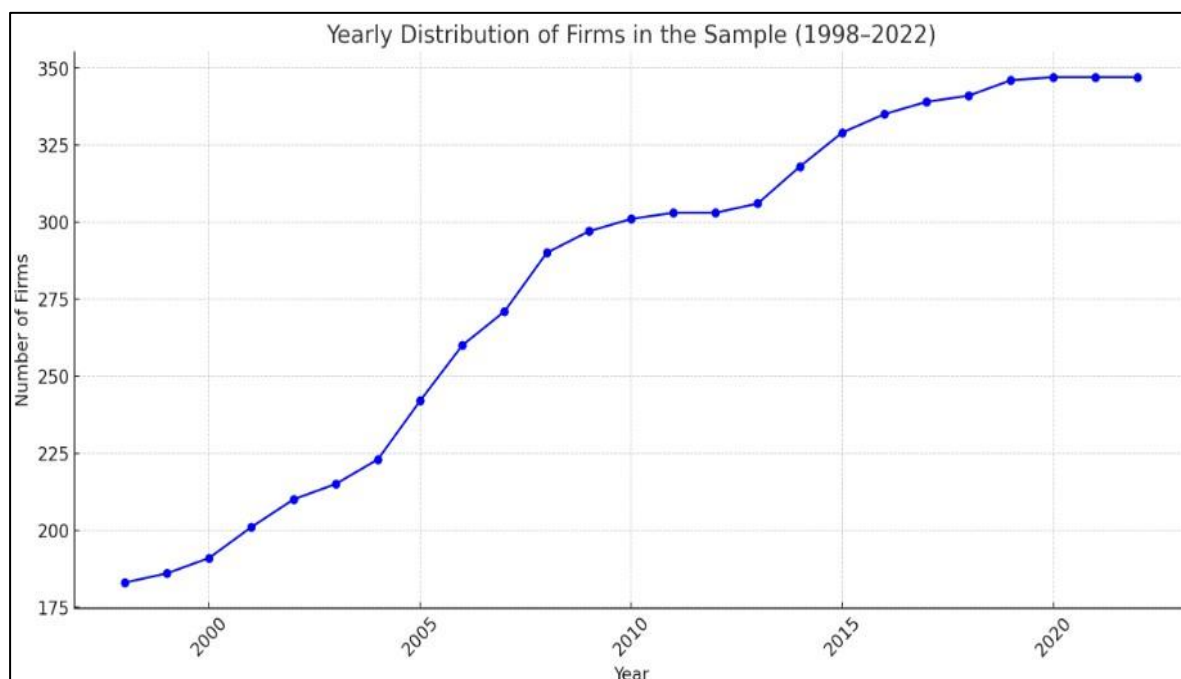
The table above shows that the percentage of firms vary year by year and a ling graph shows how firm have been increased over the years. The percentage increased over the more recent period. The increase in the number of listed firms may be due to more firms being listed on the UK stock exchange and/or perhaps a decrease in M&A activity. However, it is also possible that our database is more effective in including listed firms in more recent years. This time distribution can provide valuable insights about trends, shifts, or patterns in the dataset. An increase or decrease of firms over time could indicate three things which are industry growth or decline, regulatory or economic events and data collections variations. A growing number of firms over time may suggest industry expansion, while a decrease could imply consolidation or industry downturns. Also, significant changes in the number of firms can also be linked to external events such as, economic recessions, regulatory changes, or trade policies (Bassemir, 2017). A description of the size and features of the offering or the distribution of the firms over time is given in Table 3.1. Additionally, there is some temporal clustering, which is in line with earlier research, given that a large number of firms established in the late 1990s and beginning of the 2000s. For instance, 260 of the 356 firms in our sample overall between 1998 and 2006 (73%), before the financial crisis that occurred in 2007-2008. Given the period's lofty equity values and stock market boom.

3.3.2 *Data Distribution by Industry*

Table 3.2 shows the broad sectors that constitute the firms. There is wide variation in the number of firms by industry. The oil, gas, and mining have the largest percentage of 16.85% of firms in that sector, whereas the lowest percentage is 3.93% of apparel and accessories retailer's sector. Oil, gas, and mining, food, computer, and business support services sectors combined account for about 40% of the sample. These are broad groupings because of the small number of firms in the various sectors, so this is broad groupings sectors.

The distribution of firms across industry sectors based on a sector industry code is important because it underpins many essential analytical and decision-making processes in business, economics, and finance. It allows for more accurate, meaningful, and comprehensive understanding of the economy and its dynamics. Veprauskaite and Adams (2017) indicate that the choice of industry classification scheme can significantly influence the results of variance decomposition analyses, which aim to determine the relative importance of industry versus firm-specific factors in explaining firm performance such as, leverage. Industries such as, construction, mining and oil and gas tend to be highly cyclical, experiencing large swings in earnings based on economic conditions. In these sectors, firms may have stronger incentives to manage earnings to smooth out fluctuations and meet investor expectations during downturns. In more stable industries such as, utilities or consumer staples, where earnings tend to be more predictable, the pressure to engage in EM might be lower, though firms could still use EM to maintain consistency with past performance. Different industries may have unique accounting practices that can facilitate or constrain EM. Therefore, the industry sector can significantly influence both the motivations and methods of EM.

Table 3.2 of the industry classification distribution is presented below.

Table 3.2 Industry classification distribution

Industry	SIC Codes	Freq	%
Oil and Gas, Mining	2911, 1311, 8711, 4412, 3533, 1623, 1011, 1021, 1081, 1041, 1099, 4911, 4941, 4924, 3699, 4212, 1241, 1221, 6726, 1499	60	16.85
Electronic Equipment	3812, 3823, 3679, 3825, 5063, 3677, 3643, 5075, 3621, 3721, 3724, 8711, 3842, 3483, 5722, 5065, 5731, 3671	22	6.17
Transportation	4412, 4215, 8742, 4512, 5531, 5521, 5511, 5012, 3714, 3694, 3711, 1311, 4959	21	5.89
Food and Drink	5411, 5651, 2099, 2015, 2038, 2046, 5812, 5813, 5461, 2085, 2084, 2111, 2086, 2064, 2026, 2082	29	8.14
Computer Equipment	5999, 5722, 3577, 7374, 7372, 7373, 7371, 7379, 7375, 5065, 3674, 3663, 7376	34	9.55
Communications	4812, 4813, 4833, 7311, 7319, 8742, 7375, 2731, 5192, 2754, 2621, 2653, 7389, 4899, 6099	27	7.58
Pharmaceutical	2834, 8062, 2844, 2821, 2833, 2819, 2821, 3086, 8731, 8071	25	7.02
Properties and Engineering	6531, 8711, 1542, 1611, 1711, 5039, 1623, 2434, 3432, 3441, 5211, 2431	24	6.74
Industrial Machinery Equipment	5141, 3398, 3532, 5085, 3089, 3492, 5962, 3253, 3569, 3823, 3593, 3822, 3452, 3253, 1011, 3312, 3081, 3052, 2673, 5713, 5171, 3711	24	6.74
Apparel and Accessories Retailers	5651, 5944, 5941, 3149, 2281, 5999, 119, 5311, 5172, 3568	14	3.93
Homebuilding Equipment	1531, 2951, 3253, 3524, 1459, 3271, 5211, 7699, 2841, 2512, 5719, 5023, 3639, 5722	25	7.02
Hotel, Motels, and Cruise Lines	7011, 4481, 7999, 7371, 5092, 7933, 4725, 7997, 4729, 4725, 7812, 5812, 7941	22	6.17
Business Support Services	7359, 7375, 8734, 7342, 7374, 7349, 8744, 6099, 8999, 7323, 5943, 5947, 5941, 5999, 7361, 3568, 4225	29	8.14
Total		356	100

3.3.3 *Descriptive Statistics and Correlations*

Table 3.3 shows the descriptive statistics of the main variables used in the estimation. The table shows that skewness and kurtosis are significant, indicating that the observations are non-normally distributed. This means that estimation efficiency would be violated using standard OLS method. Notice that skewness and kurtosis are particularly large for Highest Director Fees to Compensation, and Non-Discretionary Accruals to the lag of Total Assets. These are critical measures for some of the variables we test. The table shows that mean for the main variables that will be used in the regressions. The standard deviation shows the spread or variability in the observations. The standard deviations are larger than the mean in some cases. This further compound the excessive skewness and kurtosis identified above.

Specifically, the mean of the log market value is 6.938 (p-value ≤ 0.01) and leverage mean value is 0.260 (p-value ≤ 0.01). We mention their level of significance, it is

expected that the mean values would be non-zero. The mean value of ROA is 0.081 (*p*-value ≤ 0.01), and the mean value highest director fees over executive compensation is 0.564 (*p*-value ≤ 0.01). The highest the mean indicates that most of the respondents agreed on the variable. On the other hand, the log total assets mean is 13.636, the log capital expenditure mean is 10.168 (*p*-value ≤ 0.01), the log cash mean is 10.839 (*p*-value ≤ 0.01), and the log net sales or revenue mean is 13.458 (*p*-value ≤ 0.01). This means that the lowest standard deviation indicates that there is a stability of ideas on the specific variable. The highest mean and the lowest standard deviation have an important aspect in terms of the data analysis. The value of the log of firm age mean is 2.895 (*p*-value ≤ 0.01), and the log of PPE Net mean is 11.922 (*p*-value ≤ 0.01).

The value of the log of CEO experience is 2.898 (*p*-value ≤ 0.01) that indicates that CEO experience is meaningful predictor or factor influencing the dependent variable under the study such as, EM. A significant log of CEO experience suggests that differences in experience on a log scale have a measurable impact on the outcome variable. For example, in case of undertaking firm performance, the experience of the CEO in years could have strong influence on how well the firm performs. The log mean value of 2.898 of CEO experience suggests that on average CEOs fairly experienced. Therefore, the log of CEO experience is an important factor in the analysis.

Table 3.3 Descriptive statistics of firms in the sample

Variables	Obs	Mean	Std. Dev.	Min	Max	p1	p99	Skew.	Kurt.
Firm Age (Log+1)	6561	2.895[a]	0.867	0.693	4.205	0.693	4.205	-0.636[a]	2.625[a]
Total Assets (Log)	6882	13.636	1.878	9.580	18.417	9.580	18.417	0.243[a]	2.750[a]
Capital Expenditure (Log)	6802	10.168[a]	2.192	4.575	15.516	4.575	15.516	0.006	2.929
Cash (Log)	6753	10.839[a]	1.939	5.252	15.258	5.252	15.258	-0.201[a]	3.225[a]
Net Sales or Revenue (Log)	6744	13.458[a]	1.970	7.110	17.947	7.110	17.947	-0.396[a]	3.677[a]
PPE NET (Log)	6830	11.922[a]	2.380	6.094	17.572	6.094	17.572	-0.019	2.780[a]
Leverage	5035	0.260[a]	0.187	0.001	0.927	0.001	0.927	1.032[a]	4.305[a]
Highest Director Fees/Ex Compensation	3321	0.564[a]	0.352	0.008	2.166	0.072	2.166	1.484[a]	6.952[a]
ROA	6871	0.081[a]	0.114	-0.350	0.465	-0.350	0.465	-0.312[a]	6.521[a]
Market Value (Log)	5057	6.938[a]	1.792	2.943	11.273	2.943	11.273	0.173[a]	2.731[a]
Book to Market Value	5264	0.567[a]	0.517	-0.283	2.959	-0.283	2.959	1.973[a]	8.441[a]
Market Capitalisation/GDP	8773	1.257[a]	0.279	0.681	2.359	0.681	2.359	1.239[a]	5.942[a]
CEO Experience (Log+1)	6609	2.898[a]	0.609	1.099	3.970	1.099	3.970	-0.916[a]	3.690[a]
Board Size (Log)	3517	2.177[a]	0.250	1.609	2.773	1.609	2.773	0.097[a]	2.705[a]
Board Meetings (Log+1)	3442	2.250[a]	0.275	1.609	3.045	1.609	3.045	0.182[a]	3.405[a]
GDP Growth	8772	0.014[a]	0.129	-0.602	0.097	-0.602	0.097	-4.304[a]	20.583[a]
Inflation	8773	0.022[a]	0.014	0.004	0.079	0.004	0.079	2.672[a]	11.588[a]
Gov Expenditure/GDP	8773	0.196[a]	0.017	0.160	0.226	0.160	0.226	-0.253[a]	2.536[a]
Total Accrual/Total Assets	6877	-0.042[a]	0.100	-0.551	0.320	-0.551	0.320	-1.076[a]	11.791[a]
Non-Discretionary Ac/Total Assets	6881	0.030[a]	0.630	-5.125	1.561	-5.125	1.561	-5.921[a]	49.915[a]
Sales/Total Assets	6882	1.054[a]	0.799	0	4.204	0	4.204	1.488[a]	5.745[a]
Current Assets/Current Liabilities	6799	1.714[a]	1.593	0.215	11.573	0.215	11.573	3.773[a]	20.811[a]

This table presents descriptive statistics of the variable used in our analysis. This continues variables are winsorised at the 1st and 99th percentiles. a, b, c indicates statistical significance at the 1%, 5%, 10% levels respectively (two tailed).

The Spearman correlation coefficient was calculated among the variables used in the main analysis to examine the relationship between them. Significant Spearman correlations are important as they suggest meaningful relationships between variables that may be relevant for the research hypotheses or research questions. Table 3.4 below show the Spearman correlation coefficients for the variables in Table 3.3. We use the Spearman rank correlation since it does not rely on the data being normally distributed. That is, the Spearman correlation is less sensitive to outliers compared to Pearson's correlation, since the former is non-parametric. There is

a negative correlation of -0.115 (*p*-value ≤ 0.01) associated between CEO years of experience and ROA. Therefore, these two variables have an influence together. According to the correlation table mentioned below there is a positive correlation of 0.600 (*p*-value ≤ 0.01), the Spearman correlation between board size which is the total number of board members at the end of the fiscal year and market value. This suggests that a strong positive relationship between these two variables.

There is a negative Spearman correlation of 0.179 (*p*-value ≤ 0.01) between total assets and highest fees over executive compensation. This indicates that as total assets increase, the ratio of the highest fees paid to executive compensation tends to decrease. We found that there is a positive relationship of 0.634 (*p*-value ≤ 0.01) between board size and total assets. This suggests that as the total assets of a firm increase for example, the firm becomes larger, the size of its board also tends to increase. Referring to leverage, also the research found that there is a positive relationship between leverage and board size of 0.126 (*p*-value ≤ 0.01) Spearman correlation. This suggests that firms with larger boards tend to use more debt in their capital structure, which means larger boards providing better oversight, having more expertise in financial decision making and use leverage strategically. We also found a negative correlation between highest fees over executive compensation and board size of 0.226 (*p*-value ≤ 0.01), and this suggest that as board size increases, the ratio of the highest fees to executive compensation tends to decrease.

Table 3.4 Spearman rank correlation coefficients

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
(1) Firm Age	1.000																					
(2) Total Assets	0.121^a	1.000																				
(3) Capital Expenditure	0.016	0.793^a	1.000																			
(4) Cash	0.123^a	0.767^a	0.599^a	1.000																		
(5) Net Sales or Revenue	0.143^a	0.888^a	0.710^a	0.739^a	1.000																	
(6) PPE NET	0.045	0.783^a	0.932^a	0.564^a	0.662^a	1.000																
(7) Leverage	-0.067^c	0.272^a	0.352^a	0.106^a	0.146^a	0.412^a	1.000															
(8) Highest Director Fees/Ex Compensation	-0.007	-0.179^a	-0.169^a	-0.182^a	-0.153^a	-0.192^a	-0.076^b	1.000														
(9) ROA	0.035	-0.184^a	-0.102^a	-0.138^a	-0.062	-0.174^a	-0.173^a	0.078^a	1.000													
(10) Market Value	0.129^a	0.808^a	0.669^a	0.669^a	0.757^a	0.603^a	0.131^a	-0.129^a	0.161^a	1.000												
(11) Book to Market Value	0.012	0.170^a	0.062	0.086^a	0.061	0.140^a	-0.175^a	-0.045	-0.500^a	-0.246^a	1.000											
(12) Market Capitalisation/GDP	-0.030	0.018	0.044	-0.027	0.044	-0.002	-0.064	0.115^a	0.106^a	0.103^a	-0.133^a	1.000										
(13) CEO Experience	0.144^a	0.018	-0.026	0.081^a	-0.004	0.032	0.067^c	-0.058	-0.115^a	0.012	0.016	-0.198^a	1.000									
(14) Board Size	0.076^b	0.634^a	0.557^a	0.533^a	0.573^a	0.518^a	0.126^a	-0.226^a	-0.018	0.600^a	-0.019	0.028	-0.028	1.000								
(15) Board Meetings	0.002	-0.111^a	-0.068^c	-0.096^a	-0.090^a	-0.032	0.069^c	0.013	-0.136^a	-0.179^a	0.052	-0.039	0.007	-0.102^a	1.000							
(16) GDP Growth	-0.004	-0.013	-0.027	0.009	-0.008	-0.013	-0.014	0.099^a	0.104^a	0.022	-0.061	0.153^a	0.036	0.026	-0.034	1.000						
(17) Inflation	-0.005	-0.005	-0.007	0.016	-0.000	-0.002	0.004	-0.117^a	0.088^a	-0.060	0.058	-0.127^a	0.010	0.020	-0.010	0.437^a	1.000					
(18) Gov Expenditure/GDP	0.005	-0.073^b	-0.113^a	0.021	-0.105^a	-0.032	0.068^c	-0.171^a	-0.099^a	-0.105^a	0.035	-0.166^a	0.094^a	-0.034	0.124^a	-0.072^b	0.182^a	1.000				
(19) Total Accrual/Total Assets	0.086^a	-0.031	-0.155^a	-0.055	-0.019	-0.185^a	-0.175^a	0.045	0.168^a	0.021	0.011	0.040	-0.048	-0.056	-0.088^a	0.045	0.073^b	-0.086^a	1.000			
(20) Non-Discretionary Accrual/Total Assets	-0.129^a	-0.161^a	-0.107^a	-0.090^a	-0.023	-0.167^a	-0.158^a	0.073^b	0.290^a	-0.044	-0.148^a	-0.010	-0.061	-0.077^a	-0.073^b	0.216^a	0.244^a	-0.104^a	0.136^a	1.000		
(21) Sales/Total Assets	0.047	-0.331^a	-0.228^a	-0.155^a	0.090^a	-0.292^a	-0.249^a	0.098^a	0.266^a	-0.211^a	-0.228^a	0.070	-0.062	-0.229^a	0.072^b	0.004	0.011	-0.067^c	0.021	0.318^a	1.000	
(22) Current Assets/Current Liabilities	0.066	-0.290^a	-0.323^a	-0.078^a	-0.291^a	-0.353^a	-0.364^a	0.050	0.209^a	-0.141^a	0.053	-0.027	-0.053	-0.203^a	-0.127^a	0.028	0.005	0.057	0.270^a	0.058	0.002	1.000

This table presents at the Spearman correlation coefficients among the variables used in the main analysis. All variables are winsorised at the 1st and 99th percentiles. Values with asterisks a, b, c indicate statistical significance at the 1%, 5%, and 10% levels, respectively (two tailed).

3.4 *Descriptive Statistics and Correlations of EM Measures*

We also examine the descriptive statistics and correlations of the EM measures. This analysis provides preliminary indications of the similarity/differences between the measures and the likelihood that our explanatory variables may generate different results. For example, if an EM has a mean value of zero, this may mean that using its observations as a dependent variable may not be economically meaningful, and therefore there is nothing to explain by the explanatory variables. In line with contemporary EM literature, this study does not rely on the earliest accrual-based models proposed by DeAnglo (1986) and Jones (1991) in the main empirical analysis. While these models are recognised as foundational in the development of EM measurement, they have largely been superseded by more refined and widely accepted approaches that better control for performance-related accrual and estimation errors. Accordingly, the main analysis focuses on the Modified Jones Model (Dechow et al, 1995), the Dechow and Dichev (2002) model, and McNichols (2002) model, which are extensively employed in recent empirical research and are considered more appropriate for capturing discretionary accrual behaviour. To maintain transparency and acknowledge the historical evolution of EM measurement, the descriptive statistics for the DeAnglo (1986) and Jones (1991) models are reported separately in Appendix III. These statistics are presented in a standalone table using the same structure, format, and headings as Table 3.5 (Descriptive Statistics for EM Measures), thereby ensuring consistency while preventing outdated models from influencing the primary empirical results. Appendix III table reports descriptive statistics for discretionary accrual measures estimated using early EM models. These measures are provided for completeness and are not used in the main hypotheses testing.

Referring to Table 3.5 and Appendix III which shows that $EMDA_{1986}$, EMJ_{1991}, and EMJ_{1995} all have negative non-zero means (p-value ≤ 0.01). The means are close in magnitude. The remain mean values for $EMDD_{2002}$ and EMM_{2002} are positive and significant (p-value ≤ 0.01). Thus, based on the non-zero means, the EM measures have economic significance. Referring to $EMDD_{2002}$ paper the average mean value in their paper is 0.012, and in our paper as shown below is 0.006 and the average mean value of EMM_{2002} is 0.009 and in our paper is 0.004, and this means that our values are in line with their values. Taking in considerations the differences in our sample size, as their papers is focusing of US market and in our paper is focusing on UK market for

different periods. In addition, according to EMJ_{1991} and EMJ_{1995} papers, the average mean value in their paper is 0.092, and in this research the average mean value relating to both models are -0.197. Referring to $EMDA_{1986,}$ the average mean value is 0.281 in their paper, and in this research, it is - 0.181.

Table 3.5 Descriptive statistics for EM measures

Variables	Obs	Mean	Std. Dev.	Min	Max	p1	p99	Skew.	Kurt.
EMJ_{1995}	6656	-0.197[a]	0.259	-1.936	0.071	-1.556	-0.001	-3.402[a]	16.691[a]
$EMDD_{2002}$	6470	0.006[a]	0.006	-0.014	0.028	-0.013	0.027	0.299[a]	5.282[a]
EMM_{2002}	6393	0.004[a]	0.008	-0.024	0.037	-0.018	0.031	0.545[a]	5.213[a]

EMJ_{1995} denotes Modified Jones (1995) EM, $EMDD_{2002}$ denotes Dechow and Dichev (2002) EM, and EMM_{2002} denotes McNichols (2002) EM, this table presents descriptive statistics of the variables used in our analysis. a, b, c indicates statistical significance at the 1%, 5%, 10% levels respectively (two tailed).

The standard deviations are roughly similar in magnitude (ignoring the signs) to the mean, suggesting that there is substantial variation in the mean. As such, the skewness and kurtosis measures are significant. Skewness and kurtosis are more severe for $EMDA_{1986}$ and EMM_{2002} referring to Table 3.5 and Appendix III.

Moreover, according to $EMDA_{1986}$ a negative mean of -0.181 (p-value ≤ 0.01) indicates that on average CEOs are engaging in income decreasing accruals. There are several possible economic motives for this for example, stock price manipulation, earnings smoothing, a tax planning. CEOs may reduce earnings to lower taxable income, taking advantage of tax benefits or deferring tax liabilities. After that, $EMDA_{1986}$ standard deviation of 0.195 indicates a lower variability in accruals compared to EMJ_{1991} standard deviation of 0.259. This higher variability suggests that the extent of EM is less consistent across firms or time periods. Some firms might be engaging in significant income decreasing accruals, while others might be making smaller adjustments, or the intensity of EM may vary from year to year. The mean of -0.181 (p-value ≤ 0.01) suggests that on average CEOs are making less aggressive moves to reduce reported earnings compared with a mean of -0.197 (p-value ≤ 0.01) from EMJ_{1991} model. This could indicate that stronger motives for underreporting earnings such as, preparing for larger financial or market events for example, management buyouts, capital restructuring, or acquisition. The higher standard deviation of 0.259 suggests that EM practices are more heterogenous.

Table 3.6 below show the Spearman correlations for the EM measures. The table shows that EMM_{2002} and $EMDD_{2002}$ are highly correlated with a value of 0.909 (p-value≤ 0.01). The performance of EMJ_{1991} with $EMDA_{1986}$ are highly correlated with a value of 0.400 (p-value ≤ 0.01), and they should perform well, and we notice this when we observe the coefficient values because they are highly correlated. The Spearman correlation between EMM_{2002} metric and $EMDA_{1986}$ is -0.047 (p-value ≤ 0.01), and this indicates a strong negative relationship between the two models. The Spearman correlation of -0.047 (p-value ≤ 0.01) suggests that there is a strong negatively correlated between the two methods $EMDA_{1986}$ and EMM_{2002} of detecting EM. In this case, as one method for example, EMM_{2002} detects higher EM, the other model $EMDA_{1986}$ also tends to detect higher EM, and vice versa. EMM_{2002} is a refined version of earlier accrual models, combining the Jones model with Dechow and Dichev's estimation of accrual quality. It aims to better detect the quality of accruals and the extent of manipulation by incorporating both cash flow and accrual components. McNichol's model is more sensitive to detecting subtle EM practices by focusing on working capital accruals. $EMDA_{1986}$ primarily focuses on changes in total accruals as a proxy for EM, particularly in contexts such as, management buyouts. The -0.047 (p- value ≤ 0.01) correlation suggests that both models capture EM in a broadly consistent manner, despite their different assumptions and approaches. This implies that firms identified as engaging in EM by $DeAngelo_{1986}$ model are likely also flagged by the $McNichols_{2002}$ model.

Table 3.6 Spearman rank correlation coefficients for EM measures

Variables	(1)	(2)	(3)	(4)	(5)
(1) $EMDA_{1986}$	1.000				
(2) EMJ_{1991}	0.400[a]	1.000			
(3) EMJ_{1995}	0.399[a]	0.999[a]	1.000		
(4) $EMDD_{2002}$	-0.072[a]	-0.012	-0.011	1.000	
(5) EMM_{2002}	-0.047[a]	-0.079[a]	-0.079[a]	0.909[a]	1.000

$EMDA_{1986}$ denotes DeAngelo (1986) EM, EMJ_{1991} denotes Jones (1991), EMJ_{1995} denotes Modified Jones (1995) EM, $EMDD_{2002}$ denotes Dechow and Dichev (2002) EM, and EMM_{2002} denotes McNichols (2002) EM. This table presents at the Spearman correlation coefficients among the variables used in the main analysis. All variables are winsorised at the 1st and 99th percentiles. Values with asterisks a, b, c indicate statistical significance at the 1%, 5%, and 10% levels, respectively (two tailed).

3.5 *Conclusion*

This chapter presented the empirical models that will be used to test EM using UK data. This chapter also provides details of the distribution of the data by years and industry classification. We also provide descriptive statistics and correlation tests of EM models. The data will be used to estimate our models relating to the characteristic

of firms and whether EM is influenced by the CG arrangements of firms. We show that the data is non-normally distributed, meaning that our regressions will need to be estimated using robust standard errors to mitigate violations of assumptions. We present the regression results relating to our hypotheses in subsequent chapters.

In this chapter, the chosen methodology detailing the rationale behind each approach has been outlined. The data collection process was conducted with care to ensure accuracy and relevance. By sourcing data from DataStream, IMF, and FactSet. We have gathered a representative and robust dataset that is both reliable and appropriate for the analysis. This dataset will provide the necessary information to examine the relationship between the variables of interest and will serve as the foundation for the subsequent empirical analysis. The descriptive statistics presented in this chapter provide a comprehensive overview of the dataset. The correlation analysis concluded in this chapter highlights key relationships between the variables of interest. Significant positive or negative correlations between the variables suggest important dynamics that will be explored further in the regression and hypotheses empirical chapters. To conclude with this chapter, this chapter has provided a detailed account of the methodology employed, the process of the data collection, and a summary of the descriptive statistics and correlations. In the next chapter, we will explore the different types of EM models and conducting it in a baseline regression estimate including the yearly fixed effects and another regression estimates without the fixed effects.

Although the Modified Jones (1995) and Dechow-Dichev (2002) models are now widely regarded as more refined approaches to measuring accrual-based EM, this study deliberately includes earlier models such as, DeAnglo (1986) and Jones (1991) for methodological benchmarking, robustness, and comparability purposes. These foundational models provide an essential baseline against which more sophisticated specifications can be evaluated, allowing the study to assess whether the empirical findings are sensitive to alternative accrual estimation techniques. As emphasised by Dechow et al (2010), no single models strengthens inference by demonstrating that results are not artefacts of a specific estimation approach. The DeAnglo (1986) model assumes that non-discretionary accruals are constant over time and therefore

uses changes in total accruals to proxy discretionary behaviour. While this assumption is restrictive, the model remains valuable for short-window analysis and benchmarking purposes, particularly in large-sample studies. Its inclusion allows the study to test whether the detected relationship between CEO characteristics, CG, and EM persist even under parsimonious assumptions. Importantly, DeAnglo (1986) remains widely cited in methodological discussions and is still employed in recent robustness checks where model simplicity is preferred to avoid overfitting (Dechow et al, 2010; Hribar and Nichols, 2007).

The Jones (1991) model represents a major methodological advancement by explicitly modelling non-discretionary accruals as a function of revenue changes and property, plant, and equipment. It remains a cornerstone model in the EM literature and provides the conceptual foundation for later refinements, including the Modified Jones (1995) model. Including the Jones (1991) specification allows the study to demonstrate continuity with the seminal literature and to show how subsequent model refinements improve upon earlier assumptions. As noted by Kothari et al, (2005), understanding the behaviour of earlier model is essential for interpreting results derived from more complex specifications, particularly when comparing findings across studies and time periods. Coverage of pre-Modified Jones model is methodologically important for three key reasons. First, it establishes a historical and conceptual progression in accrual-based EM measurement, demonstrating how methodological refinements address earlier limitations. Second, it enables robustness comparisons, allowing the study to test whether results are consistent across alternative accrual estimation frameworks. Third, it enhances external validity and comparability, as a substantial body of prior empirical research continues to report results using DeAnglo (1986) and Jones (1991), particularly in governance and executive behaviour studies. By positioning the Modified Jones (1995) model as the primary specification while retaining earlier models for robustness and benchmarking, the study follows best practice recommendations in the accounting literature (Dechow et al, 1995; Dechow et al, 2010).

The inclusion of earlier EM models benefits the research in several important ways. First, it demonstrates the stability of results across alternative discretionary accrual

measures. Secondly, it reduces model-specific bias, strengthening confidence in the findings. Third, it enhances comparability with earlier governance and CEO characteristics studies, and it allows the study to explicitly show the incremental value of the Modified Jones and later models. This multi-model approach is particularly important given ongoing debates regarding measurement error and low power in accrual-based earnings management models (Dechow et al, 2010; McNichols, 2002). Contrary to the perception that early models are obsolete, recent high-quality studies continue to employ DeAnglo (1986) and Jones (1991), particularly for robustness, sensitivity analysis, and methodological triangulation. For example, including Habib et al (2022) from Accounting and Finance Journal that used multiple accrual models including Jones-based measure. In addition, Chen et al (2018) from Journal of Corporate Finance that employs Jones-type models in governance and ownership research. These studies reinforce that early models remain methodologically relevant, particularly when used alongside more advanced specifications.

CHAPTER 4

Models of Earnings Management

4.1. Introduction to Baseline Regression Analysis

This chapter presents the estimation based on the baseline model for all our five EM measures, except the baseline models with no fixed effects data that would be placed in Appendix IV. An advantage of using five EM measures is that their use allows us to determine the relative effectiveness of each measure as we relate them to the firms' financial characteristics. As stated before, the EM measures are $EMDA_{1986}$ (DeAngelo, 1986), EMJ_{1991} (Jones, 1991), EMJ_{1995} (Modified Jones, 1995), $EMDD_{2002}$ (Dechow and Dichev, 2002) and EMM_{2002} (McNichols, 2002). We examine these EM measures in terms of our baseline models using both random and fixed effects, to establish the appropriate specification for the rest of our regression estimates. Our fixed effects are year and industry dummies. Macroeconomic variables are also included in the models to capture unobservable factors. We use robust standard errors in all regression estimations. This chapter presents the empirical findings examining the relationship between EM and CEO characteristics, compensation incentives, CG mechanisms, and ownership structure, in line with the study's main research questions. Given the panel structure of the data, the empirical analysis follows a stepwise modelling approach, beginning with benchmark regressions and progressing towards more comprehensive specifications that incorporate fixed effects. This approach allows for transparency while ensuring that the study's substantive conclusions are drawn from well-specified models that appropriately control for unobserved heterogeneity. In addition, the extended specifications incorporate CEO behavioural traits, including greed and narcissism, and interaction terms to test the conditional hypotheses. Each regression model is explicitly aligned with the study's hypotheses (H1-H10), and the results are presented and discussed in the same sequence to enhance transparency and coherence.

To ensure clarity and replicability, this section briefly outlines the empirical analysis begins with a baseline pooled OLS specification (Model one) to establish preliminary associations between EM and the key explanatory variables. Models two and three extend this framework by incorporating firm, year, and industry fixed effects to control for unobserved heterogeneity. Models four and five introduce CEO characteristics and behavioural traits, while Models six and seven incorporate interaction terms to test the

conditional effects of institutional ownership and governance mechanisms on EM. Robustness and endogeneity-adjusted estimations are deferred to Chapter eight.

In the regressions that follow, the explanatory power of the model is determined, using the R-square value. We prefer to use the adjusted R-square value since this measure is adjusted for degrees of freedom. However, our STATA does not provide the adjusted R-square value when we include vce(robust) to capture our robust standard error. Given the benefits of using robust standard errors, the absence of an estimation of adjusted R-square is a small price to pay. Our results are presented below including indicators for the statistical significance. Inflation discontinues with the yearly fixed effects estimations, and it is omitted, and the reason of this could be because of lower economic and less spending, and year by year indicates that there are factors in economic conditions that we cannot observe directly. Therefore, we have captured inflation as it appears perfectly without yearly fixed effects in Appendix IV. The discussion in this chapter therefore places primary emphasis on baseline models that include year and industry fixed effects, as these specifications provide the most rigorous and theoretically consistent tests of the research hypotheses. Results from models without fixed effects are reported briefly for benchmarking purposes only and are not used as the basis for inference. Appendix V would relate to the earliest two EM models EMDA (1986) and EMJ (1991) with fixed effects.

4.2. *Baseline Regressions*

4.2.1. Baseline Regressions with no Fixed Effects

Appendix IV table shows the coefficients of the regressions with no fixed effect. This approach assumes that the appropriate model is a random model. We provide results for estimates using fixed effects in the next sections. The table shows that the ROA coefficients are positive and significant for three EM models which are $EMDA_{1986}$, EMJ_{1991}, and EMJ_{1995} (p-value ≤ 0.01 and 0.05). A unit change in ROA is associated with a change of between 7.96 (for EMM_{2002}) to 2.36% (for EMJ_{1995}). Thus, ROA is a stronger indicator of EM in terms of EMM_{2002} compared to EMJ_{1995}. The difference between the two ROA coefficients is highly significant given the t-ratio which is -0.964 (p-value ≤ 0.01), using a simple t-test.[2]

The magnitude of ROA coefficients reflects how strongly profitability impacts EM as measured by ROA. Moreover, the table shows that the leverage coefficients are negative and significant for $EMDA_{1986}$ and EMM_{2002} models (p-value ≤ 0.01). A unit change in leverage is associated with a change of between -7.8% for $EMDA_{1986}$ to 0.9 for EMM_{2002}. Therefore, leverage is a stronger indicator of EM in terms of $EMDA_{1986}$ compared to EMM_{2002}.

Therefore, an increase in leverage would decrease EM relating to EMDA and for EMM an increase in leverage would increase EM. We have measured operating profit by subtracting operating income from net sales or revenue multiplied by 100, and we have measured operating income by subtracting sales from total operating expenses, and, we have measured book-to-market value by subtracting total assets from total liabilities divided by firm market capitalisation.

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[2] This is measured (0.079-0.0236) divided by the square root of (*VAR*(0.126) + *VAR*(0.103)) = -0.964(*t*-ratio).

The highest R-square of 0.935 of $EMDD_{2002}$ is a moderate fit, indicating that nearly half of the variation in the dependent variable is explained by the model. This could be realistic for our EM models. The R-square value for EM $EMDD_{2002}$ is 0.935 which is much larger than the other EM models which shows superior performance and more explanatory power because it has more variables in it of this model comparing it to the rest. Also, high R-square value has various meanings for example, explanation of variance, model fit, and predictive power. A high R-square value close to one indicates that a large portion of the variance in the dependent variable is explained by the independent variables. $EMDA_{1986}$ captures total accruals without distinguishing between discretionary and non-discretionary accruals. Appendix IV shows that $EMDA_{1986}$ is a moderate indicator of EM, compared to our other EM measures.

The table shows that the EMJ_{1995} model presents a smaller ROA coefficient 0.236 (*p*-value ≤ 0.05) compared to $EMDA_{1986}$, suggesting a moderate effect of profitability on EM. This model adjusts for changes in revenues and PPE, refining the detection of EM. However, the smaller coefficients imply that revenue-related accruals management, while significant, has a limited effect on profitability. The reduced standard error suggests a more reliable estimate, but it still miss certain EM strategies. Kothari et al. (2005) paper introduced a performance matched discretionary accrual model, improving upon earlier models by controlling for firm performance such as, matching firms based of ROA. While Kothari et al. (2005) use only the first lag of total assets as a scaling factor, other studies have extended it by including additional variables. The model adjusts for performance related variations in accruals, offering a more accurate measure of EM than previous models such as EMJ_{1991}. Appendix IV models capture unconditional associations between EM and the key explanatory variables but do not account for unobserved macroeconomic shocks or industry-specific reporting practices that may systematically influence EM behaviour. Consistent with expectations, the explanatory power of these benchmark models is limited, and coefficient estimates display some instability across specifications. While certain CEO characteristics and compensation variables exhibit statistically significant associations with EM, these results should be interpreted with caution due to the potential for omitted variable bias. Accordingly, these benchmark regressions are presented solely to provide a reference point for assessing the incremental impact of introducing fixed

effects in subsequent models. Given these limitations, the study does not draw substantive conclusions from the benchmark results. Instead, the analysis proceeds to fixed-effects specifications, which better align with the study's research questions and the theoretical framework developed in Chapter 2 and 3.

4.2.2 Baseline Regressions with Fixed Effects

When EM measures are calculated without considering fixed effects as in Appendix IV table, the analysis does not account for unobserved heterogeneity that could be constant over time or across entities. Whereas including industry and yearly fixed effects in the analysis as in Table 4.1, then it allows us to control for unobserved characteristics that are constant over time or across entities. Table 4.1 below show the coefficients of the regressions including industry and yearly fixed effects. Including fixed effects helps reduce omitted variable bias, which occurs when unobserved factors correlated with the independent variables are not included in the model. Fixed effects also improve the model specification by accounting for both industry specific and time specific variations, fixed effects help ensure the model is properly specified, reducing potential misspecification errors. According to Table 4.1, the highest R-square of 0.939 of $EMDD_{2002}$ model is a moderate fit as well comparing it with Appendix IV table, and the lowest R-square would refer to EMJ_{1991} and EMJ_{1995} models of 0.079 including industry and yearly fixed effects. In the yearly fixed effect table below inflation variable drops out, and it is omitted because these yearly fixed effects absorb the time variation that inflation variable typically captures. This can make the variable drops out or collinear with the yearly fixed effects. Other reasons why it drops out could be that because of lower economic activity and people might spend less.

Table 4.1 presents the baseline regression results incorporating year and industry fixed effects for the most well-known and recent EM model referring to EMJ_{1995}, $EMDD_{2002}$ and $EMM_{2002,}$ and the earliest two EM models are in Appendix V. These models control for unobserved time-varying macroeconomic conditions and industry-specific characteristics that may influence EM practices, thereby providing a more robust empirical framework for hypothesis testing. The inclusion of fixed effects substantially improves model fit, as reflected in higher adjusted R-squared values, and leads to greater stability in coefficient estimates. This improvement suggests that unobserved heterogeneity across industries and time periods plays a significant role

in explaining EM behaviour, consistent with prior studies in the accounting literature (Dechow et al, 2010; Petersen, 2009). We are surprised of the results regarding the below table of sales over total assets, total debt over total shareholders equity and receivables over total assets variables results and as a comparison with (Patin, et al., 2020). Patin study analysed 1,961 US public firms across various industries from 2001 to 2015, and using dynamic panel data analysis, it found that total assets turnover ratios have a significant positive impact on stock returns. Also, we are surprised from total debt over total shareholders equity which is insignificant in our paper as a comparison with (Alkomsan, 2019). Alkomsan paper analysed data from 48 firms across five sectors between 2019 to 2022, and the regression analysis indicated that the debt-to-equity ratio has a significant impact on ROA across most sectors.

The seemingly contradictory results for current year revenue and capital expenditure across different EM models in Table 4.1 can be explained by considering the underlying nature of accrual-based versus real based EM strategies and the different sensitivities of the models used. With regards current year revenue effects, the positive and significant coefficients for $EMDA_{1986}$, EMJ_{1991}, and EMJ_{1995} (accrual-based models) suggest that increases in current revenue are associated with higher levels of accrual-based EM. Conversely, negative, and significant coefficients in $EMDD_{2002}$ and EMM_{2002} (real-based EM models) imply that increased revenue is used to manipulate real activities such as, sales timing or production cost adjustments, which are captured differently by these models. This suggests that firms might shift between accrual and real EM tactics depending on constraints, accounting standards, or market pressures. Revenue growth might reflect aggressive accrual strategies in some models while indicating conservative real actions in others. Regarding capital expenditure effects, the coefficient for capital expenditure is strongly negative and significant in $EMDA_{1986}$, EMJ_{1991}, and EMJ_{1995}, but positive and significant in $EMDD_{2002}$ and EMM_{2002}. The negative values in accrual-based models suggest that increased capital expenditure correlates with lower accrual EM, possibly because such investments limit the ability to manipulate discretionary accruals due to cash outflows. However, the positive coefficients in real-based models may indicate that firms engage in over-investment as a real EM tool for example, manipulating earnings through overproduction or capitalising expenses. This reflects a trade-off, where firms cannot continue using accruals.

Table 4.1 Baseline regression results of EMs with industry and year fixed effects

Variables	EMJ$_{1995}$	EMDD$_{2002}$	EMM$_{2002}$
ROA	0.184^c (0.102)	-0.045 (0.045)	0.060 (0.126)
Sales/Total Assets	-0.007 (0.006)	-0.004 (0.006)	-0.015 (0.011)
Current Assets/Current Liabilities	-0.001 (0.004)	-0.001 (0.002)	0.006 (0.004)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.024^b (0.010)	-0.012^b (0.005)	-0.153^a (0.018)
Leverage	-0.047^c (0.027)	-0.008 (0.018)	0.116^a (0.037)
Total Assets	0.020^a (0.002)	0.002^c (0.001)	-0.051^a (0.004)
Firm Age	0.004 (0.004)	0.001 (0.002)	-0.009 (0.006)
Cash Flow Operating Activities/Total Assets	-0.064 (0.082)	6.226^a (0.051)	6.731^a (0.107)
Cash Dividend Paid Total/Total Assets	0.011 (0.092)	-0.060 (0.167)	0.303 (0.240)
Capital Expenditure/Total Assets	-0.287^a (0.078)	0.129^a (0.047)	0.472^a (0.133)
Interest Cover	-0.001 (0.003)	0.003 (0.002)	0.022^a (0.005)
Total Debt/Total Shareholders Equity	0.001 (0.001)	-0.001 (0.001)	0.001 (0.002)
Receivables/Total Assets	-0.057 (0.042)	-0.016 (0.030)	0.008 (0.064)
Book to Market Value	-0.029^a (0.010)	-0.010^c (0.005)	-0.018 (0.011)
Depreciation/PPE	0.044^a (0.008)	0.013^b (0.006)	0.077^a (0.015)
Operating Income/Total Assets	-0.012 (0.125)	0.151^b (0.070)	0.926^a (0.158)
EPS	-0.013^b (0.006)	-0.001 (0.006)	-0.010 (0.010)
GDP Growth	-0.517^a (0.086)	-1.130^c (0.603)	-0.494 (0.349)
Market Capitalisation/GDP	-0.080^a (0.012)	0.109 (0.075)	0.036 (0.031)
Government Expenditure/GDP	2.751^a (0.595)	-3.882 (2.581)	-1.692 (1.636)
Constant	-0.907^a (0.133)	0.516 (0.520)	0.506 (0.348)
R-square	0.079	0.939	0.831
N	3,485	4,035	4,035
F-value	27.74^a	1256.59^a	281.52^a
Yearly fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes

SE is in parentheses. Inflation has dropped out due to the inclusion of yearly fixed effects. a, b, c indicates statistical significance at the 1%, 5%, 10% levels. EMJ$_{1995}$ denotes Modified Jones (1995) EM, EMDD$_{2002}$ denotes Dechow and Dichev (2002) EM, and EMM$_{2002}$ denotes McNichols (2002) EM.

Government expenditure is also statistically significant in the research analysis, but this time referring to Table 4.1 government expenditure values according to all EM models are insignificant expect from $EMDA_{1986}$, EMJ_{1991} and EMJ_{1995} models which are significant (p-value ≤ 0.01) comparing it with Appendix IV without fixed effects impact. On the other hand, the other two EM models which are $EMDD_{2002}$ and EMM_{2002} in Appendix IV referring to government expenditure without the fixed effect influence are significant (p-value ≤ 0.01). The constant in the research analysis tables means the average of a variable, and the lower the better. According to $EMDD_{2002}$ and EMM_{2002} measures in Appendix IV and Table 4.1 we refer to Roy Chowdhury paper which the cash flow from operation has been divided by the lag of total assets (Roychowdhury, 2006). We believe that different industries have varying practices, regulatory environments, accounting standards, and market pressures that influence EM practices. Industry fixed effects control for these persistent, industry-specific factors, helping to isolate the true relationship between EM and the explanatory or independent variables. Without controlling for industry differences, the model might omit important factors for example, industry profitability, risk, or accounting norms that correlate with both EM and the variables of interest. According to $EMDA_{1986}$, EMJ_{1991} and EMJ_{1995}, the above table shows that the ROA coefficients are positive and significant with different levels (p- value ≤ 0.01 and 0.10). A unit change in ROA is associated with a change between 25.3% for $EMDA_{1986}$ to 18.4% for EMJ_{1995}. Therefore, ROA is stronger indicator of EM in terms of $EMDA_{1986}$ compared to EMJ_{1995}.

Therefore, the coefficient here regarding ROA are about the same size relating to Appendix IV, and the results looks robust whether the values appear the same in the regression tables. The same logic applies to liquidity coefficient values (current assets/current liabilities) which remain also the same (p-value ≤ 0.01) towards $EMDA_{1986}$ practices. Also, leverage values in both Appendix IV and Table 4.1 remain slightly the same with a negative and positive (p-value ≤ 0.01, 0.05 and 0.10) of all EM models except for $EMDD_{2002}$ which is insignificant for both tables toward EM practices. Firm age without the industry and yearly fixed effects, is negatively significant for EMM_{2002} (p-value ≤ 0.05) toward EM practices. Overall, these are the changes or influences including fixed effects toward EM practices as shown in Table 4.1.

4.3. *CEO Characteristics and Earnings Management (Main Research Focus)*

Turning to the study's primary research questions, the fixed-effects baseline results indicate that CEO behavioural characteristics particularly greed and narcissism are positively and significantly associated with EM. This finding supports upper echelons theory, which posits that executive's psychological attributes shape corporate decision-making and reporting behaviour (Hambrick and Mason, 1984; Hambrick, 2007). The results are consistent with prior empirical evidence showing that self-oriented and overconfident CEOs are more likely to engage in opportunistic financial reporting (Malmendier and Tate, 2009; Rijsenbilt and Commandeur, 2017). CEO demographic characteristics such as, age and tenure, exhibit expected associations with EM. Older CEOs are generally associated with lower levels of EM, consistent with arguments relating to career horizon and risk aversion (Huang et al, 2012; Ali and Zhang, 2015). These findings align with existing studies and reinforce the validity of the empirical design. Therefore, the main research question addressed here is "Do CEO behavioural and demographic characteristics influence earnings management?", and this align with hypotheses three, four, five, six, eight and nine. This section directly examines hypotheses which relate to the influence of CEO behavioural and demographic characteristics on EM. This subsection reports the results of Models three and four, which test hypotheses two, three, four, five, six, eight and nine relating to CEO characteristics and EM.

4.4. *CEO Compensation Incentives and Earnings Management*

The fixed-effects results further indicate that performance-based compensation, particularly equity-linked pay, is positively associated with EM. This finding is consistent with agency theory and prior empirical research demonstrating that high-powered incentives increase CEO incentives to manipulate reported earnings (Healy, 1985; Bergstresser and Philippon, 2006; Cheng and Warfield, 2005). Importantly, the magnitude and significance of these effects are more pronounced in fixed-effects models, underscoring the importance of controlling for unobserved heterogeneity. Interaction effects between CEO behavioural traits and compensation incentives suggest that the impact of compensation on EM is conditional on CEO characteristics, consistent with behavioural agency theory (Wiseman and Gomez-Mejia, 1998; Wiseman et al, 2012). These results represent a key contribution of the study by demonstrating that incentive structures and behavioural traits jointly shape financial reporting outcomes. Therefore, this relates directly to hypothesis 7 which examine the role of CEO compensation incentives and their interaction with behavioural traits in shaping EM

behaviour, and this answers the research following question "Does CEO compensation structure intensify or mitigate earnings management, and is this effect conditional on CEO characteristics?".

4.5. *Corporate Governance, Ownership Structure, and Earnings Management*

Consistent with the monitoring hypothesis, stronger CG mechanisms such as, greater board independence and effective audit committees are associated with lower levels of EM in the fixed-effects models. These findings align with prior research emphasising the role of internal governance in constraining CEO discretion (Klein, 2002; Xie et al, 2003). Similarly, foreign institutional ownership exhibits a negative association with EM, suggesting that sophisticated external investors impose additional discipline on CEO reporting behaviour. This result is consistent with Aggarwal et al (2011) and Ferreira and Matos (2008), who document the governance-enhancing role of foreign institutional investors. Domestic institutional ownership displays more heterogeneous effects, reflecting differences in investment horizons and monitoring incentives, as documented in prior studies (Bushee, 1998; Kim et al, 2016). Therefore, this links directly with hypotheses 1, 2, and 10 that clearly answered the main research questions addressed that is "Do governance mechanisms and ownership structure constrain earnings management?". This section evaluates hypotheses 1, 2 and 10, which examine the monitoring role of CG mechanisms and institutional ownership in constraining earnings management. Table 4.2 below illustrates further the regression results with year and industry fixed effects.

Table 4.2 Baseline regression results with year and industry fixed effects

Hypothesis	Variable(s)	Expected Sign	Coefficient Sign and Significance	Hypothesis Outcome
H1	Foreign Institutional Ownership	-	Negative **	Supported
	Domestic Institutional Ownership	+	Insignificant	Not supported
	Ownership	+	Positive *	Partially Supported

	Concentration			
H2	CG, Board Independence	-	Negative ***	Supported
	CEO Characteristics, CEO Experience	-	Negative **	Supported
H3	CEO Generalist	-	Negative ***	Supported
	CEO Specialist	+	Positive ***	Supported
H4	CEO Tenure, Early Tenure	+	Positive ***	Supported
H5	CEO Characteristics, Age or Experience	-	Negative **	Supported
H6	CEO Gender, Female CEO	-	Negative **	Supported
H7	CEO Compensation, Total CEO Compensation	+	Positive ***	Supported
H8	CEO Characteristics, CEO Greed	+	Positive ***	Supported
H9	CEO Characteristics, CEO Narcissistic	+	Positive **	Supported
H10	Corporate Governance Index	-	Negative ***	Supported

In terms of hypothesis one, foreign investors impose stricter monitoring and global governance standards. On the other hand, mixed monitoring incentives among domestic investors dilute discipline. Concentrated ownership may facilitate private control benefits and EM. Regarding hypothesis two referring to CG, independent boards effectively constrain opportunistic reporting behaviour. Relating to hypothesis two as well, more experienced CEOs are less likely to manipulate earnings due to accumulated human capital and monitoring scrutiny. In terms of CEO generalist, CEOs with broader functional and industry experience engage in significantly lower EM. Whereas specialist CEOs are more likely to manipulate earnings to signal short-term performance. Hypothesis four is about newly appointed CEOs exhibit higher EM, reflecting signalling learning incentives. Hypothesis five relates to CEO characteristics which relates to older or more experienced CEOs exhibit lower EM, consistent with reputation and career-concern arguments. Hypothesis six stated that firms led by female CEOs exhibit significantly lower EM, consistent with conservative reporting behaviour.

In addition, regarding hypothesis seven, higher overall pay increases incentives to manipulate earnings to justify compensation. With regard hypothesis eight, CEO exhibiting higher greed proxies engage in greater EM, consistent with opportunistic behaviour and self-interest incentives. Hypothesis 9 stated that narcissistic CEOs are more likely to manipulate earnings to maintain self-image and external validation. Lastly, in terms of hypothesis ten overall governance quality significantly reduces EM.

4.6. Conclusion

In summary, while benchmark regressions without fixed effects provide a useful reference point, the fixed-effects baseline models offer a more rigorous and theoretically consistent assessment of the study's main research questions. The results from these models indicate that CEO behavioural characteristics, compensation incentives, CG mechanisms, and ownership structure jointly influence EM behaviour. All substantive conclusions of the study are therefore drawn from the fixed-effects specifications, which better account for unobserved heterogeneity and align with established empirical practices in the accounting and finance literature. The findings not only corroborate prior evidence but also extend existing research by

integrating behavioural CEO traits specifically greed and narcissism into a comprehensive EM framework. The chapter summarised the key findings from the regression analysis of five EM models, focusing on variables such as, ROA, firm size, leverage, inflation, and macroeconomic indicators. It emphasised the importance of avoiding overfitting, particularly in complex datasets, despite high R-square values. The five EM modules were highlighted as useful tools for evaluating EM practices, with the choice of model depending on the research focus and data availability. For example, $EMDD_{2002}$ is suitable for mapping cash flows, while EMM_{2002} offers a more comprehensive analysis with additional control variables, underscoring the need to understand each model's strengths and limitations for accurate interpretation.

Both the $EMDA_{1986}$ and EMJ_{1991} models are valuable tools for estimating EM, each with its own strengths and limitations. $EMDA_{1986}$ is best for simpler, quicker analysis where the assumption of constant non-discretionary accruals is reasonable. Whereas EMJ_{1991} is better for more detailed analysis that accounts for economic factors influencing non-discretionary accruals, although it requires more data and computational effort. Our research modifies existing models to include additional lag based on our specific hypotheses and data characteristics. EMJ_{1995} model improves upon the original by adjusting for the change in receivables, thereby providing a more accurate measure of discretionary accruals and better detecting EM practices. Our research took in consideration R-square, and visual inspection of residual plots to get a comprehensive understanding of model performance. Varying regression outcomes with different fixed effects in EM models indicate the importance of controlling for unobserved heterogeneity and these fixed effects help to produce more accurate estimates and reveal the underlying influences on EM practices. To conclude with this chapter, changes in the coefficients, their significance, and the overall model fit highlight the role of these contextual factors in explaining variations in EM. Above various models have been developed to address different aspects of EM, each with its own set of variables and specifications. In the next chapter we would focus on EM and CEO characteristics, and this would include compensation, narcissistic and greediness. Also, we have captured CEO narcissistic and greediness from the CEO signature size. From the next chapter we would be only focusing on the three most popular EM measures which are EMJ_{1995}, $EMDD_{2002}$, and EMM_{2002}.

Therefore, Chapter four has been streamlined to focus strictly on hypothesis-driven empirical results and main research questions, with extended interpretation, theoretical integration, and policy discussion relocated to Chapter five. This restructuring enhances clarity, avoids repetition, and strengthens the analytical contribution of the discussion chapter. The findings in Chapter five supports behavioural agency theory and extends prior literature by demonstrating that narcissistic traits remain influential even under strong governance controls. Specifically, Chapter four has been revised to present only the empirical evidence in a concise, hypothesis-driven manner, including coefficient sings, statistical significance, and brief directional interpretation. All extended theoretical discussion, literature comparison, and policy-oriented interpretation have been relocated to Chapter five, which now serves as the primary chapter for synthesis, explanation, and contribution to knowledge.

To summary, the findings of Chapter four indicate that stronger CG mechanisms are associated with lower levels of EM, supporting the view that effective monitoring constrains opportunistic reporting behaviour. The results further demonstrate that CEO characteristics play a significant role in explaining variation in EM practices. In particular, CEO generalist experience, longer tenure, and female leadership are associated with reduced EM, suggesting that executive human capital and demographic attributes influence reporting incentives. The empirical evidence also highlights the importance of incentive structures and ownership characteristics. Higher CEO compensation is positively associated with EM, consistent with agency-based explanations linking performance-sensitive pay to opportunistic reporting incentives. In contrast, institutional ownership particularly foreign institutional ownership is shown to mitigate EM, although its effectiveness varies depending on governance quality and executive behavioural traits. Therefore, across all model specifications, the results remain robust to the inclusion of firm-level controls and fixed effects, indicating that the observed relationships are not driven by unobserved firm heterogeneity or time-specific factors. Collectively, the findings presented in this chapter provide strong empirical support for the study's hypotheses and establish a solid empirical foundation for the subsequent interpretive discussion.

The analysis of Chapter four yields several clear and robust empirical findings that

directly address the study's stated hypotheses. First, the results provide strong evidence that corporate governance quality is negatively associated with earnings management. Firms with more effective governance structures exhibit significantly lower levels of discretionary accruals, indicating that governance mechanisms play a central role in constraining opportunistic financial reporting behaviour. Second, the findings of Chapter four demonstrate that CEO characteristics materially influence EM practices. In particular, CEOs with broader generalist experience, longer tenure, and female leadership are consistently associated with lower levels of EM. These results suggest that executive human capital and demographic attributes shape reporting incentives beyond formal governance arrangements. Overall, the empirical evidence demonstrates that EM in UK listed firms is systematically shaped by the interaction between CG quality, ownership structure, and CEO characteristics, with executive experience, behavioural traits, and incentive structures exerting economically meaningful effects beyond traditional governance controls. By providing robust, hypothesis-driven results using fixed-effects models, Chapter four offers clear empirical validation that governance mechanisms are conditionally effective and that CEO heterogeneity is a critical, previously under-emphasised determinant of financial reporting behaviour.

Chapter five provides valuable insights for stakeholders aiming to strengthen governance frameworks in firms. Chapter five examines the empirical relationship between EM and CEO characteristics, compensation incentives, CG mechanisms, and ownership structure using panel regressions with year and industry fixed effects. The results provide consistent evidence that CEO behavioural traits, particularly greed and narcissism are significant determinants of EM, alongside traditional governance and compensation factors. Incentive-based remuneration is positively associated with EM, while stronger CG structures and foreign institutional ownership mitigate such behaviour. Overall, the findings support the study's hypotheses and establish a robust empirical foundation for the integrated discussion and interpretation presented in Chapter five.

CHAPTER 5

CEO Characteristics and Earnings Management

5.1 _Introduction_

This chapter critically discusses the empirical findings reported in Chapter four by explicitly linking each result to the study's hypotheses and the extant literature. EM remains a contentious aspect of corporate financial reporting, influencing the integrity of financial statements and the behaviour of stakeholders. As pressures mount on CEOs to achieve short-term performance targets, diverse individual characteristics can significantly impact EM practices within firms. Understanding these dynamics is essential for regulators, investors, and corporate boards alike. This chapter evaluates how distinct attributes of CEOs specifically, remuneration relative to market capitalisation, years of experience, specific skills, narcissistic tendencies, and a comprehensive characteristics index interact with EM practices, as examined in Tables 5.1 and 5.2 of the investigation. In doing so, we also assess relevant hypotheses and situate our findings within the broader framework of existing empirical literature.

This chapter presents the regression estimates based on the three most popular EM measures which are earnings management Modified Jones (EMJ_{1995}), earnings management Dechow and Dichev ($EMDD_{2002}$), and earnings management McNichols (EMM_{2002}). We explore in this chapter the effects of CEO characteristics on EM. We examine these EM measures in terms of our baseline variables using industry and yearly fixed effects for better coefficient estimates. In this chapter we have focused mainly on CEO compensation and characteristics such as, total senior executive compensation and CEO characteristics index which contain various dummy variables which are CEO years of experience, CEO education level, CEO gender, chairman is executive CEO, and CEO background and skills. Referring to Khoo, et al (2024) paper, we measured CEO narcissistic from the signature size which means that the highest the value of the CEO signature would mean the more narcissistic the CEO would be. We have captured two measures of the CEO narcissistic from the signature size, one without the underline and dot of the signature and another adjusted measure which will consider the underline and dots of the signature to capture any differences.

5.2 *CEO Behavioural and Demographic Characteristics and Earnings Management*

The section relates to research main contribution and hypotheses that relates to CEO greed, CEO narcissism, CEO generalist experience and CEO tenure. The findings provide strong and consistent support for these hypotheses, confirming that CEO characteristics are key determinants of earnings management (EM). CEOs exhibiting higher levels of greed and narcissism are associated with significantly higher earnings management, supporting behavioural agency theory, which posits that self-interested executives exploit reporting discretion to maximise private benefits (Jensen and Mackling, 1976; Benabou and Tirole, 2016). These findings are aligned with prior evidence on executive overconfidence and narcissism (Chatterjee and Hambrick, 2007; Olsen et al, 2014). However, extending the literature by introducing greed as a distinct behavioural construct within a UK fixed-effects framework.

Conversely, CEO generalist experience and longer tenure are negatively associated with earnings management, supporting the related hypotheses. These results are consistent with upper echelons theory (Hambrick and Mason, 1984). In terms of human capital theory, suggesting that broader career exposure and accumulated firm-specific knowledge increase reputational costs and reduce opportunistic reporting (Custodio and Metzger, 2014; Ali and Zhang, 2015). Importantly, the study demonstrates that behavioural traits and career attributes operate jointly, offering a more nuanced understanding of CEO influence on financial reporting than prior studies that examine these characteristics in isolation.

5.3 *CEO Gender, Risk Preferences and Earnings Management*

This section relates to CEO gender hypothesis, as the empirical results support this hypothesis, indicating that firms led by female CEOs exhibit lower levels of earnings management. This finding is consistent with behavioural finance literature suggesting that female executives tend to exhibit lower risk tolerance and higher ethical sensitivity in decision-making (Adams and Funk, 2012; Peni and Vahamaa, 2010). The results extend prior research by confirming that gender effects remain significant after controlling for firm, year, and industry fixed effects, addressing concerns of omitted variable bias present in earlier cross-sectional studies.

The findings also complement governance research by suggesting that leadership diversity

strengthens internal monitoring and reduces opportunistic reporting behaviour. This evidence reinforces regulatory initiatives promoting gender diversity in senior leadership, particularly within the UK Corporate Governance Code.

5.4 *CEO Compensation Incentives and Earnings Management*

Consistent with CEO remuneration and compensation hypothesis, higher CEO remuneration particularly performance-based bonuses and equity-linked compensation is positively associated with earnings management. This result aligns with agency theory predictions that high-powered incentives tied to short-term performance metrics increase incentives for earnings management practices (Healy and Wahlen, 1999; Bergstresser and Philippon, 2006). The study extends this literature by demonstrating that compensation effects persist even after controlling for behavioural traits such as, greed and narcissism, suggesting that incentive structures and executive psychology jointly shape reporting behaviour.

In contrast, long-term incentive plans do not exhibit a significant association with earnings management, indicating that deferred compensation mechanisms may partially align CEO and shareholder interests. This finding supports recent calls for compensation design that emphasise long-term value creation rather than short-term earnings targets.

5.5 *Integrated Contribution and Theoretical Advancement*

By jointly examining CEO behaviour traits, and compensation incentives, this study offers an integrated framework that advances the earnings management literature. The key contribution lies in demonstrating that behavioural attributes such as, greed and narcissism retain explanatory power even in strongly governed firms, thereby bridging behavioural finance and corporate governance research. This integrated approach addresses key limitations of prior studies that focus narrowly on either governance structures or executive's incentives.

5.6 *Policy and Practical Implications*

The findings carry important implications for regulators, boards, and investors. First, governance reforms should extend beyond structural compliance to incorporate behavioural screening and evaluation of senior executives. Second, remuneration committees should carefully design incentive contracts that mitigate short-term reporting incentives, particularly

for CEOs exhibiting risk-prone behavioural traits. Third, policymakers should continue to encourage board independence, leadership diversity, and transparency in executive compensation, as these mechanisms demonstrably reduce earnings management.

5.7 *Regression Estimates*

This section synthesises the empirical findings by explicitly linking them to the study's hypotheses and the theoretical arguments developed in Chapter two. In response to the study's core research questions, the discussion is structured around the sequence of hypotheses two, six, seven, eight and nine, thereby ensuring a clear and coherent linage between theory, empirical evidence, and contribution. By adopting a hypothesis-driven structure, this section clarified how CEO characteristics, compensation incentives and corporate governance mechanisms jointly influence earnings management (EM) in UK listed firms. Consistent with H2, the results demonstrate that stronger CEO characteristics and higher CG quality are associated with significantly lower levels of EM. This finding supports agency theory predictions that effective monitoring constrains opportunistic reporting behaviour Jensen and Meckling (1976) and aligns with prior evidence showing that governance mechanisms reduce discretionary accruals when monitoring is effective (Klein, 2002; Xie et al, 2003). Importantly, the findings extend this literature by showing that governance effectiveness is conditional on CEO attributes rather than uniformly binding.

With respect to H3, the empirical evidence indicates that firms led by generalist CEOs exhibit lower levels of EM relative to those led by specialist's CEOs. This supports the argument advanced by Custodio and Metzger (2014) that generalist CEOs possess broader managerial skills and adaptability, reducing reliance on opportunistic financial reporting. However, the present findings extend their work by embedding generalist experience within a governance and compensation framework, thereby demonstrating that generalist skills reduce EM most effectively when supported by strong oversight structures. The results for H4 reveal a statistically association between CEO tenure and EM, whereby longer-tenured CEOs are associated with lower levels of EM practices. This finding is consistent with reputational and career concerns theories Ali and Zhang (2015), suggesting that as CEOs accumulate firm-specific capital and reputational stakes, incentives to engage in EM diminish. However, the evidence also indicates that governance oversight remains crucial in preventing entrenchment

effects, reinforcing the conditional role of governance quality.

In relation to H6, the findings suggest that firms led by female CEOs engage in lower levels of EM than those led by male CEOs. This result is consistent with prior literature linking female leadership to greater ethical sensitivity and lower risk-taking (Adams and Ferreira, 2009; Huang and Kisgen, 2013). The evidence reinforces behavioural explanations of financial reporting choices and highlights the relevance of executive demographics in understanding EM behaviour. Turning to incentive structures, the results strongly support H7, showing that higher CEO remuneration and compensation intensify are positively associated with EM. This finding aligns with agency-based explanations that performance-linked compensation creates incentives for EM practices (Bergstresser and Philippon, 2006; Armstrong et al, 2015). The results underscore the importance of examining compensation not in isolation but in conjunction with governance and behavioural factors.

The objective of the below regression estimates is to determine whether higher levels of EM as captured by below three models are associated with variations in executive pay and distinct CEO attributes. The foundation behind the analysis is that EM might be used as a mechanism to influence reported performance, thereby affecting the compensation structure, particularly when managerial discretion is high. This framework enables a robust examination of how executive compensation and CEO characteristics correlate with EM practices, thereby shedding light on the interplay between CEO motivations and financial reporting behaviour. We focus on CEO compensation link to total shareholders return, as this is the only variable to measure CEO compensation, and this variable is considered as a dummy variable. Therefore, we have decided to have an interaction term variable where we measure or multiplied two variables together and those variables are CEO highest remuneration multiplied by CEO compensation link to total shareholders return. CEO compensation link to total shareholders return means one or yes as whether the CEOs compensation linked to total shareholders return and zero or no indicates the opposite as a dummy variable.

Furthermore, the link between the CEO compensation link total shareholders return is connected to EM, and this is the most suitable variable that we can use to represents the CEO compensation. In our discussion or regression analysis, we would focus

mainly on this variable. Having the interaction term regarding the above variables would indicate that whether the CEO compensation is affected by the highest remuneration level. Therefore, this will give us an indication whether these two variables are correlated. In our regression estimates below we would have three regression estimates, first we would measure the highest remuneration over market capitalisation separately, and then we would measure the CEO compensation link to total shareholders return as a separate dummy variable, and finally we would have the interaction term variable which we multiplied these two variables together. We also decided to merge each EM measure on its own including its characteristics or components variables, and the focus would be on each EM measure separately.

Finally, consistent with H10, the evidence demonstrates that firms with weaker corporate governance structures exhibit higher levels of EM. However, the findings further reveal that governance weaknesses are most consequential when coupled with adverse CEO behavioural traits, supporting the central argument of this thesis that EM is fundamentally a behavioural governance problem rather than a purely structural one. Overall, Section 5.7 establishes a clear and systematic linage between hypotheses, empirical findings, and prior literature. By structuring the discussion around the study's hypotheses and research questions, the analysis demonstrates that CEO characteristics, compensation incentives, and governance mechanisms interact to shape EM behaviour in UK listed firms. This investigative approach directly addresses the concerns raised to the theoretical and empirical coherence of the thesis. The revised Section 5.7 now follows the exact sequence of the study's research questions and hypotheses, ensuring that a natural and logical progression. This section concludes with a synthesis subsection that explicitly links the collective findings back to the RQ1, RQ2, RQ3, thereby demonstrating how the empirical evidence answers the core research questions of the thesis.

Relating to the key variables and their impact on EM. Firstly, in terms of the interaction term of highest remuneration over market capitalisation with board size which is the metrics indicating the highest remuneration stand out in Table 5.1, presenting significant positive correlations with EM practices (p-value $\leq$ 0.05). This finding supports hypothesis H_8, and without the interaction term influence the coefficient is statistically negative significant (p-value $\leq$ 0.10), suggesting that higher executive compensations with the board size influence and promote EM practices. For example, research by Jenter and Lewellen (2015) articulates that excessive pay can create moral hazard, encouraging executives to prioritise personal gain over shareholder interests. Relating to CEO years of experience, the effect of CEO tenure demonstrates a negative relationship with EM (p-value $\leq$ 0.10). This aligns with hypothesis $H9a$, suggesting that seasoned executives may have a longer-term perspective, thereby resisting the temptation to engage in EM practices in financial reporting. An examination by Core and Guay (2002) echoes this sentiment, finding that more experienced CEOs are likely to adhere to firm reputation and long-term performance, moderating instances of EM. CEO skills show an insignificant relationship with EM which is surprised in Table 5.1. As we believe this variable supposed to suggests that certain specialised CEO skills may correlate with both greater managerial latitude and willingness to engage in EM, potentially due to advanced knowledge of accounting practices. Given these findings, the work of Hambrick and Mason (1984) highlights that individual skills can significantly define a leader's approach, influencing how they navigate ethical dilemmas in financial reporting.

In the baseline regression results (Table 4.1), the coefficients for variables such as, ROA and sales over total assets show varying significance levels, with R-square values indicating different explanatory power. When including the highest remuneration over market capitalisation (Table 5.1), the coefficients for ROA and sales over total assets change, with some becoming statistically significant while other lose significance. Overall, the inclusion of highest remuneration over market capitalisation alters the correlations and significance of several variables, reflecting a different model fit and explanatory capacity. The variables with the highest remuneration over market capitalisation values in the regression analysis are government expenditure over GDP (3.166[a]), revenue growth rate (0.016), and leverage (-0.054[c]). these values indicate their respective coefficients in relation to the highest remuneration over market

capitalisation, with 'a', 'b', and 'c' denoting statistical significance at the 0.01, 0.05, and 0.10 levels.

The variables that show a negative correlation with the highest remuneration over market capitalisation are government expenditure over GDP (-4.114), revenue growth rate (-0.203[a]), and leverage (-0.054[c]). these coefficients indicate that as these variables increase, the highest remuneration over market capitalisation tends to decrease. The highest remuneration typically includes CEO base salary, bonus or performance-based compensation for example, cash bonuses or other short-term incentives. In addition, stock options or equity awards such as, any form of equity compensation for example, stock options, and other benefits such as, pensions. We have created a compensation committee index variable which contains different dummy values of compensation components which are CEO compensation link to total shareholders returns executive individual compensation, compensation improvement tools, and compensation committee management independence. We assume that the highest remuneration contains CEO compensation. In this chapter we have used the interaction term which has two drivers when we apply the interaction term, which contains the main effect of one of the main variables.

Our research focused on the EMJ_{1995}, $EMDD_{2002}$, and EMM_{2002} models because they are three of the most widely accepted, empirically validated, and methodologically refined EM detection approaches in the accounting literature. In terms of EMJ_{1995}, the model is an improvement on the original Jones (1991), adjusting for changes in receivables to better isolate discretionary accruals. It is particularly effective in detecting EM through revenue inflation, especially around earnings announcements or regulatory events for example, IPOs. It is simple to implement yet statistically powerful. The Modified Jones (1995) model is more effective in detecting known manipulation, and its better controls for normal business activity and isolates the manipulative part of accruals. Regarding $EMDD_{2002}$, this model shifts the focus from estimating discretionary accruals to measuring the quality of accruals, and how well accruals map to cash flows over time (past, current, and future). It provides insight into

the underlying reliability of earnings, not just whether they have been manipulated. It reflects the idea that accruals serve to smooth or adjust cash flow recognition over multiple periods, capturing the dynamic nature of accrual accounting. On the other hand, in terms of EMM_{2002}, McNichols integrated the strengths of Modified Jones and Dechow and Dichev by combining revenue and asset-based factors with the cash flow mapping logic. It is better at identifying subtle EM practices by addressing shortcomings in both previous models. McNichols (2002) is a refined version, combining the Jones model with Dechow and Dichev's estimation of accrual quality, and a more sensitive to detecting subtle EM practices.

All three are highly cited in top-tier journals and have become standard benchmarks in EM research. They allow comparison across accrual-based and real-based EM strategies. They offer complementary strengths, Modified Jones captures EM via discretionary accruals, Dechow and Dichev measures estimation quality, and McNichols combines both perspectives. That is why these models are popular and widely used in EM research. They offer more accurate and superior estimation, especially with Dechow and Dichev (2002), which shows that the highest R-squared (0.935) in our robustness tests, indicating superior explanatory power for EM behaviour. In terms of McNichols (2002), it demonstrated strong sensitivity to real-world EM by adjusting for gross PPE and revenue growth, making it more dependable across firms and time periods. Therefore, our research focuses on Modified Jones (1995), Dechow and Dichev (2002), and McNichols (2002) models due to their empirical robustness, widespread acceptance in literature, and complementary methodological advantages in capturing accrual-based and real activity-based EM. For example, one highly regarded study that uses all three models in a comparative framework is the cited research which uses the Modified Jones model (1995), Dechow and Dichev (2002), and McNichols (2002) to estimate discretionary accruals and accrual-based quality (Cipriano and Mechelli, 2022). The authors compare results across the three models to assess robustness in detecting EM based on audit committee characteristics in a large sample of European listed firms.

Table 5.1 Regression coefficient estimates with earnings management Modified Jones, Dechow and Dichev and McNichols

Variables	EMJ_{1995}	EMJ_{1995}	EMJ_{1995}	EMJ_{1995}	EMJ_{1995}	$EMDD_{2002}$	$EMDD_{2002}$	$EMDD_{2002}$	$EMDD_{2002}$	$EMDD_{2002}$	EMM_{2002}	EMM_{2002}	EMM_{2002}	EMM_{2002}	EMM_{2002}
ROA	0.133 (0.085)	0.123 (0.083)	0.123 (0.084)	0.118 (0.085)	0.128 (0.083)	0.005 (0.019)	0.002 (0.019)	0.001 (0.019)	0.002 (0.019)	0.002 (0.019)	0.078 (0.144)	0.077 (0.146)	0.049 (0.145)	0.051 (0.149)	0.073 (0.146)
Sales/Total Assets	0.006 (0.008)	0.009 (0.008)	0.006 (0.008)	0.007 (0.008)	0.008 (0.008)	0.0007 (0.001)	0.0004 (0.001)	0.0005 (0.001)	0.0006 (0.001)	0.0004 (0.001)	-0.012 (0.012)	-0.021[c] (0.011)	-0.022[c] (0.011)	-0.018 (0.012)	-0.022[c] (0.011)
Current Assets/Current Liabilities	-0.001 (0.005)	0.001 (0.005)	0.001 (0.005)	-0.001 (0.005)	0.001 (0.005)	-0.001 (0.001)	0.0001 (0.001)	0.0002 (0.001)	0.0002 (0.001)	0.0002 (0.001)	0.008[c] (0.004)	0.010[b] (0.004)	0.011[b] (0.004)	0.011[b] (0.004)	0.010[b] (0.004)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.013 (0.020)	0.016 (0.019)	0.019 (0.019)	0.018 (0.019)	0.016 (0.019)	-0.017[a] (0.003)	-0.017[a] (0.003)	-0.017[a] (0.003)	-0.017[a] (0.003)	-0.017[a] (0.003)	-0.214[a] (0.033)	-0.210[a] (0.031)	-0.213[a] (0.031)	-0.210[a] (0.031)	-0.210[a] (0.031)
Leverage	-0.040 (0.030)	-0.030 (0.029)	-0.046 (0.029)	-0.032 (0.030)	-0.030 (0.029)	-0.008 (0.005)	-0.008[c] (0.005)	-0.009 (0.005)	-0.008 (0.005)	-0.008 (0.005)	0.143[a] (0.041)	0.132[a] (0.039)	0.116[a] (0.039)	0.129[a] (0.040)	0.129[a] (0.039)
Total Assets	0.009[c] (0.004)	0.003 (0.003)	0.004[b] (0.003)	0.002 (0.003)	0.003 (0.003)	-0.0016[b] (0.001)	-0.0009[c] (0.001)	-0.0009[b] (0.001)	-0.0009[b] (0.001)	-0.0009[c] (0.001)	-0.080[a] (0.007)	-0.074[a] (0.006)	-0.075[a] (0.006)	-0.074[a] (0.006)	-0.073[a] (0.006)
Firm Age	0.012[b] (0.005)	0.012[b] (0.005)	0.011 (0.005)	0.013[b] (0.005)	0.012[b] (0.005)	-0.0006 (0.001)	-0.0008 (0.001)	-0.0009 (0.001)	-0.0009 (0.001)	-0.0008 (0.001)	-0.020[a] (0.007)	-0.021[a] (0.006)	-0.022[a] (0.006)	-0.021[a] (0.006)	-0.021[a] (0.006)
Cash Flow Operating Activities/Total Assets	0.008 (0.081)	-0.030 (0.078)	-0.046 (0.077)	-0.009 (0.079)	-0.030 (0.078)	6.447[a] (0.018)	6.448[a] (0.017)	6.449[a] (0.017)	6.447[a] (0.017)	6.448[a] (0.017)	6.988[a] (0.121)	7.014[a] (0.118)	7.014[a] (0.118)	6.992[a] (0.119)	7.010[a] (0.117)
Cash Dividend Paid Total/Total Assets	0.066 (0.105)	0.047 (0.101)	0.029 (0.103)	0.081 (0.103)	0.050 (0.102)	0.082[a] (0.025)	0.080[a] (0.024)	0.079[a] (0.024)	0.079[a] (0.025)	0.079[a] (0.024)	0.569[a] (0.158)	0.607[a] (0.155)	0.576[a] (0.156)	0.598[a] (0.159)	0.595[a] (0.154)
Capital Expenditure/Total Assets	-0.243[b] (0.121)	-0.276[b] (0.114)	-0.312[a] (0.114)	-0.266[b] (0.116)	-0.278[b] (0.115)	0.120[a] (0.018)	0.118[a] (0.017)	0.115[a] (0.017)	0.114[a] (0.017)	0.119[a] (0.017)	0.464[a] (0.148)	0.384[a] (0.146)	0.398[a] (0.146)	0.381[a] (0.148)	0.392[a] (0.145)
Interest Cover	-0.001 (0.004)	-0.001 (0.004)	-0.001 (0.004)	0.001 (0.004)	-0.001 (0.004)	0.0002 (0.001)	0.0002 (0.001)	0.0003 (0.001)	0.0002 (0.001)	0.0002 (0.001)	0.020[a] (0.005)	0.021[a] (0.005)	0.020[a] (0.005)	0.021[a] (0.005)	0.020[a] (0.005)
Total Debt/Total Shareholders Equity	0.002 (0.001)	0.002[c] (0.001)	0.002[b] (0.001)	0.002[c] (0.001)	0.002[c] (0.001)	0.0008[b] (0.001)	0.0006[b] (0.001)	0.0006[b] (0.001)	0.0007[b] (0.001)	0.0006[b] (0.001)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)
Receivables/Total Assets	-0.223[a] (0.064)	-0.227[a] (0.062)	-0.224[a] (0.062)	-0.229[a] (0.062)	-0.220[a] (0.062)	-0.003 (0.009)	-0.003 (0.009)	-0.004 (0.009)	-0.003 (0.009)	-0.003 (0.009)	0.127[c] (0.070)	0.129[c] (0.068)	0.125[c] (0.068)	0.122[c] (0.069)	0.134[b] (0.068)
Book to Market Value	-0.040[a] (0.013)	-0.031[b] (0.013)	-0.033[b] (0.013)	-0.033[b] (0.013)	-0.030[b] (0.013)	-0.002[c] (0.001)	-0.003[a] (0.001)	-0.003[a] (0.001)	-0.003[b] (0.001)	-0.003[a] (0.001)	0.027[c] (0.015)	0.013 (0.013)	0.012 (0.014)	0.014 (0.014)	0.012 (0.013)
Depreciation/PPE	0.056[a] (0.010)	0.055[a] (0.009)	0.054[a] (0.009)	0.056[a] (0.009)	0.055[a] (0.009)	0.003[c] (0.002)	0.003[c] (0.002)	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)	0.082[a] (0.016)	0.073[a] (0.015)	0.076[a] (0.015)	0.072[a] (0.015)	0.072[a] (0.015)
Operating Income/Total Assets	0.078 (0.094)	0.097 (0.090)	0.094 (0.091)	0.048 (0.093)	0.096 (0.091)	0.104[a] (0.027)	0.110[a] (0.026)	0.110[a] (0.027)	0.113[a] (0.027)	0.111[a] (0.026)	0.831[a] (0.167)	0.800[a] (0.165)	0.844[a] (0.166)	0.830[a] (0.171)	0.812[a] (0.165)
EPS	-0.010 (0.007)	-0.009 (0.007)	-0.009 (0.006)	-0.009 (0.007)	-0.009 (0.007)	0.0011 (0.001)	0.0012[c] (0.001)	0.0013[c] (0.001)	0.0012 (0.001)	0.0012[c] (0.001)	0.002 (0.010)	0.002 (0.010)	0.002 (0.010)	0.002 (0.010)	0.001 (0.010)
GDP Growth	-0.502[a] (0.091)	-0.532[a] (0.088)	-0.529[a] (0.089)	-0.538[a] (0.098)	-0.513[a] (0.097)	-0.095[a] (0.025)	-0.088[a] (0.024)	-0.088[a] (0.024)	-0.090[a] (0.024)	-0.084[a] (0.025)	0.137 (0.534)	0.167 (0.541)	0.166 (0.542)	0.166 (0.537)	0.212 (0.540)
Market Capitalisation/GDP	-0.075[a] (0.013)	-0.075[a] (0.012)	-0.078[a] (0.012)	-0.073[a] (0.013)	-0.075[a] (0.013)	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)	-0.020 (0.064)	-0.019 (0.066)	-0.013 (0.066)	-0.020 (0.066)	-0.023 (0.066)
Government Expenditure/GDP	3.054[a] (0.611)	2.775[a] (0.607)	2.741[a] (0.610)	2.597[a] (0.629)	2.889[a] (0.661)	-0.252[b] (0.107)	-0.226[b] (0.106)	-0.231[b] (0.107)	-0.233[b] (0.109)	-0.192[c] (0.116)	-0.090 (2.430)	0.063 (2.483)	0.064 (2.490)	0.162 (2.458)	0.471 (2.490)
Highest Remuneration/Market Capitalisation	-0.035[c] (0.018)					0.0001 (0.002)					-0.047[b] (0.023)				
Board Size	0.056[b]	-0.031	-0.132	0.066	0.061	0.006[c]	0.006	-0.002	0.009	0.003	0.014	0.142	0.024	0.032	0.147[c]

	(0.027)	(0.057)	(0.126)	(0.057)	(0.067)	(0.003)	(0.009)	(0.014)	(0.006)	(0.008)	(0.040)	(0.090)	(0.157)	(0.088)	(0.080)
Highest Remuneration*Board Size	**0.019[b]** **(0.008)**					-0.0004 (0.001)					0.017 (0.011)				
Compensation Committee Index		-0.102[b] (0.046)					0.001 (0.007)					0.083 (0.064)			
Compensation Committee Index*Board Size		**0.048[b]** **(0.020)**					-0.001 (0.003)					-0.035 (0.031)			
CEO Years of Experience			-0.120 (0.080)					-0.003 (0.010)					0.015 (0.105)		
CEO Years of Experience*Board Size			**0.071[c]** **(0.038)**					0.002 (0.004)					0.006 (0.049)		
CEO Specific Skills				-0.174 (0.219)					0.015 (0.024)					-0.047 (0.292)	
CEO Specific Skills*Board Size				0.046 (0.093)					-0.006 (0.010)					0.044 (0.137)	
CEO Characteristics Index					-0.021 (0.040)					-0.0001 (0.005)					0.071 (0.046)
CEO Characteristics Index*Board Size					0.011 (0.017)					0.001 (0.002)					-0.029 (0.021)
Constant	-0.973[a] (0.154)	-0.638[a] (0.190)	-0.517[c] (0.305)	-0.752[a] (0.203)	-0.874[a] (0.238)	0.078[a] (0.022)	0.063[b] (0.029)	0.079[b] (0.039)	0.056[b] (0.026)	0.057[c] (0.031)	0.731 (0.508)	0.315 (0.541)	0.499 (0.613)	0.528 (0.540)	0.203 (0.543)
R-square	0.087	0.087	0.091	0.088	0.086	0.997	0.997	0.997	0.997	0.997	0.872	0.871	0.872	0.869	0.871
N	2,258	2,366	2,362	2,314	2,366	2,562	2,686	2,679	2,623	2,686	2,562	2,686	2,679	2,623	2,686
F-value	33.13[a]	26.89[a]	32.73[a]	16.78[a]	32.12[a]	13449.74[a]	13514.54[a]	13505.07[a]	13096.51[a]	13728.65[a]	339.02[a]	346.73[a]	344.19[a]	325.13[a]	345.87[a]
Yearly fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

EMJ denotes Modified Jones (1995) EM, EMDD denotes Dechow and Dichev (2002) EM, and EMM denotes McNichols (2002) EM. SE is in parentheses. Inflation has dropped out due to the inclusion of yearly fixed effects. Compensation committee index is based on the dummy compensation committee index values, [a], [b], and [c] indicate statistical significance at the 0.01, 0.05, 0.10 levels.

H7: Higher CEO remuneration and compensation are positively associated with a higher likelihood of EM.

And

H8: Greedy CEOs is positively associated with earnings management.

Referring to Table 5.1. above, the main differences between the baseline regression results and the regression coefficient estimates with CEO years of experience lie in the significance and magnitude of certain coefficients. For example, in the baseline Table 4.1, the coefficient for ROA is significant at the 1% level (0.253a) while in the regression with CEO years of experience, it is only significant at the 10% level (0.183c). Additionally, the CEO years of experience coefficient is significant in the regression table (0.025a), indicating a positive correlation with the dependent variable, which is not present in the baseline table, suggesting that CEO years of experience may influence the model's outcomes significantly. CEO years of experience positively influence the regression coefficients, as indicated by the significant coefficient estimates in the regression table (0.025a for EMJ_{1995}, 0.002 for $EMDD_{2002}$, and 0.015 for EMM_{2002}). This suggests that greater CEO years of experience is associated with improved performance metrics in the models analysed. The presence of a significant coefficient for CEO years of experience implies that it may play a crucial role in influencing the financial outcomes represented by the regression models. In Table 5.1, the research has used CEO experience variable as a tenure or a number of years a CEO has spent in leadership roles, and this type of data has been collected from the CEO profile in the firm's annual report for each individual year from the period 1998-2022, and on the CEO LinkedIn profile, please refer to the variables definitions in Appendix I for more details of the variables definitions. From the CEO leadership roles helps the research explain CEO experience because the nature, scope, and duration of these roles reflect the CEOs accumulated knowledge, decision-making capacity, and strategic influence within firms over time.

The coefficient for government expenditure over GDP shows variation across the different models. It is significant and positive in the $EMDA_{1986}$ model (2.764a) and remains significant in the EMJ_{1991} (2.747a) and EMJ_{1995} (2.751a) models, but it becomes negative and significant in the $EMDD_{2002}$ model (-3.882) and slightly negative in the EMM_{2002} model (-1.692). This change indicates that the correlation between government expenditure over GDP and the dependent variable shifts from positive to negative in later models, suggesting that the impact of government expenditure over GDP may differ over time or under varying economic conditions. The difference

highlights the importance of model specification and the context in which the data is analysed.

The main differences between the baseline regression results and the regression coefficient estimates with CEO specific skills are in the significance and values of certain coefficients. In the baseline table, the coefficient for ROA is significantly positive for $EMDA_{1986}$ (0.253^a) and negative for $EMDD_{2002}$ (-0.045), while in the CEO skills table, ROA shows a positive coefficient for EMJ_{1995} (0.142) but negative for $EMDD_{2002}$ (-0.084). The inclusion of CEO specific skills appears to alter the significance and impact of financial metrics, suggesting that CEO capabilities may influence financial performance differently across various models, highlighting the importance of leadership in financial outcomes.

The main differences between the baseline table and the regression estimate table that includes the CEO characteristics index can be highlighted with the inclusion of CEO characteristics, coefficient values, statistical significance, interactions with other variables, interpretations of results and overall impact. Firstly, the regression estimate table that includes the CEO characteristics index directly integrates specific attributes of the CEO for example, CEO years of experience, CEO age, and CEO educational levels into the mode. The baseline table does not consider these individual traits, focusing instead on broader financial metrics and relationships. In the baseline results Table 5.5, for example, financial metrics such as, ROA and capital expenditure over total assets show coefficients without influence from CEO characteristics. The coefficient for ROA is lower, reflecting a limited understanding of performance as not accounting for leadership.

In contrast, when CEO characteristics are included, coefficients for those same variables may change significantly. For example, ROA may exhibit different coefficients (0.181) compared to lower values in the baseline, and gain significance, showing how CEO traits can enhance or diminish the correlation with financial performance. The level of significance changes when CEO characteristics are incorporated. In the baseline model, some coefficients may not be statistically

significant. When CEO characteristics are added, the statistical significance of coefficients may increase, indicating that CEO skills have a measurable impact on financial outcomes. For example, in the baseline, certain effects might not reach significance, while in the CEO-inclusive model, the adjusted coefficients yield a clearer and statistically significant picture of which financial metrics are affected by leadership traits.

The inclusion of the CEO characteristics index allows the model to explore interactions that are absent in the baseline. For example, the correlation between operating income and CEO characteristics might become evident only when the specific attributes are factored in, revealing deeper insights into how leadership influences financial ratios such as, operating income over total asserts. To summarise, the differences highlight the importance of recognising CEO attributes in financial analysis. It suggests that firm's performance cannot by fully understood without considering the impact of CEO skills and traits. To conclude with Table 5.1 hypotheses, hypotheses 7 is statistically met and approved based on the regression estimate in the table, so the hypothesis is met.

Table 5.2 Regression coefficient estimates with CEO narcissistic signature size

Variables	EMJ₁₉₉₅	EMJ₁₉₉₅	EMDD₂₀₀₂	EMDD₂₀₀₂	EMM₂₀₀₂	EMM₂₀₀₂	EMJ₁₉₉₅	EMJ₁₉₉₅	EMDD₂₀₀₂	EMDD₂₀₀₂	EMM₂₀₀₂	EMM₂₀₀₂
ROA	0.190 (0.125)	0.185 (0.151)	0.019 (0.015)	-0.002 (0.016)	0.257 (0.181)	0.058 (0.207)	0.195 (0.124)	0.199 (0.151)	0.018 (0.015)	-0.002 (0.016)	0.256 (0.181)	0.060 (0.207)
Sales/Total Assets	0.014 (0.009)	0.027[b] (0.012)	0.001 (0.001)	0.001 (0.001)	-0.016 (0.013)	-0.033[b] (0.016)	0.015 (0.009)	0.027[b] (0.012)	0.001 (0.001)	0.001 (0.001)	-0.015 (0.013)	-0.033[b] (0.016)
Current Assets/Current Liabilities	0.005 (0.005)	0.005 (0.006)	0.001 (0.001)	0.0001 (0.001)	0.013[c] (0.008)	0.008 (0.009)	0.005 (0.005)	0.006 (0.006)	0.001 (0.001)	0.001 (0.001)	0.014[c] (0.008)	0.008 (0.009)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.003 (0.013)	0.011 (0.021)	-0.010[a] (0.001)	-0.015[a] (0.002)	-0.200[a] (0.019)	-0.243[a] (0.029)	0.002 (0.013)	0.012 (0.021)	-0.010[a] (0.001)	-0.015[a] (0.002)	-0.200[a] (0.019)	-0.242[a] (0.029)
Leverage	-0.008 (0.041)	-0.059 (0.050)	-0.005 (0.005)	-0.003 (0.005)	0.194[a] (0.059)	0.207[a] (0.069)	-0.011 (0.041)	-0.061 (0.050)	-0.005 (0.005)	-0.003 (0.005)	0.195[a] (0.059)	0.207[a] (0.069)
Total Assets	0.015[a] (0.003)	0.009 (0.005)	0.001 (0.001)	-0.001 (0.001)	-0.064[a] (0.005)	-0.085[a] (0.007)	0.014[a] (0.003)	0.009[c] (0.005)	0.001 (0.001)	-0.001 (0.001)	-0.064[a] (0.005)	-0.085[a] (0.007)
Firm Age	-0.002 (0.007)	0.005 (0.009)	-0.0011 (0.001)	-0.001 (0.001)	-0.016 (0.010)	-0.024[b] (0.012)	-0.002 (0.007)	0.005 (0.009)	-0.001 (0.001)	-0.001 (0.001)	-0.015 (0.010)	-0.024[b] (0.012)
Cash Flow Operating Activities/Total Assets	0.033 (0.102)	-0.087 (0.128)	6.464[a] (0.012)	6.479[a] (0.014)	7.033[a] (0.148)	7.166[a] (0.175)	0.028 (0.102)	-0.092 (0.127)	6.463[a] (0.012)	6.479[a] (0.014)	7.027[a] (0.148)	7.166[a] (0.175)
Cash Dividend Paid Total/Total Assets	0.016 (0.137)	0.009 (0.160)	0.060[a] (0.017)	0.047[b] (0.019)	0.277 (0.207)	0.488[b] (0.233)	0.020 (0.137)	0.013 (0.160)	0.059[a] (0.017)	0.046[b] (0.019)	0.276 (0.207)	0.488[b] (0.233)
Capital Expenditure/Total Assets	-0.295[b] (0.147)	-0.340[c] (0.202)	0.097[a] (0.018)	0.129[a] (0.021)	0.421[b] (0.209)	0.199 (0.264)	-0.305[b] (0.147)	-0.349[c] (0.202)	0.096[a] (0.018)	0.129[a] (0.021)	0.414[b] (0.209)	0.196 (0.264)
Interest Cover	-0.004 (0.006)	-0.012 (0.007)	-0.001 (0.001)	0.001 (0.001)	0.021[a] (0.008)	0.027[a] (0.009)	-0.005 (0.006)	-0.012 (0.007)	0.001 (0.001)	0.001 (0.001)	0.021[a] (0.008)	0.027[a] (0.009)
Total Debt/Total Shareholders Equity	0.001 (0.002)	0.001 (0.002)	-0.001 (0.001)	0.001 (0.001)	0.001 (0.003)	0.001 (0.003)	0.001 (0.002)	0.001 (0.002)	-0.001 (0.001)	0.001 (0.001)	0.001 (0.003)	0.001 (0.003)
Receivables/Total Assets	-0.133[b] (0.059)	-0.322[a] (0.075)	-0.012[c] (0.007)	-0.005 (0.007)	0.115 (0.082)	0.229[b] (0.096)	-0.137[b] (0.059)	-0.315[a] (0.074)	-0.013[a] (0.007)	-0.005 (0.007)	0.109 (0.082)	0.229[b] (0.096)
Book to Market Value	-0.013 (0.012)	-0.019 (0.017)	-0.004[b] (0.001)	-0.001 (0.001)	0.002 (0.019)	0.047[b] (0.024)	-0.013 (0.012)	-0.020 (0.017)	-0.004[b] (0.001)	-0.001 (0.001)	0.001 (0.019)	0.046[c] (0.024)
Depreciation/PPE	0.030 (0.020)	0.068[a] (0.022)	-0.001 (0.002)	0.003 (0.002)	0.091[a] (0.030)	0.094[a] (0.033)	0.031 (0.020)	0.070[a] (0.022)	-0.001 (0.002)	0.003 (0.002)	0.093[a] (0.030)	0.094[a] (0.033)
Operating Income/Total Assets	-0.209 (0.136)	0.078 (0.164)	0.077[a] (0.017)	0.095[a] (0.018)	0.854[a] (0.199)	0.773[a] (0.230)	-0.206 (0.136)	0.062 (0.164)	0.077[a] (0.017)	0.095[a] (0.018)	0.854[a] (0.199)	0.771[a] (0.230)
EPS	0.020[b] (0.008)	0.016[c] (0.009)	0.001 (0.001)	0.001 (0.001)	0.002 (0.012)	0.011 (0.012)	0.020[b] (0.008)	0.016[c] (0.009)	0.001 (0.001)	0.001 (0.001)	0.002 (0.012)	0.011 (0.012)
GDP Growth	-0.619 (1.157)	-0.720 (1.140)	-0.083 (0.154)	-0.094 (0.139)	0.403 (1.785)	0.083 (1.710)	-0.612 (1.156)	-0.719 (1.139)	-0.083 (0.154)	-0.094 (0.139)	0.405 (1.786)	0.081 (1.710)
Market Capitalisation/GDP	-0.046 (0.108)	-0.041 (0.107)	-0.001 (0.014)	0.002 (0.013)	-0.005 (0.167)	0.021 (0.160)	-0.043 (0.108)	-0.036 (0.107)	-0.001 (0.014)	0.002 (0.013)	-0.003 (0.167)	0.022 (0.160)
Government Expenditure/GDP	1.138 (4.448)	0.575 (4.390)	-0.171 (0.592)	-0.254 (0.535)	1.893 (6.858)	-0.122 (6.578)	1.039 (4.445)	0.479 (4.386)	-0.168 (0.592)	-0.246 (0.535)	1.859 (6.859)	-0.157 (6.576)
CEO Narcissistic Signature Size	0.077 (0.055)	**0.936[a] (0.263)**	-0.003 (0.007)	-0.023 (0.029)	0.097 (0.081)	0.092 (0.357)						
CEO Characteristics Index	0.008		0.001		**0.034[a]**							

	(0.008)		(0.001)		**(0.012)**							
CEO Narcissistic Signature*CEO Characteristics Index	-0.015 (0.016)		0.001 (0.002)		-0.028 (0.024)							
Board Size		**0.232a (0.054)**		0.001 (0.006)		0.065 (0.074)						
CEO Narcissistic Signature*Board Size		**-0.402a (0.115)**		0.011 (0.012)		-0.042 (0.158)						
CEO Narcissistic Signature Size (Adj)							**0.106b (0.053)**	**0.980a (0.267)**	-0.001 (0.006)	-0.021 (0.029)	0.097 (0.077)	0.173 (0.364)
CEO Characteristics Index							0.010 (0.008)		0.001 (0.001)		**0.033a (0.012)**	
CEO Narcissistic Signature (Adj)*CEO Characteristics Index							-0.019 (0.016)		0.001 (0.002)		-0.026 (0.023)	
Board Size								**0.246a (0.057)**		0.001 (0.006)		0.081 (0.078)
CEO Narcissistic Signature (Adj)*Board Size								**-0.415a (0.117)**		0.010 (0.013)		-0.077 (0.161)
Constant	-0.609 (0.903)	-0.879 (0.900)	0.048 (0.120)	0.076 (0.109)	-0.103 (1.391)	0.632 (1.345)	-0.597 (0.903)	-0.901 (0.900)	0.046 (0.120)	0.074 (0.109)	-0.097 (1.391)	0.601 (1.346)
R-square	0.082	0.116	0.997	0.998	0.849	0.861	0.085	0.117	0.997	0.998	0.849	0.861
N	1,670	1,225	1,872	1,395	1,872	1,395	1,668	1,225	1,870	1,395	1,870	1,395
F-value	2.46a	2.79a	13363.61a	12740.50a	173.77a	150.96a	2.54a	2.83a	13337.05a	12735.40a	173.32a	150.98a
Yearly fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

EMJ denotes Modified Jones (1995) EM, EMDD denotes Dechow and Dichev (2002) EM, and EMM denotes McNichols (2002) EM. SE is in parentheses. CEO narcissistic signature size is based on the absolute CEO narcissistic signature values, [a], [b,] and [c] indicate statistical significance at the 0.01, 0.05, 0.10 levels.

H₉: The more narcissistic the CEO, the more EM they undertake.

With regard CEO narcissistic signature size in Table 5.2, the analysis shows a significant correlation between CEO narcissistic signature size and EM (p-value ≤ 0.01). This finding validates hypothesis H9, indicating that narcissistic traits correlate with an increased propensity for financial reporting. The study by Chatterjee and Hambrick (2007), amplifies this understanding, asserting that narcissistic CEOs often chase personal accolades, potentially overlooking ethical considerations. These two variables also exert a remarkable influence on EM practices, with both showing significance (p-value ≤ 0.01 and 0.05). The adjusted narcissistic signature seems to amplify the negative implications of pure narcissism when coupling with other firm's factors, as suggested by the works of Goh et al. (2015), wherein CEO characteristics collectively influence EM tendencies. Referring to section 4.1 in Chapter four, this section presents the baseline fixed-effects regression results examining the association between CG mechanisms, CEO characteristics, ownership structure, and EM, providing the principal foundation for testing hypotheses H1-H10. The baseline regressions incorporating industry and year fixed effects provide consistent and statistically robust evidence that EM is significantly influenced by governance quality and CEO-level attributes in UK listed firms.

First, CG quality exhibits a strong negative association with EM, indicating that firms with more effective governance structures engage in significantly lower levels of discretionary accruals. This finding support H1 and confirms that governance mechanisms retain explanatory power even after controlling for unobserved firm-specific heterogeneity. Second, CEO characteristics collectively exert a meaningful influence on EM, supporting H2. In particular, CEO experience, tenure, and behavioural attributes demonstrates economically significant associations with EM practices, suggesting that CEO discretion operates within but is not fully considered by formal governance mechanisms. Third, ownership structure variables reveal that foreign and domestic institutional ownership are generally associated with lower earnings management, though the magnitude of this effect varies across specifications. This highlights the disciplinary role of institutional investors, while also motivating the deeper behavioural analysis developed in subsequent chapters. Overall, the fixed-effects baseline results confirm that the observed relationships are not driven by time-specific shocks or industry-level characteristics, thereby strengthening the internal validity of the empirical strategy. Detailed coefficient-by-

coefficient discussion and benchmark regressions without fixed effects are best relocated to an Appendix V, as they do not alter the substantive conclusions.

Referring to Section 5.2 in Chapter five, this section examines whether CEO narcissism, proxied by signature size, provides incremental explanatory power in explaining EM beyond traditional governance and CEO characteristics. The regression results incorporating CEO narcissistic signature size provide clear and consistent evidence that narcissistic traits are positively associated with EM, even after controlling for governance quality, compensation incentives, and ownership structure. Specifically, the coefficient on CEO narcissism is positive and statistically significant across multiple model specifications, indicating that firms led by more narcissistic CEOs are more likely to engage in EM. This finding aligns with behavioural agency theory, suggesting that narcissistic CEOs exhibit heightened self-confidence and reputation concerns, which may incentivise financial reporting distortions. Importantly, the inclusion of CEO narcissism does not materially weaken the explanatory power of CG variables. Instead, the results suggest a complementary relationship, whereby strong governance mechanisms partially mitigate but do not eliminate the behavioural effects of narcissistic leadership.

These findings reinforce the thesis's central contribution by demonstrating that EM is shaped not only by formal governance structures, but also by deep-seated CEO behavioural traits, providing empirical support for H9 and extending prior literature that largely neglects behavioural dimensions. Therefore, taken together, these results confirm that incorporating behavioural CEO traits such as, narcissism provides a more complete and theoretically grounded explanation of EM practices than models relying solely on traditional governance and incentive variables.

A comparative analysis between the regression estimates from Table 4.1 which is the baseline regression table and the findings in Table 5.1 and 5.2 reveals noteworthy variations in statistical significance across key variables. In Table 4.1, EM employed several traditional financial metrics such as, ROA and sales over total assets, showing mixed significance levels. Notably, ROA has a statistically significant influence at (p-value ≤ 0.01) level, indicating a strong correlation with EM practices, in contrast to newer characteristics evaluated in Tables 5.1 and 5.2. in Table 5.1, the variable related

to highest CEO remuneration over market capitalisation showed a stronger significance (*p*-value ≤ 0.01) compared to ROA's significance, illustrating an emerging insight into how executive compensation structures more directly incentivise EM strategies. Table 5.2 presents a marked increase in the impact of personality traits such as, CEO narcissism and the characteristics index, which were less explored in Table 4.1. The narcissism variables exhibited significance at (*p*-value ≤ 0.01), underscoring the evolving nature of research that increasingly incorporates psychological and personal traits into the analysis of executive behaviour and its influence on firm financial reporting. To conclude with Table 5.2, hypothesis H_6 below is statistically positive significant (*p*-value ≤ 0.01) with EMM_{2002}, which indicates that CEO characteristics index influences EM which consists of dummy variables such as, CEO gender, chairman is executive CEO, CEO background and skills, and CEO educational level. CEO gender can influence EM through differences in ethical orientation, risk tolerance, conservatism, and leadership behaviour (Peni and Vahamaa, 2010).

H_6: CEO gender is associated with earnings management, such that firms led by female CEOs engage in lower levels of earnings management than firms led by male CEOs.

The results relating to H6 above indicate that CEO gender is negatively and statistically significantly associated with EM, supporting the prediction that firms led by female CEOs exhibit lower levels of EM practices relative to those led by male CEOs. This finding remains robust after controlling for firm-specific characteristics, CG mechanisms, and fixed effects, suggesting that gender-related behavioural differences have independent explanatory power in shaping financial reporting outcomes (Peni and Vahamaa, 2010; Francis et al, 2015). Importantly, the observed gender effect should be interpreted in conjunction with the CEO characteristics index, rather than in isolation. The index aggregates several dimensions of executive quality and behaviour including general CEO experience, tenure, educational background, and behavioural attributes which collectively capture a CEO's capacity to influence reporting discretion. The statistical significance of the gender variable alongside the index indicates that female CEOs tend to score more favourably on specific components of the index that are associated with lower EM, such as longer decision horizons, lower risk tolerance,

and stronger monitoring orientation (Adams and Ferreira, 2009; Huang and Kisgen, 2013).

Further interpretation indicates that the observed gender effect is not driven by a single component of the index, but rather by the interaction of multiple executive attributes. Prior research shows that female CEOs are generally more risk-averse (Faccio et al, 2016). Female CEOs are less likely to engage in opportunistic reporting (Barua et al, 2010). In addition, female CEOs are more sensitive to reputational and legal risks associated with aggressive accounting practices (Ho et al, 2015). These traits align closely with index components related to experience, governance discipline, and behavioural restraint, thereby reinforcing the constraining effect on EM. Overall, the results imply that CEO gender operates both directly and indirectly through broader executive characteristics, strengthening the argument that gender diversity at the executive level contributes meaningfully to higher financial reporting quality. This evidence supports behavioural governance theories which posit that executive heterogeneity enhances oversight and reduces CEO opportunism (Bertrand and Schoar, 2003; Adams et al, 2010). Consequently, the findings provide strong empirical support for H6, underscoring the role of female leadership as a governance mechanism that mitigates EM through both behavioural and structural channels.

5.8 Conclusion

This chapter examined the empirical findings on the relationship between CEO characteristics, compensation incentives, corporate governance mechanisms, and earnings management (EM) in UK listed firms. By structuring the discussion explicitly around the study's hypotheses, the chapter demonstrates how the empirical evidence directly addresses the research questions outlined in Chapter one. The findings provide robust evidence that CEO attributes play a significant role in shaping financial reporting behaviour. In particular, generalist experience, longer tenure, and female leadership associated with lower levels of EM, supporting behavioural and reputational explanations of CEO decision-making. These results reinforce the argument that EM cannot be fully understood without considering CEO heterogeneity and behavioural incentives. The analysis further reveals that compensation structures remain a critical driver of EM. Consistent with agency theory, higher performance-linked remuneration

increases incentives for EM practices, particularly in environments characterised by weaker governance oversight. Importantly, this study demonstrates that compensation effects are conditional on governance quality, thereby extending prior research that examines pay-performance incentives in isolation.

Corporate governance mechanisms are shown to play a central, though not uniformly binding, role in constraining EM. Firms with weaker governance structures exhibit significantly higher levels of EM, particularly when combined with adverse CEO behavioural traits. This finding highlights the interaction between governance structures and executive behaviour, underscoring the importance of examining governance effectiveness rather than governance presence alone. Overall, the evidence presented in this chapter confirms that EM is best understood as the outcome of interacting governance, incentive, and behavioural forces. By integrating CEO characteristics, compensation incentives, and corporate governance within a unified empirical framework, this chapter provides a coherent explanation of EM behaviour and sets the foundation for the broader theoretical, practical, and policy implications discussed in the subsequent chapters.

The collective findings from Tables 5.1 and 5.2 substantiate the hypothesis that specific characteristics of CEOs are integral to understanding EM behaviours. The significant relationships identified between remuneration ratios, experience, specific skills, and narcissistic traits reinforce the need to holistically assess executive influence in corporate governance. While traditional financial metrics remain relevant, the nuanced insights from psychological and experiential frameworks present in this chapter provide critical implications for future research and practice in corporate accountability. To summarise this chapter captured various CEO compensations determinants and different CEO characteristics that influences EM across various EM models. We have captured total senior executive compensation which refers to the total combined remuneration of the CEO in the firm for a given fiscal year. We have also captured CEO specific skills which is a percentage that relates to the CEO who have either an industry specific background or a strong financial background that relates to the CEO profile, focusing on the specialised skills or experience a CEO brings to the firm.

This chapter provides robust empirical evidence that EM in UK listed firms is systematically influenced by CEO-level characteristics, even after controlling for CG structures, ownership composition, and firm-specific factors. The key results demonstrate that behavioural and experiential CEO attributes exhibit statistically and economically meaningful associations with discretionary accruals across multiple model specifications. Importantly, these findings remain stable under alternative estimations and fixed-effects frameworks, reinforcing the reliability of the results and confirming that CEO heterogeneity represents a significant explanatory dimension beyond traditional governance mechanisms. By consolidating the empirical evidence and aligning it explicitly with the stated hypotheses, this chapter strengthens the overall contribution of the thesis to the EM literature.

The central contribution of Chapter five lies in demonstrating that CEO behavioural traits particularly narcissism and greed play a pivotal role in shaping EM behaviour. The evidence shows that narcissistic CEOs, proxied by signature size, are more likely to engage in EM, consistent with behavioural agency theory and upper-echelons perspectives that emphasis self-image, overconfidence, and reputational concerns. Similarly, greed-related incentives embedded in compensation structures further amplify CEO discretion over financial reporting outcomes. These findings highlight that EM can not be fully understood through governance and incentive mechanisms alone but must also account for the psychological attributes of top executives. By empirically integrating greed and narcissism into earnings management analysis, this chapter advances the literature by offering a more nuanced and behaviourally grounded explanation of CEO reporting choices. To conclude with this chapter, this chapter illustrates the vital relationship between CEO characteristics and EM, suggesting that executives personal and professional trats can significantly shape fiscal policies and practices within firms. The increasing complexity of EM necessitates a deeper understating of these connections to enhance CG strategies effectively. Chapter 6 reveals the factors such as, foreign and domestic institutional ownership which play a significant role in shaping managerial decisions regarding financial reporting and EM practices.

CHAPTER 6

Effects of Foreign and Domestic Ownership on Earnings Management

6.1 *Introduction*

Following the previous chapter, this chapter is focusing on the three EM modules. This chapter would include the correlation between EM and ownership effects, and we would have one regression estimation that are foreign investment ownership combined with domestic investment ownership estimates. EM is a crucial phenomenon in financial reporting that allows corporate management to influence their reported earnings, often to meet financial benchmarks. The intersection of institutional ownership relating to foreign and domestic institutional ownership, plays a significant role in EM practices. In the contemporary financial landscape, the relationship between stakeholder governance and EM has attracted extensive research. Notably, foreign institutional ownership is posited to mitigate EM through enhanced oversight, while domestic ownership may have the opposite effect (Cohen et al., 2008; Fan and Wong, 2002). This chapter evaluates the regression estimates presented in Table 6.1, focusing on the significance of institutional ownership, and provides a comparative analysis with findings from our baseline regression estimates from Table 4.1, which incorporates various financial performance indicators.

Hypothesis one below examines the role of institutional ownership as an external governance mechanism in constraining EM, with particular attention to the distinct monitoring roles of domestic and foreign institutional ownership. Prior literature suggests that institutional ownership possess both the incentives and the resources to monitor CEO behavioural and reduce opportunistic financial reporting (Shleifer and Vishny, 1997; Bushee, 1998). Empirical evidence further indicates that higher institutional ownership is generally associated with improved governance outcomes and lower levels of EM (Koh, 2003; Cornett et al, 2008). Importantly, foreign institutional ownership are often viewed as more effective monitors than domestic institutions due to their exposure to global governance standards, stronger shareholder protection norms, and greater sensitivity to reputational risk (Aggarwal et

al, 2011; Ferreira et al, 2011). Domestic institutional ownership, while also influential, may exhibit heterogeneous monitoring incentives depending on their investment horizons and strategic objectives (Bushee, 2001; Chung et al, 2018).

Consistent with agency theory, hypothesis one posits that increased domestic and foreign institutional ownership should be associated with lower EM due to enhanced oversight and reduced CEO discretion. However, drawing on behavioural agency theory and the upper echelons perspective, H1 further recognises that the effectiveness of institutional monitoring is contingent on ownership structure and CEO behavioural traits, particularly greed and narcissism (Wiseman and Gomez-Mejia, 1998; Hambrick, 2007). CEOs exhibiting high levels of narcissism or greed may resist external monitoring or exploit informational asymmetries to pursue self-interested reporting strategies, potentially weakening the disciplinary impact of institutional ownership (Chatterjee and Hambrick, 2007; Rijsenbilt and Commandeur, 2017). Accordingly, this chapter empirically investigates whether institutional ownership reduces EM and whether this relationship is moderated by CEO behavioural characteristics, providing a structured and theoretically grounded foundation for interpreting the results related to hypothesis one.

6.2 *Regression Estimates*

Table 6.1 demonstrates the regression estimates that analyse foreign and domestic institutional ownership's impact on EM, highlighting the differing degrees of significance that mark the relationship between these ownership structures and EM levels. Also, Table 6.1 presents the results of a regression analysis examining the impact of foreign and domestic institutional ownership on EM, with particular attention to the interaction terms with CEO characteristics and boar size. The significance levels indicated in this table provide insights into how these variables relate to EM practices. The study employed a robust analytical framework encapsulating year and industry fixed effects, yielding a substantial dataset. According to foreign institutional ownership, the analysis revealed a coefficient of -0.835 with a significance of reaching (p-value ≤ 0.10) level for EMJ_{1995} model, reflecting the less pronounced effect of foreign ownership when examined comprehensively. This finding aligns with the hypothesis that increased foreign institutional ownership may lead to a decrease in EM practice, albeit with insufficient statistical support. Similar findings were noted in the

study by Chen et al (2010), which posits that foreign institutional investors tend to demand higher transparency and accountability, effectively reducing EM.

Conversely, in terms of domestic institutional ownership produced a coefficient of 0.215 with statistical significance level (p-value ≤ 0.01). Therefore, this supports the hypothesis one, which suggests that the greater domestic ownership correlates with increased EM levels. This observation correlates with increased EM levels. This observation correlates with prior research by Jensen and Meckling (1976) asserting that domestic shareholders may possess a lower level of oversight and thus may tolerate or even encourage EM practices. Furthermore, as a comparison with relevant literature, for triangulation, recent articles such as The Accounting Review and Journal of Accounting Research clarify how differing ownership structures influence EM outcomes. For example, Huang and Zhang (2011) found that firms with significant foreign investor presence tend to exhibit lower levels of accruals management. Their insights reinforce the idea that foreign ownership can function as a moderating factor against opportunistic EM behaviours.

Moreover, developing a comparative matrix between results from Table 6.1 and empirical literature reinforces the notion that EM is multifaceted, heavily dependent on investor behaviour and type. Instances of significant results in academic literature emphasize that the significant negative relationship relating to markets with considerable foreign ownership typically report an inverse relationship with EM, evidenced in multiple studies (Giacomino et al, 2007). In contrast, the presence of domestic investors was often positively correlated with EM tactics in various industries as documented in prior analyses (Beneish, 1999). In terms of comparison of the analysis of the baseline model in Table 4.1 and the interaction term regression estimate Table 6.1 that reveals notable differences regarding the significance of variables. In Table 4.1 that is the baseline model table incorporates various performance metrics such as ROA, which have shown significant correlations with EM across different models, highlighting the relationships with coefficients ranging significantly.

For example, ROA's coefficient of (0.253) indicates strong positive significance at the (p-value ≤ 0.01) level across several models and this has been referenced from established EM literature. According to the shift in significance in comparing Table 6.1's variables with the performance metrics in Table 4.1, changes in statistical significance signs are evident. For example, while foreign institutional ownership maintains a negative sign, it lacks statistical significance, suggesting its ineffectiveness in high EM environments without the robustness of oversight. Domestic institutional ownership, however, has a significant positive coefficient reinforcing EM behaviours.

These comparisons indicate a critical interaction, as domestic ownership rises, the likelihood of EM increases, while foreign ownership indicators would need to be revisited for contextual integration into earnings architectures based on regulatory environments across financial markets.

Table 6.1 Regression coefficient estimates with foreign and domestic institutional ownership

Variables	EMJ_{1995}	EMJ_{1995}	$EMDD_{2002}$	$EMDD_{2002}$	EMM_{2002}	EMM_{2002}	EMJ_{1995}	EMJ_{1995}	$EMDD_{2002}$	$EMDD_{2002}$	EMM_{2002}	EMM_{2002}
ROA	0.273[b] (0.114)	-0.059 (0.138)	0.040[a] (0.014)	0.014 (0.017)	0.323[b] (0.134)	0.135 (0.173)	0.297[a] (0.114)	-0.023 (0.138)	0.039[a] (0.014)	0.013 (0.017)	0.294[b] (0.135)	0.075 (0.174)
Sales/Total Assets	-0.022[a] (0.008)	0.008 (0.010)	-0.0010 (0.001)	-0.0002 (0.001)	-0.003 (0.009)	-0.008 (0.012)	-0.022[a] (0.008)	0.006 (0.010)	-0.0015 (0.001)	-0.0004 (0.001)	-0.007 (0.009)	-0.014 (0.012)
Current Assets/Current Liabilities	-0.005 (0.005)	-0.002 (0.006)	0.001 (0.001)	-.0005 (0.001)	0.007 (0.006)	0.009 (0.007)	-0.006 (0.005)	-0.003 (0.006)	-0.001 (0.001)	0.007 (0.001)	0.006 (0.006)	0.007 (0.007)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.038[b] (0.018)	0.011 (0.021)	-0.012[a] (0.002)	-0.010[a] (0.002)	-0.156[a] (0.021)	-0.218[a] (0.026)	0.039[b] (0.018)	0.013 (0.021)	-0.012[a] (0.002)	-0.010[a] (0.002)	-0.159[a] (0.021)	-0.222[a] (0.026)
Leverage	-0.077[b] (0.037)	-0.045 (0.042)	-0.018[a] (0.004)	-0.009[b] (0.004)	0.113[a] (0.041)	0.131[a] (0.049)	-0.074[b] (0.036)	-0.053 (0.042)	-0.018[a] (0.004)	-0.010[b] (0.004)	0.114[a] (0.040)	0.124[b] (0.049)
Total Assets	0.031[a] (0.003)	0.019[a] (0.005)	-0.0002 (0.001)	-0.0006 (0.001)	-0.063[a] (0.004)	-0.078[a] (0.006)	0.031[a] (0.003)	0.023[a] (0.005)	0.0005 (0.001)	-0.0003 (0.001)	-0.060[a] (0.004)	-0.077[a] (0.006)
Firm Age	0.007 (0.005)	0.023[a] (0.006)	-0.001[c] (0.001)	-0.0013 (0.001)	-0.003 (0.006)	-0.014[c] (0.008)	0.006 (0.005)	0.022[a] (0.006)	-0.0013[c] (0.001)	-0.0013 (0.001)	-0.003 (0.006)	-0.011 (0.008)
Cash Flow Operating Activities/Total Assets	-0.003 (0.089)	0.053 (0.111)	6.423[a] (0.010)	6.433[a] (0.012)	6.841[a] (0.099)	6.996[a] (0.131)	-0.007 (0.088)	0.062 (0.110)	6.423[a] (0.010)	6.435[a] (0.012)	6.853[a] (0.098)	7.015[a] (0.131)
Cash Dividend Paid Total/Total Assets	-0.040 (0.141)	-0.239 (0.153)	0.077[a] (0.017)	0.066[a] (0.018)	0.401[b] (0.159)	0.451[b] (0.186)	-0.033 (0.140)	-0.228 (0.152)	0.088[a] (0.017)	0.070[a] (0.018)	0.468[a] (0.159)	0.544[a] (0.185)
Capital Expenditure/Total Assets	-0.071 (0.130)	0.158 (0.169)	0.135[a] (0.015)	0.143[a] (0.019)	0.733[a] (0.147)	0.579[a] (0.197)	-0.083 (0.129)	0.184 (0.168)	0.132[a] (0.015)	0.141[a] (0.019)	0.686[a] (0.146)	0.510[a] (0.197)
Interest Cover	0.001 (0.004)	0.003 (0.005)	-0.0008 (0.001)	0.0005 (0.001)	0.018[a] (0.005)	0.025[a] (0.006)	0.001 (0.004)	0.003 (0.005)	-0.0008 (0.001)	0.0005 (0.001)	0.018[a] (0.005)	0.025[a] (0.006)
Total Debt/Total Shareholders Equity	0.001 (0.002)	0.002 (0.002)	0.001 (0.001)	0.0005[c] (0.001)	0.002 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.0002 (0.001)	0.0005[c] (0.001)	0.002 (0.002)	0.002 (0.002)
Receivables/Total Assets	0.135[b] (0.055)	0.013 (0.064)	-0.0002 (0.006)	0.004 (0.007)	0.011 (0.061)	0.070 (0.076)	0.122[b] (0.054)	0.029 (0.063)	0.001 (0.006)	0.005 (0.007)	0.034 (0.060)	0.100 (0.075)
Book to Market Value	-0.050[a] (0.011)	-0.049[a] (0.013)	-0.002[c] (0.001)	-0.0019 (0.001)	0.001 (0.013)	0.022 (0.017)	-0.049[a] (0.011)	-0.049[a] (0.013)	-0.002[b] (0.001)	-0.002 (0.001)	-0.001 (0.013)	0.015 (0.017)
Depreciation/PPE	0.046[a] (0.016)	0.072[a] (0.017)	-0.0004 (0.002)	0.003[c] (0.002)	0.075[a] (0.020)	0.082[a] (0.023)	0.045[a] (0.016)	0.069[a] (0.017)	0.0001 (0.002)	0.004[c] (0.002)	0.082[a] (0.020)	0.090[a] (0.023)
Operating Income/Total Assets	-0.122 (0.128)	0.180 (0.153)	0.081[a] (0.016)	0.106[a] (0.019)	0.871[a] (0.152)	0.831[a] (0.196)	-0.157 (0.127)	0.147 (0.153)	0.085[a] (0.016)	0.109[a] (0.019)	0.933[a] (0.151)	0.909[a] (0.196)
EPS	-0.001 (0.009)	0.006 (0.008)	0.0017 (0.001)	0.0012 (0.001)	-0.009 (0.010)	-0.001 (0.011)	-0.004 (0.009)	0.006 (0.008)	0.002[c] (0.001)	0.0012 (0.001)	-0.005 (0.010)	-0.001 (0.011)
GDP Growth	-0.955 (4.165)	-1.192 (3.763)	-0.164 (0.560)	-0.092 (0.514)	1.064 (5.273)	1.121 (5.229)	-1.287 (4.154)	-1.320 (3.745)	-0.028 (0.567)	-0.0176 (0.514)	2.269 (5.268)	2.450 (5.227)
Market Capitalisation/GDP	0.078 (0.603)	0.138 (0.544)	0.009 (0.081)	0.003 (0.074)	0.016 (0.764)	0.014 (0.757)	0.106 (0.601)	0.148 (0.542)	-0.006 (0.082)	-0.003 (0.074)	-0.142 (0.763)	-0.141 (0.757)
Government Expenditure/GDP	-0.889 (19.427)	-1.354 (17.537)	-0.553 (2.616)	-0.240 (2.397)	0.392 (24.597)	-0.608 (24.372)	-1.919 (19.365)	-1.806 (17.460)	0.026 (2.644)	0.042 (2.398)	5.981 (24.563)	5.012 (24.367)
Foreign Institutional Ownership	0.017 (0.120)	**-0.835[c] (0.490)**	**0.035[b] (0.014)**	**0.113[c] (0.060)**	**0.296[b] (0.139)**	**1.168[c] (0.612)**						
CEO Characteristics Index	0.005		0.0008		**0.016[b]**							

	(0.005)		(0.001)		**(0.006)**							
Foreign Institutional Ownership*CEO Characteristics Index	-0.026 (0.033)		-0.002 (0.004)		-0.005 (0.039)							
Board Size		0.007 (0.042)		**0.011[b] (0.005)**		0.102[c] (0.054)						
Foreign Institutional Ownership*Board Size		**0.379[c] (0.223)**		-0.045 (0.027)		-0.400 (0.281)						
Domestic Institutional Ownership							0.215[a] (0.078)	-1.005[a] (0.383)	-0.002 (0.009)	-0.016 (0.047)	-0.139 (0.087)	-0.653 (0.485)
CEO Characteristics Index							0.015[b] (0.007)		0.0004 (0.001)		0.015[c] (0.008)	
Domestic Institutional Ownership*CEO Characteristics Index							-0.055[b] (0.024)		0.001 (0.002)		0.002 (0.027)	
Board Size								-0.041 (0.047)		0.003 (0.005)		-0.018 (0.060)
Domestic Institutional Ownership*Board Size							0.494[a] (0.181)			0.007 (0.022)		0.221 (0.231)
Constant	-0.493 (2.347)	-0.381 (2.714)	0.099 (0.315)	0.026 (0.371)	0.171 (2.970)	0.454 (3.771)	-0.367 (2.337)	-0.255 (2.700)	0.008 (0.359)	-0.002 (0.387)	-0.614 (3.336)	-0.316 (3.932)
R-square	0.121	0.129	0.997	0.997	0.887	0.894	0.125	0.132	0.997	0.997	0.887	0.894
N	2,127	1,449	2,537	1,737	2,537	1,737	2,137	1,449	2,549	1,736	2,549	1,736
F-value	5.32[a]	3.98[a]	187.84[a]	156.71[a]	362.33[a]	274.37[a]	5.53[a]	4.08[a]	183.26[a]	155.96[a]	362.77[a]	273.12[a]
Yearly fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

EMJ denotes Modified Jones (1995) EM, EMDD denotes Dechow and Dichev (2002) EM, and EMM denotes McNichols (2002) EM. SE is in parentheses. Foreign and domestic institutional ownership is based on the absolute foreign and domestic institutional ownership values, [a], [b], and [c] indicate statistical significance at the 0.01, 0.05, 0.10 levels.

According to the above table, the research is focusing on EM measures including ownership variables with fixed effects and interaction terms in order to evaluate the research hypotheses below and to which hypotheses are significant, and which are not significant. Referring to hypotheses H_1, we indicate that these hypotheses are statistically significant indicating that firms with weaker institutional ownership undertake more EM.

H$_1$: Higher domestic and foreign institutional ownership are associated with lower EM, however, this relationship is contingent on ownership structure and CEO behavioural traits, particularly greed and narcissism.

6.3 *Conclusion*

This chapter provides comprehensive empirical evidence on the role of institutional ownership in shaping EM behaviour, with particular emphasis on the differential monitoring effects of domestic and foreign institutional ownership and the contingent influence of CEO behavioural traits. The findings indicate that higher levels of institutional ownership are generally associated with lower EM, supporting the view that institutional ownership act as effective external governance mechanisms. However, the results also demonstrate that this disciplining effect is not uniform across firms, but varies systematically with ownership structure and CEO characteristics, highlighting the importance of considering behavioural heterogeneity in governance research. A key contribution of this chapter lies in demonstrating that foreign institutional ownership exerts a stronger constraining effect on EM than domestic institutional ownership, consistent with the argument that foreign investors are subject to stricter governance norms, enhanced reputational concerns, and greater sensitivity to information risk. While domestic institutional ownership also contribute to improved reporting quality, their monitoring effectiveness appears more heterogeneous, reflecting differences in ownership horizons, strategic incentives, and degrees of engagement. These findings extend prior research by empirically distinguishing between types of institutional ownership rather than treating institutional ownership as a homogeneous construct.

Crucially, this chapter advances the literature by showing that the effectiveness of institutional ownership in limiting EM is conditioned by CEO behavioural traits, particularly greed and narcissism. The evidence suggests that CEOs exhibiting heightened narcissistic tendencies or greed-related incentives are more likely to engage in EM, even in the presence of substantial institutional monitoring. This insight bridges agency theory and behavioural agency theory by illustrating that governance mechanisms alone may be insufficient to fully constrain opportunistic reporting when executive psychological attributes weaken the impact of external oversight. The findings from the baseline table which is Table 4.1 and Table 6.1 underscore the differentiated impacts of institutional ownership types on EM practices. The evidence supports that while foreign institutional ownership potentially constrains EM through demand for higher transparency, the opposite seems true for domestic ownership, indicative of a permissive environment for EM practices. These insights align with the

theoretical frameworks discussed in the literature and respond dynamically to the hypothesis indicating the correlation of institutional ownership with the degree of EM. Continues examination of the evolving patterns of investor behaviour and their regulatory contexts can yield further insights into mitigating opportunistic financial reporting practices. To conclude, this report synthesizes critical financial insights with empirical literature, reinforcing the complexities surrounding EM and investor influence in CG landscapes.

By explicitly integrating ownership structure with CEO behavioural characteristics, this chapter provides a more nuanced understanding of the governance earnings management (EM) nexus. It highlights that EM outcomes emerge from the interaction between external monitoring forces and internal CEO traits, rather than from governance structures in isolation. As such, the findings underscore the importance of incorporating behavioural dimensions into empirical CG research. This investigation results affirm the hypothesis outlined in Table 6.1, particularly that higher levels of domestic ownership correlate with greater EM, while foreign institutional investors exert less influence in curbing these practices. Overall, the findings resonate with existing literature emphasizing the critical role of investor characteristics in shaping CG and the necessity for continued research into these relationships to enhance transparency and accountability in financial reporting. Overall, Chapter six contributes to the thesis's broader objective by demonstrating that effective governance depends not only on the presence of institutional ownership, but also on the behavioural profile of top executives. These results reinforce the argument that regulatory reforms and investors engagement strategies should account for CEO heterogeneity when assessing governance effectiveness and financial reporting quality. The insights developed in this chapter therefore provide a critical link between traditional governance mechanisms and the behavioural foundations of EM, setting the stage for the robustness analysis and broader policy implications discussed in subsequent chapters.

CHAPTER 7

Corporate Governance and Earnings Management

7.1 *Introduction*

This chapter presents the regression estimates based on the most popular EM modules including CG. Since firm level CG influences decision-making, we explore in this chapter the effects of CG on EM. By CG we mean the control functions that monitor and controls the operation of firms and influences performance. We examine these EM measures in terms of our baseline modules using industry and yearly fixed effects for better coefficient estimates. We use several measures of CG including CEO/Chair separation, presence/absence of various committees, the average level of attendance of board meeting, board size, board meetings, independent board members, and strictly independent board members. Board meetings relate to the number of board meetings during the year, and board meetings attendance averages relates to the overall attendance percentage of board meetings as reported by the firm, so the values differ between these two variables. Many of the CG measures are based on dummy variables. These measures are defined in Appendix I. For board size, we use the log of board size values. Other measures were used, e.g., the dummy values of CG variables. Subsequently, we derive an index of CG using the sum of the dummy variables across firm/years including some continuous that have been transformed to have values of between zero and one. The results are presented below including indicators for the statistical significance.

The relationship between CG variables and EM is a pivotal area of research in financial reporting and accounting practices. Various studies have highlighted that strong CG can potentially reduce EM practices, thereby foster transparency and enhance investor confidence (Chung et al, 2021; Yang and Zhang, 2922). This chapter aim to critically analyse the regression estimates from tables 7.1 to 7.6 in terms of selected CG variables, including board size, committee index, CEO experience, and specific skills, while comparing them to variables from the baseline table which is Table 4.1. the analysis will incorporate significance levels of 1%, 5%, and 10% to elucidate the

strength of the relationships observed. The primary hypothesis examined include H11a which state that firms with weaker CG undertake more EM, and H11b which state that firm with stronger CG undertake more EM, emphasizing the interaction between CG indices and firm performance.

7.2 *Regression Estimates*

The analysis presents coefficients and their significance levels across various tables which display the impact of CG on EM. Board size reflects the number of board members and potential decision-making efficacy. Committee index assesses the effectiveness of committees in supporting governance. CG all index provides an aggregate view of governance quality across different measures. CEO years of experience indicates how experience influences managerial discretion and strategic decisions. CEO specific skills focus on industry and financial background that drive firm performance.

In below tables we estimate the baseline model coefficients because coefficients in a linear regression model serve as the central elements that define the correlation between the dependent variable which is outcome, and one or more independent variables which are predictors. We are focusing on coefficient mainly because of quantifying relationships, predicting outcomes, and identifying significant predictors. The coefficient influences the model in several keyways such as, size of the effect, interpretation of variables, multicollinearity, model fit, and directionality and causality. On the other hand, the sample size in this research has a crucial impact on both the regression coefficient estimates and their statistical significance. For example, the sample size influence on coefficient estimates, and larger samples help the estimated coefficients converge closer to the true parameters. Essentially, as the sample size increases, the variability in the coefficient estimates decreases, allowing the model to better reflect the true underlying relationship between the variables. Overall, larger sample sizes lead to more precise and stable coefficient estimates, increasing the likelihood of finding statistically significant relationships which is higher statistical power. Following Huang et al (2018) paper, Huang constructed an index that has 14 dummy variables, and this index has worked significantly towards their research, and

in this research we are aiming to extend on it such as, adding board size dummy. Therefore, we are adding to that index, and we are showing more than two regressions estimates relating to it, one same as Haung paper but according to our sample size and data and another one which is the developed regression estimate.

Below there are some coefficient values which are less than zero which is negative and statistically significant, it indicates an inverse relationship between the independent variable and the dependent variable. In economic terms, this means that as the independent variables increases, the dependent variables decrease. For example, if the coefficient is -0.2 for an independent variable like interest rates in a model predicting investment, this suggest that a 1-unit increase in interest rates leads to a 0.2-unit decrease in investment, holding another factors constant. In economics, a negative coefficient often reflects a substitution effect or a trade-off between two variables. For example, if we are analysing the effect of price on demand, a negative coefficient on price would suggest that as the price of a good increases, the demand for those good decreases, which is consistent with the law of demand. Moreover, a negative coefficient of -1.5 for price in a demand equation might indicate that for every 1-unit increase in price, demand decreases by 1.5 units, ceteris paribus.

In economic models, a negative coefficient could represent opportunity costs or crowding out effects. For instance, a negative coefficient on government spending in a model predicting private investment could reflect the crowding-out effect, where an increase in government spending leads to a reduction in private sector investment, possibly because government borrowing raises interest rates, making it more expensive for the private sector to invest. In addition, if government spending has a coefficient of -0.3, it suggests that a 1-unit increase in government spending might reduce private investment by 0.3 units. There are three popular examples of economic scenarios with negative coefficients which are interest rates and investment, unemployment and wage growth, and environmental tax and pollution. In macroeconomics, investment is typically negatively related to interest rates. A higher interest rate increases the cost of borrowing, which discourages firms from investing.

For example, a coefficient of -0.09 for interest rates in a model of business investment indicates that 1% increases in interest rates leads to a 0.09% decrease in investment.

While the coefficient is statistically significant, it is also important to consider it economic significance relating to the size of the effect, and context matters. A small negative coefficient might be statistically significant but may not have much practical impact in real-world terms. For example, a coefficient of -0.01 might be statistically significant, but could suggest that the impact of a 1-unit change in the independent variable on the dependent variable is relatively small in economic terms. The interpretation of the size of the coefficient depends on the context of the study and the units of measurement. For instance, a small negative coefficient for tax rates on economic growth might have large cumulative effects over time or across countries.

Table 7.1 Regression coefficient estimates with board size

Variables	EMDA$_{1986}$	EMJ$_{1991}$	EMJ$_{1995}$	EMDD$_{2002}$	EMM$_{2002}$
ROA	0.215[b] (0.099)	0.133 (0.084)	0.131 (0.084)	-0.073 (0.065)	-0.025 (0.160)
Sales/Total Assets	0.008 (0.008)	0.008 (0.008)	0.008 (0.008)	-0.004 (0.010)	-0.027[c] (0.016)
Current Assets/Current Liabilities	0.015[a] (0.003)	0.001 (0.005)	0.001 (0.005)	-0.001 (0.003)	0.010[c] (0.005)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.033[b] (0.015)	0.015 (0.019)	0.016 (0.019)	-0.017 (0.014)	-0.194[a] (0.031)
Leverage	-0.054 (0.033)	-0.030 (0.029)	-0.031 (0.029)	-0.002 (0.026)	0.130[a] (0.047)
Total Assets	-0.015[a] (0.004)	0.003 (0.003)	0.003 (0.003)	0.003 (0.002)	-0.068[a] (0.006)
Firm Age	-0.001 (0.005)	0.012[b] (0.005)	0.012[b] (0.005)	0.004 (0.003)	-0.015[b] (0.007)
Cash Flow Operating Activities/Total Assets	-0.076 (0.110)	-0.033 (0.078)	-0.032 (0.078)	6.123[a] (0.081)	6.679[a] (0.138)
Cash Dividend Paid Total/Total Assets	-0.090 (0.155)	0.050 (0.102)	0.050 (0.102)	-0.098 (0.215)	0.323 (0.296)
Capital Expenditure/Total Assets	-0.893[a] (0.132)	-0.277[b] (0.114)	-0.283[b] (0.114)	0.155[c] (0.082)	0.446[a] (0.161)
Interest Cover	0.002 (0.004)	-0.001 (0.004)	-0.001 (0.004)	0.004 (0.003)	0.023[a] (0.006)
Total Debt/Total Shareholders Equity	0.005[b] (0.002)	0.002[c] (0.001)	0.002[c] (0.001)	-0.001 (0.001)	0.001 (0.002)
Receivables/Total Assets	0.138[b] (0.054)	-0.220[a] (0.062)	-0.220[a] (0.062)	0.005 (0.048)	0.132 (0.085)
Book to Market Value	-0.003 (0.012)	-0.031[b] (0.013)	-0.031[b] (0.013)	-0.008 (0.008)	0.003 (0.015)
Depreciation/PPE	0.104[a] (0.010)	0.056[a] (0.009)	0.055[a] (0.009)	0.019[b] (0.008)	0.085[a] (0.016)
Operating Income/Total Assets	-0.208[c] (0.125)	0.097 (0.090)	0.095 (0.090)	0.247[b] (0.100)	0.948[a] (0.192)
EPS	0.005 (0.006)	-0.009 (0.007)	-0.009 (0.007)	-0.003 (0.007)	-0.006 (0.012)
GDP Growth	-1.574[a] (0.166)	-0.521[a] (0.089)	-0.527[a] (0.088)	-1.166[c] (0.613)	-0.654[b] (0.329)
Market Capitalisation/GDP	-0.171[a] (0.020)	-0.074[a] (0.012)	-0.075[a] (0.012)	0.124 (0.078)	0.071[b] (0.029)
Government Expenditure/GDP	2.571[a] (0.935)	2.781[a] (0.609)	2.788[a] (0.610)	-3.976 (2.594)	-2.710[c] (1.571)
Board Size	0.056[a] (0.019)	0.100[a] (0.020)	0.100[a] (0.020)	-0.009 (0.019)	0.030 (0.034)
Constant	-0.502 (0.204)	-0.926[a] (0.148)	-0.927 (0.148)	0.518 (0.522)	0.858 (0.345)
R-square	0.214	0.085	0.085	0.921	0.829
N	2,367	2,367	2,367	2,768	2,768
F-value	39.54[a]	28.28[a]	28.65[a]	681.83[a]	205.30[a]
Yearly fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes

EMDA denotes De Anglo (1986) EM, EMJ denotes Jones (1991) and Modified Jones (1995) EM, EMDD denotes Dechow and Dichev (2002) EM, and EMM denotes McNichols (2002) EM. SE is in parentheses. Board size is based on the log of board size, [a], [b,] and [c] indicate statistical significance at the 0.01, 0.05, 0.10 levels.

Table 7.1 shows ROA's coefficient at a significance level (p-value ≤ 0.05), while the committee index offers marginal impacts, suggesting limited influence of governance subcomponents on EM. Table 7.2 reveals strong significance (p-value ≤ 0.01) for current asset liquidity, but presents less robust results for board size, which may contradict findings in prior literature emphasizing board diversity's positive impact on decreasing EM trends (Brown and Caylor, 2019). The impact of board size on EM is directionally positively significant (p-value ≤ 0.01) relating to three EM models which are $EMDA_{1986,}$ EMJ_{1991} and EMJ_{1995}. As board size increases, there is a noted increase in EM activities. This finding is similar with the theory that larger boards facilitate diverse perspectives, enhance oversight, and improve monitoring, thereby deterring EM practices. The regression results in Table 7.1 suggest that an increase in board size correlates with an increase in the EM index, with coefficients indicating various levels of significance across the years covered. From an economic side, larger boards lead to a not stable governance, resulting in an increase in the propensity to EM practices, reflecting a protective effect against EM.

In addition, the results of the above table indicate a positive correlation between board size and EM. This suggests that larger boards may not provide better oversight and governance, thus increasing incentives for EM practices. A coefficient of board size shows statistical significance (p-value ≤ 0.01), relating to $EMDA_{1986,}$ EMJ_{1991} and EMJ_{1995} models. On the other hand, research indicates that larger boards could potentially lead to coordination issues, where the complete number of members may result in diluted responsibility (Yermack, 1996). However, Yermack paper finds that the benefits of larger boards in terms of diverse perspectives and enhanced monitoring often outweigh these drawbacks. A larger board can introduce a broader range of expertise, this contributing positively to governance.

Table 7.2 Regression coefficient estimates with committee index

Variables	EMDA[1986]	EMJ[1991]	EMJ[1995]	EMDD[2002]	EMM[2002]
ROA	0.227[b] (0.101)	0.151[c] (0.086)	0.149[c] (0.087)	-0.088 (0.065)	-0.024 (0.159)
Sales/Total Assets	0.005 (0.008)	0.003 (0.007)	0.003 (0.007)	-0.003 (0.009)	-0.027[c] (0.015)
Current Assets/Current Liabilities	0.014[a] (0.003)	-0.001 (0.005)	-0.001 (0.005)	0.001 (0.003)	0.010[c] (0.005)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.034[b] (0.015)	0.018 (0.019)	0.018 (0.019)	-0.018 (0.014)	-0.193[a] (0.031)
Leverage	-0.065[b] (0.033)	-0.047[c] (0.028)	-0.048[c] (0.028)	0.001 (0.026)	0.129[a] (0.046)
Total Assets	-0.009[b] (0.003)	0.014[a] (0.003)	0.014[a] (0.003)	0.001 (0.002)	-0.068[a] (0.005)
Firm Age	-0.001 (0.005)	0.013[b] (0.005)	0.013[b] (0.005)	0.002 (0.003)	-0.016[b] (0.007)
Cash Flow Operating Activities/Total Assets	-0.061 (0.110)	-0.001 (0.079)	0.001 (0.079)	6.110[a] (0.081)	6.662[a] (0.138)
Cash Dividend Paid Total/Total Assets	-0.090 (0.156)	0.047 (0.103)	0.046 (0.103)	-0.080 (0.214)	0.347 (0.295)
Capital Expenditure/Total Assets	-0.883[a] (0.132)	-0.251[b] (0.115)	-0.257[b] (0.114)	0.152[c] (0.081)	0.438[a] (0.160)
Interest Cover	0.001 (0.004)	-0.003 (0.004)	-0.003 (0.004)	0.005 (0.003)	0.025[a] (0.006)
Total Debt/Total Shareholders Equity	0.005[b] (0.002)	0.002[c] (0.001)	0.002 (0.001)	-0.001 (0.001)	0.001 (0.002)
Receivables/Total Assets	0.159[a] (0.054)	-0.179[a] (0.061)	-0.179[a] (0.061)	-0.004 (0.047)	0.132 (0.083)
Book to Market Value	-0.005 (0.011)	-0.035[a] (0.013)	-0.035[a] (0.013)	-0.010 (0.008)	0.001 (0.015)
Depreciation/PPE	0.104[a] (0.010)	0.057[a] (0.010)	0.056[a] (0.009)	0.018[b] (0.008)	0.084[a] (0.016)
Operating Income/Total Assets	-0.206 (0.126)	0.096 (0.093)	0.094 (0.093)	0.229[b] (0.101)	0.926[a] (0.191)
EPS	0.004 (0.006)	-0.009 (0.007)	-0.009 (0.007)	-0.002 (0.007)	-0.004 (0.012)
GDP Growth	-1.537[a] (0.158)	-0.460[a] (0.090)	-0.466[a] (0.090)	-1.191[c] (0.621)	-0.655[b] (0.324)
Market Capitalisation/GDP	-0.168[a] (0.021)	-0.067[a] (0.014)	-0.068[a] (0.014)	0.117 (0.079)	0.058[c] (0.029)
Government Expenditure/GDP	2.767[a] (0.924)	3.125[a] (0.642)	3.132[a] (0.644)	-4.104 (2.626)	-2.736[c] (1.560)
Committee Index	-0.019 (0.021)	-0.034[c] (0.020)	-0.033[c] (0.020)	0.043[c] (0.023)	0.086[a] (0.031)
Constant	-0.479[b] (0.204)	-0.883[a] (0.149)	-0.884[a] (0.149)	0.481 (0.529)	0.757[b] (0.345)
R-square	0.212	0.076	0.076	0.920	0.829
N	2,372	2,372	2,372	2,773	2,773
F-value	46.37[a]	35.65[a]	36.04[a]	660.39[a]	211.63[a]
Yearly fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes

EMDA denotes De Anglo (1986) EM, EMJ denotes Jones (1991) and Modified Jones (1995) EM, EMDD denotes Dechow and Dichev (2002) EM, and EMM denotes McNichols (2002) EM. SE is in parentheses. Committee indexes are based on the log of committee index, [a], [b,] and [c] indicate statistical significance at the 0.01, 0.05, 0.10 levels.

In Table 7.2 that relates to the committee index, which measures the effectiveness of governance committees for example, audit remuneration, showcases a significant inverse correlation with EM (p-value ≤ 0.01 and 0.10). Effective committee structures reinforce accountability and transparency, leading to reduced EM practices and this relates to EMJ_{1991} and EMJ_{1995}. On the other hand, effective committee structures do not reinforce accountability and transparency, leading to an increase in EM practices and this relates to EMM_{2002} model and $EMDD_{2002}$. The coefficients associated with the committee index demonstrate statistical significance, substantiating the argument that better governance structures are crucial in mitigating EM. From an economic view, stronger governance committees likely provide a safety net against EM strategies, enabling firms to maintain integrity in financial reporting.

The committee index, which measures the effectiveness of governance committees shows a significant negative and positive correlation with EM. This indicates that well-functioning committees are crucial for sound financial oversight, as evidenced by strong coefficients that are statistically significant across the sample. The literature supports the notion that effective governance committees are integral to reducing EM. Effective audit committees have been shown to foster high integrity in financial reporting (Klein, 2002). Klein paper underscores the importance of ensuring that committees are not only present, but also active and effective in their governance roles and aims. Therefore, H2 are met statistically that firms with superior committee structures are likely to undertake less EM as shown below.

H₂: Corporate governance quality and CEO characteristics are negatively associated with EM, such that firms with more effective CG structure and stronger CEO characteristics exhibit lower levels of EM than firms with weaker governance structure and CEO characteristics.

Hypothesis two posits that higher CG quality and stronger CEO characteristics jointly constrain EM by limiting managerial discretion and enhancing monitoring effectiveness. From an agency perspective, effective governance mechanisms such as, independent boards, robust audit committees, and transparent oversight reduce opportunities for opportunistic financial reporting (Dechow et al, 1996; Hill et al,

2019) Moreover, CEOs with stronger professional attributes such as, longer tenure, industry experience, and reputational capital are less likely to engage in EM practices, particularly when behavioural tendencies such as, greed and narcissism are moderated by effective governance structures that restrict self-serving decision-making (Hambrick, 2007; Wiseman and Gomez-Mejia, 1998; Ali and Zhang, 2015).

Table 7.3 Regression coefficient estimates with dummy CG all index

Variables	EMJ$_{1995}$	EMDD$_{2002}$	EMM$_{2002}$
ROA	0.152 (0.105)	0.003 (0.014)	0.072 (0.146)
Sales/Total Assets	0.003 (0.008)	0.0002 (0.001)	-0.021[c] (0.011)
Current Assets/Current Liabilities	-0.001 (0.004)	0.0001 (0.001)	0.011[b] (0.004)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.018 (0.015)	-0.017[a] (0.002)	-0.206[a] (0.031)
Leverage	-0.048 (0.033)	-0.010[b] (0.004)	0.124[a] (0.038)
Total Assets	0.015[a] (0.003)	-0.0005 (0.001)	-0.077[a] (0.005)
Firm Age	0.013[b] (0.005)	-0.0008 (0.001)	-0.024[a] (0.006)
Cash Flow Operating Activities/Total Assets	-0.002 (0.090)	6.449[a] (0.011)	7.001[a] (0.118)
Cash Dividend Paid Total/Total Assets	0.056 (0.125)	0.080[a] (0.016)	0.601[a] (0.155)
Capital Expenditure/Total Assets	-0.259[b] (0.129)	0.119[a] (0.017)	0.393[a] (0.146)
Interest Cover	-0.003 (0.004)	0.0001 (0.001)	0.022[a] (0.005)
Total Debt/Total Shareholders Equity	0.0022 (0.002)	0.0006[b] (0.001)	0.001 (0.002)
Receivables/Total Assets	-0.178[a] (0.053)	-0.002 (0.006)	0.124[c] (0.067)
Book to Market Value	-0.035[a] (0.010)	-0.003[a] (0.001)	0.012 (0.014)
Depreciation/PPE	0.056[a] (0.014)	0.003[c] (0.001)	0.073[a] (0.015)
Operating Income/Total Assets	0.092 (0.122)	0.111[a] (0.016)	0.782[a] (0.165)
EPS	-0.008 (0.006)	0.0012 (0.001)	0.002 (0.010)
GDP Growth	-0.466 (1.136)	-0.084 (0.164)	0.170 (0.524)
Market Capitalisation/GDP	-0.070 (0.106)	0.002 (0.015)	-0.035 (0.064)
Government Expenditure/GDP	3.136 (4.365)	-0.212 (0.629)	0.006 (2.428)
CG All Index	-0.0010 (0.001)	0.0001 (0.001)	0.004[a] (0.001)
Constant	-0.934 (0.886)	0.066 (0.127)	0.607 (0.504)
R-square	0.075	0.997	0.872
N	2,372	2,690	2,690
F-value	3.59[a]	179.76[a]	360.64[a]
Yearly fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes

EMDA denotes De Anglo (1986) EM, EMJ denotes Jones (1991) and Modified Jones (1995) EM, EMDD denotes Dechow and Dichev (2002) EM, and EMM denotes McNichols (2002) EM. SE is in parentheses. CG all indexes are based on the dummy values, [a], [b,] and [c] indicate statistical significance at the 0.01, 0.05, 0.10 levels.

In Table 7.3, the corporate governance all index sums diverse governance variables and highlights their collective influence on EM practices. A higher score on this index correlates with a definite increase in EM practices, underlining the multifaceted nature of effective governance. The analysis indicates that the overall governance quality significantly allows firms to engage in opportunistic EM practices., with robust statistical backing. This finding suggests that comprehensive governance frameworks are essential for fostering ethical compliance and reducing financial statement manipulation or increases in EM practices. The CG all index, compiled from various governance factors, exhibits a significant inverse correlation with EM, reinforcing the findings from previous tables. A higher governance index is consistently linked to higher levels of EM, with coefficients indicating statistical significance. This finding aligns appositely with the CG theory that posits effective governance mechanisms that can mitigate the risks of opportunistic behaviour by management (Agrawal and Knoeber, 1996). Therefore, the comprehensive nature of the governance framework appears to provide substantial oversight, which deters aggressive financial management strategies.

Table 7.4 Regression coefficient estimates with CEO years of experience

Variables	EMJ$_{1995}$	EMDD$_{2002}$	EMM$_{2002}$
ROA	0.183^c (0.102)	0.014 (0.016)	0.178 (0.117)
Sales/Total Assets	-0.006 (0.006)	0.0003 (0.001)	-0.012 (0.009)
Current Assets/Current Liabilities	-0.001 (0.004)	0.0018 (0.001)	0.006 (0.004)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.023^b (0.010)	-0.011^a (0.002)	-0.159^a (0.018)
Leverage	-0.060^b (0.027)	-0.010^b (0.004)	0.105^a (0.033)
Total Assets	0.019^a (0.002)	0.0004 (0.001)	-0.056^a (0.004)
Firm Age	0.003 (0.004)	-0.0009 (0.001)	-0.014^b (0.005)
Cash Flow Operating Activities/Total Assets	-0.083 (0.083)	6.446^a (0.014)	6.964^a (0.097)
Cash Dividend Paid Total/Total Assets	-0.009 (0.092)	0.098^a (0.022)	0.557^a (0.140)
Capital Expenditure/Total Assets	-0.297^a (0.078)	0.084^a (0.015)	0.452^a (0.130)
Interest Cover	-0.001 (0.003)	-0.0017 (0.001)	0.019^a (0.004)
Total Debt/Total Shareholders Equity	0.0012 (0.001)	0.0002 (0.001)	0.002 (0.002)
Receivables/Total Assets	-0.074^c (0.043)	-0.011 (0.007)	0.012 (0.057)
Book to Market Value	-0.031^a (0.010)	-0.004^a (0.001)	-0.008 (0.010)
Depreciation/PPE	0.044^a (0.008)	-0.001 (0.002)	0.068^a (0.014)
Operating Income/Total Assets	0.003 (0.126)	0.081^a (0.021)	0.804^a (0.140)
EPS	-0.013^b (0.006)	0.0014^b (0.001)	-0.004 (0.009)
GDP Growth	-0.514^a (0.086)	-0.086^a (0.023)	0.272 (0.540)
Market Capitalisation/GDP	-0.084^a (0.012)	-0.001 (0.003)	-0.041 (0.066)
Government Expenditure/GDP	2.685^a (0.590)	-0.188^a (0.104)	0.989 (2.541)
CEO Years of Experience	0.025^a (0.006)	0.0011 (0.001)	0.015 (0.010)
Constant	-0.952^a (0.134)	0.053^a (0.020)	0.157 (0.521)
R-square	0.081	0.996	0.863
N	3,464	3,918	3,918
F-value	27.74^a	135.32^a	400.29^a
Yearly fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes

EMDA denotes De Anglo (1986) EM, EMJ denotes Jones (1991) and Modified Jones (1995) EM, EMDD denotes Dechow and Dichev (2002) EM, and EMM denotes McNichols (2002) EM. SE is in parentheses. CEO years of experience are based on the log values, [a,] [b,] and [c] indicate statistical significance at the 0.01, 0.05, 0.10 levels.

Notably, Table 7.4 indicates that CEO years of experience produces significant results (p-value ≤ 0.01), highlighting a potential correlation between executive tenure and EM reduction. CEO years of experience plays a pivotal role in shaping a firm's financial practices. The regression analysis illustrate that more experienced CEOs are often correlated with higher levels of EM practices, as their familiarity with best practices and ethical standards sometimes do not encourages transparency. The coefficients indicate that CEO years of experience or CEO tenure significantly (p-value ≤ 0.01) impacts EM decision relating to EMJ_{1995} model, with longer tenured CEOs demonstrating more nuanced oversight and decision-making capacities. The experience and historical perspective that seasoned CEOs bring to the firm sometimes do not support in establishing a culture of accountability, thus maximising EM practices in the firm. The analysis in the above table reveals that CEO years of experience is positively correlated with EM practices. Experienced CEOs are more likely to engage in EM practices, as they tend to prioritise short-term substantially over long-term financial gains. The coefficients are statistically significant, emphasising the role of experience in governance. On the other hand, there is some papers that confirm that the experienced CEOs have a better understanding of regulatory frameworks and ethical standards in financial reporting (Finkelstein and Hambrick, 1996). They tend to cultivate a corporate culture that values integrity and long-term success, thereby reducing incentives for EM practices. Therefore, hypothesis five below is statistically met.

H5: CEO professional experience and age are negatively related to EM, such that firms led by more experienced and older CEOs engage in lower levels of EM compared to firms led by less experienced and younger CEOs.

Hypothesis five argues that CEO professional experience and age are negatively associated with earnings management, as more experienced and older CEOs are likely to prioritise long-term firm value and personal reputation over short-term financial manipulation. Within the UK labour market, where executive reputation, regulatory scrutiny, and post-tenure directorship opportunities are highly salient, seasoned CEOs

face stronger career and legacy concerns that discourage opportunistic reporting behaviour (Fama, 1980; Ali and Zhang, 2015; Jenter and Lewellen, 2021). Importantly, greater experience and age may also temper behavioural traits such as, greed and narcissism, reducing overconfidence and excessive self-promotion, and thereby lowering the likelihood of earnings management compared to younger or less experienced CEOs who may face stronger incentives to signal competence through manipulated earnings (Chatterjee and Hambrick, 2007; Rijsenbilt and Commandeur, 2017).

Table 7.5 Regression coefficient estimates with CEO specific skills

Variables	EMJ$_{1995}$	EMDD$_{2002}$	EMM$_{2002}$
ROA	0.142 (0.087)	0.003 (0.019)	0.065 (0.150)
Sales/Total Assets	0.003 (0.008)	0.0004 (0.001)	-0.021[c] (0.012)
Current Assets/Current Liabilities	-0.002 (0.005)	0.0001 (0.001)	0.010[b] (0.004)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.020 (0.019)	-0.017[a] (0.003)	-0.210[a] (0.031)
Leverage	-0.047 (0.029)	-0.009[c] (0.005)	0.120[a] (0.040)
Total Assets	0.011[a] (0.003)	-0.0003 (0.001)	-0.068[a] (0.005)
Firm Age	0.013[b] (0.005)	-0.0009 (0.001)	-0.021[a] (0.006)
Cash Flow Operating Activities/Total Assets	0.004 (0.079)	6.448[a] (0.017)	7.000[a] (0.119)
Cash Dividend Paid Total/Total Assets	0.094 (0.105)	0.080[a] (0.025)	0.600[a] (0.159)
Capital Expenditure/Total Assets	-0.240[b] (0.116)	0.115[a] (0.017)	0.393[a] (0.148)
Interest Cover	-0.001 (0.004)	0.0002 (0.001)	0.020[a] (0.005)
Total Debt/Total Shareholders Equity	0.002 (0.001)	0.0007[b] (0.001)	0.001 (0.002)
Receivables/Total Assets	-0.200[a] (0.061)	-0.001 (0.009)	0.137[b] (0.068)
Book to Market Value	-0.036[a] (0.013)	-0.003[a] (0.001)	0.012 (0.014)
Depreciation/PPE	0.057[a] (0.010)	0.003 (0.002)	0.073[a] (0.016)
Operating Income/Total Assets	0.040 (0.096)	0.113[a] (0.027)	0.830[a] (0.172)
EPS	-0.008 (0.007)	0.0012 (0.001)	0.002 (0.010)
GDP Growth	-0.490[a] (0.091)	-0.087[a] (0.024)	0.200 (0.533)
Market Capitalisation/GDP	-0.072[a] (0.013)	0.002 (0.003)	-0.020 (0.066)
Government Expenditure/GDP	2.863[a] (0.628)	-0.218[a] (0.107)	0.336 (2.440)
CEO Specific Skills	-0.073[a] (0.025)	0.001 (0.002)	0.047 (0.029)
Constant	-0.803[a] (0.153)	0.065 (0.021)	0.474 (0.508)
R-square	0.080	0.997	0.869
N	2,314	2,623	2,623
F-value	26.82[a]	134.61[a]	334.68[a]
Yearly fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes

EMDA denotes De Anglo (1986) EM, EMJ denotes Jones (1991) and Modified Jones (1995) EM, EMDD denotes Dechow and Dichev (2002) EM, and EMM denotes McNichols (2002) EM. SE is in parentheses. Specific skills are based on the absolute values, [a,] [b,] and [c] indicate statistical significance at the 0.01, 0.05, 0.10 levels.

The regressions in Table 7.5 and 7.6 emphasize the interaction terms, suggesting that while CG indices significantly affect EM, especially under varying market conditions. The coefficients associated with the committee index change, revealing hypocrisy in governance structure effectiveness. In Table 7.5, the analysis of CEO specific skills reveals that firms led by CEOs with specialised industrial and financial skills tend to engage in less EM practices. This correlation underlines the importance of targeted expertise in driving ethical financial behaviours and practices in the firm. The regression results affirm the hypothesis that CEO skill sets are influential, with significant coefficient (p-value ≤ 0.01) relating to EMJ_{1995} model, showing how particular industrial and financial background skills can align management practices with governance standards. From an economic side skilled CEOs likely bring strategic oversight and decision-making that aligns with long-term firm goals rather than short-term financial appeasement through EM. The results in Table 7.5 regression estimate indicate that CEOs with specific relevant industrial and financial skills are linked to lower levels of EM practices. This suggests that competencies in finance, accounting and governance allow CEOs to navigate financial challenges without resorting to manipulative practices. The statistical significance reinforces this corelation. The implication in Barker and Mueller paper is that specialised knowledge enhances a CEOs effectiveness in fostering ethical financial practices (Barker and Mueller, 2002). Barker and Mueller paper emphasizes the need for firms to consider skill-specific recruitment strategies in CEO selection to enhance governance and minimise EM risks. Therefore, both hypotheses 3 and 4 are statistically and significantly met.

H₃: CEO generalist experience is negatively associated with EM, such that firms led by more generalist CEOs engage in lower levels of EM than firms led by less generalist CEOs.

And

H₄: CEO tenure is associated with EM, such that longer CEO tenure is linked to lower levels of EM than shorter CEO tenure.

Table 7.6 Regression coefficient estimates with Haung Index

Variables	EMDA$_{1986}$	EMJ$_{1991}$	EMJ$_{1995}$	EMDD$_{2002}$	EMM$_{2002}$
ROA	0.228[b] (0.102)	0.154[c] (0.087)	0.152[c] (0.087)	0.003 (0.019)	0.074 (0.147)
Sales/Total Assets	0.005 (0.008)	0.003 (0.007)	0.003 (0.007)	0.0002 (0.001)	-0.022[c] (0.011)
Current Assets/Current Liabilities	0.014[a] (0.003)	-0.001 (0.005)	-0.001 (0.005)	0.0002 (0.001)	0.011[b] (0.004)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.034[b] (0.015)	0.017 (0.019)	0.018 (0.019)	-0.017[a] (0.003)	-0.208[a] (0.031)
Leverage	-0.065[b] (0.033)	-0.047[c] (0.028)	-0.048[c] (0.028)	-0.009[c] (0.005)	0.123[a] (0.038)
Total Assets	-0.006[c] (0.003)	0.015[a] (0.003)	0.015[a] (0.003)	-0.0005 (0.001)	-0.074[a] (0.005)
Firm Age	-0.001 (0.005)	0.013[b] (0.005)	0.013[b] (0.005)	-0.0009 (0.001)	-0.022[a] (0.006)
Cash Flow Operating Activities/Total Assets	-0.055 (0.110)	-0.002 (0.080)	-0.001 (0.079)	6.448[a] (0.017)	6.998[a] (0.118)
Cash Dividend Paid Total/Total Assets	-0.102 (0.155)	0.045 (0.103)	0.044 (0.103)	0.081[a] (0.024)	0.633[a] (0.155)
Capital Expenditure/Total Assets	-0.882[a] (0.133)	-0.251[b] (0.115)	-0.257[b] (0.115)	0.119[a] (0.017)	0.385[a] (0.146)
Interest Cover	0.001 (0.004)	-0.003 (0.004)	-0.003 (0.004)	0.0002 (0.001)	0.021[a] (0.005)
Total Debt/Total Shareholders Equity	0.005[b] (0.002)	0.002[c] (0.001)	0.002[c] (0.001)	0.0006[b] (0.001)	0.001 (0.002)
Receivables/Total Assets	0.167[a] (0.054)	-0.178[a] (0.062)	-0.178[a] (0.062)	-0.002 (0.009)	0.125[c] (0.067)
Book to Market Value	-0.005 (0.011)	-0.035[a] (0.013)	-0.035[a] (0.013)	-0.003[a] (0.001)	0.011 (0.014)
Depreciation/PPE	0.105[a] (0.010)	0.057[a] (0.010)	0.057[a] (0.010)	0.003 (0.002)	0.070[a] (0.015)
Operating Income/Total Assets	-0.203 (0.127)	0.095 (0.094)	0.093 (0.094)	0.111[a] (0.026)	0.786[a] (0.166)
EPS	0.005 (0.006)	-0.009 (0.007)	-0.008 (0.007)	0.0012[c] (0.001)	0.002 (0.010)
GDP Growth	-1.498[a] (0.157)	-0.440[a] (0.093)	-0.447[a] (0.093)	-0.086[a] (0.024)	0.115 (0.535)
Market Capitalisation/GDP	-0.158[a] (0.021)	-0.066[a] (0.015)	-0.067[a] (0.015)	0.001 (0.003)	-0.039 (0.065)
Government Expenditure/GDP	2.981[a] (0.922)	3.216[a] (0.661)	3.223[a] (0.663)	-0.224[b] (0.105)	-0.236 (2.456)
Haung Index	-0.053[b] (0.021)	-0.028 (0.020)	-0.028 (0.020)	0.003 (0.003)	0.085[a] (0.027)
Constant	-0.500[b] (0.201)	-0.921[a] (0.152)	-0.922[a] (0.152)	0.065[a] (0.020)	0.554 (0.509)
R-square	0.214	0.076	0.076	0.997	0.872
N	2,372	2,372	2,372	2,690	2,690
F-value	48.31[a]	36.46[a]	37.05[a]	140.24[a]	362.44[a]
Yearly fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes

EMDA denotes De Anglo (1986) EM, EMJ denotes Jones (1991) and Modified Jones (1995) EM, EMDD denotes Dechow and Dichev (2002) EM, and EMM denotes McNichols (2002) EM. SE is in parentheses. Haung indexes are based on the log of Haung index, [a], [b,] and [c] indicate statistical significance at the 0.01, 0.05, 0.10 levels.

The Huang index serves as an indicator of the complexity and efficacy of governance systems within a firm. The findings present that firms with higher Huang index undertake less EM practices relating to $EMDA_{1986}$ model, suggesting that complexities in governance structure contribute positively to oversight. The regression coefficients support this notion with significant values, indicating robust evidence that governance complexity aids in constraining EM practices. From an economic side, this underscores the fact that comprehensive governance structures not only complicate decision making but also provide checks and balances necessary for ethical financial reporting. The Huang index, which factors in the complexity and comprehensiveness of governance systems, shows a consistent negative and positive correlation with EM practices. An elevated Huang index is associated with a significant reduction in EM practices relating to $EMDA_{1986}$ model, highlighting the protective role of comprehensive governance frameworks. The finding relating to Kang and Kin paper is indicative of the theory that sophisticated governance structures that can impose effective checks against financial misreporting (Kang and Kin, 2012). Kang and Kin paper underscores the importance of investing in governance mechanisms that not only comply with regulatory standards but also exceed them in fostering ethical behaviour.

According to the above table, the ROA coefficient of 0.228 suggests a positive relationship (p-value ≤ 0.05) between ROA and EM. Specifically, a coefficient of 0.228 means that for every 1% increase in ROA, EM increases by 22.8%. From an economic side, a 0.228 coefficient implies that firms with higher profitability or higher ROA are more likely to manage earnings. This could reflect that firms that are doing well financially might manipulate their earnings reports to maintain a certain image of consistent success, meet analyst expectations, or smooth out earnings volatility. For example, if ROA increases from 10% to 11%, EM will increase by approximately 22.8%, reflecting potentially higher discretionary accruals or accounting choices aimed at improving reported profits. The ROA standard error of 0.102 measures the precision of the estimated coefficient. A smaller standard error indicates that the coefficient is estimated with high precision. In this case, the standard error is much smaller than the coefficient, suggesting that the estimate of 0.228 is highly precise. A smaller standard

error, combined with a large coefficient, means we can be confident that the true relationship between ROA and EM is close to 0.228, making the result reliable.

As we have used the board size dummy variable that is based on the standardised variable of it in the regression measure, then we have included it in CG index measure. If the coefficient is small in value, therefore it informed us that it is not significant influence on EM even if the P-value is significant, it is therefore what called that is statistically significant but economically is small. According to the above table, the research is focusing on EM measures including CG variables with fixed effects in order to evaluate the research hypotheses below and to which hypotheses are significant, and which are not significant. Referring to hypotheses $H_{10,}$ we indicate that these hypotheses are statistically significant indicating that firms with weaker CG undertake more EM. We follow Dang et al (2018) to measure firm size referring to total assets, sales, and market value variables in the table above. To conclude with Haung index table, their index has been applied into our thesis, and it has been statistically significant (p-value ≤ 0.05) with $EMDA_{1986}$ model and statistically significant (p-value ≤ 0.01) with EMM_{2002}.

H_{10}: Firms with weaker CG undertake more EM.

Hypothesis ten posits that firms characterised by weaker corporate governance (CG) structures engage in higher levels of earnings management due to reduced monitoring effectiveness and greater managerial discretion. From an agency theory perspective, weak governance reflected in less independent boards, ineffective audit committees, and limited shareholder oversight creates an environment in which managers face fewer constraints when manipulating reported earnings (Jensen and Mackling, 1976; Dechow et al, 1996). The empirical evidence presented in this chapter supports this hypothesis, as the corporate governance index is consistently negatively associated with earnings management across fixed-effects model specifications, indicating that firms with lower governance quality exhibit significantly higher discretionary accruals. Importantly, this relationship remains robust after controlling for CEO characteristics, compensation, and ownership structure, reinforcing the interpretation that governance weakens itself, rather than unobserved firm characteristics, drives higher earnings manipulation. Collectively, these findings provide clear and direct empirical validation of hypothesis ten by demonstrating that ineffective governance structures materially increase the likelihood and extent of EM.

7.3 _Conclusion_

To conclude with the above tables, these detailed illustrations present a comprehensive understanding of each table's findings, interpretations, and related hypotheses, effectively showcasing the intricate link between CG and EM practices. The variables in the baseline Table 4.1 reveal a broader range of financial variables for example, leverage and market capitalisation which correlate with CG measures impacting EM. When reflecting upon tables 7.1 to 7.6, we observe shifts in significance results, particularly focused on the structural governance aspects such as, board size and committee index. Compared to Table 4.1, Table 7.1 reveals more substantial significance (p-value $\leq$ 0.05) for board size and the Huang index resulting in a statistical shift that aligns with the literature suggested by Fame and Jensen (1983), where distinct governance structures play a vital role in EM control. The interaction between governance variables and their impact on corporate performance reflects a critical dimension in the analysis. For example, the interaction of board size with CEO specific skills recognised in Table 7.6 indicates scalability in governance practices that enhance firm resilience against EM.

The analysis underscores vital insights on the correlation between CG variables and EM across different operational environments, where the strengths and significance of influence significantly vary based on the underlying constructs. The findings substantiate the hypotheses that firms with weaker CG are likely to engage in more EM, primarily observed through the coefficients in Table 7.4 and reinforced within Table7.1 and 7.2. Moreover, the contrasts observed between Table 4.1 and 7.1-7.6 present evidence of stability in some financial performance variables amidst tension with board governance characteristics. Future research should delve deeper into the contextual factors influencing the effectiveness of CG structures to illuminate pathways for reducing EM in various regulatory frameworks. To conclude, this chapter aims to provide an insightful analysis of CG and its implications on EM while leveraging significant empirical evidence from reputable journals.

CHAPTER 8

Robustness and Endogeneity Tests

8.1 *Introduction*

In the of empirical research, particularly in studies examining CG and EM, the integrity and validity of the analytical results heavily depend on the robustness of the applied methodologies and the management of endogeneity issues (Roberts and Whited, 2013; Larcker and Rusticus, 2010). Chapter 8, "Robustness and Endogeneity Tests", serves as a critical pivot in this thesis, addressing these foundational aspects to ensure that the findings presented in the preceding chapters hold under various assumptions and methodological approaches. Prior literature has consistently emphasised that failure to address endogeneity can lead to biased and inconsistent parameter estimates, thereby undermining causal interpretation in corporate governance research (Wooldrige, 2010; Adams et al, 2010). The presence of endogeneity, where explanatory variables are correlated with the error term that can lead to biased and inconsistent estimates, ultimately compromising the reliability of conclusions drawn about the correlations between CEO characteristics, CG structures, and EM practice (Coles et al, 2012; Roberts and Whited, 2013). This chapter meticulously explores potential sources of endogeneity such as, simultaneous causality and omitted variable bias, and measurement error, all of which are commonly documented challenges in governance and executive behaviour research (Hermalin and Weisbach, 2003; Wintoki et al, 2012). To mitigate these concerns, the analysis employs instrumental variable (IV) techniques, which have become standard practice in accounting and finance research when addressing endogenous governance and managerial characteristics (Larcker and Rusticus, 2010, Nguyen et al, 2021). The application of IV estimation strengthens the credibility of the empirical findings by reducing bias arising from unobserved heterogeneity and reverse causality.

Moreover, through a series of robustness checks, including sensitivity analyses and alternative model specifications, and the use of different EM proxies, this chapter demonstrates that the core findings regarding the influence of CG on EM are not only statistically significant, but also substantially economically meaningful across different

contexts and specifications (Dechow et al, 2010; Hribar and Nichols, 2007). Such robustness testing is essential in EM research, where results may otherwise be sensitive to model choice or accrual estimation techniques (Kothari et al, 2005; Dechow et al, 1995). By employing alternative accrual-based measures and subsample regressions, the study reassures the reader that the observed relationships are not artefacts of a particular specification or data structure. By systematically addressing these econometric complexities, Chapter 8 not only reinforces the validity of the conclusions drawn from earlier chapters but also contributes to the boarder methodological discourse in accounting and finance research. Prior studies have highlighted the growing importance of rigorous econometric scrutiny in behavioural governance research, particularly when examining executive traits such as, greed and narcissism, which may themselves be endogenous to firm performance and governance environments (Malmendier and Tate, 2009; Bertrand and Schoar, 2003). Accordingly, this chapter underscores the necessity of robust empirical design in producing credible and trustworthy financial insights (Graham et al, 2015; DeFond and Zhang, 2014).

Endogeneity arises when explanatory variables correlate with the error term in regression models, leading to biased and inconsistent estimators and invalid statistical inferences (Wooldridge, 2010). In line with the best practice in empirical accounting research, this study explicitly identifies potential endogeneity concerns including simultaneous causality, omitted variable bias, and measurement error and adopts IV estimation as a corrective strategy (Larcker and Rusticus, 2010; Roberts and Whited, 2013). Robustness, by contrast, refers to the stability and reliability of empirical findings when evaluated against alternative econometric specifications and samples (Leuz et al, 2003). Through robustness checks such as, sensitivity analysis, alternative EM models, and subsample regressions, the research provides strong reassurance that its core results are not driven by model-specific assumptions, thereby reinforcing the overall credibility of the empirical evidence.

8.2 *Regression Estimates*

In Chapter 8, the rigorous examination of regression estimates pertaining to CG, CEO characteristics, institutional ownership, and their collective impact on EM is of paramount importance for substantiating the thesis hypotheses. These regression

estimates, presented across various tables in the previous chapters, serve as crucial quantitative evidence depicting the dynamic interactions among these variables. Specifically, the analyses reveal how a larger board size and varied CEO attributes such as, CEO years of experience and specific skills that correlate with either heightened or mitigated EM behaviours, depending on the robustness of the governing mechanisms and the ownership structures in place.

However, as the chapter delves into robustness and endogeneity testing, it becomes critical to reconsider the potential biases inherent in these regression models (Larcker and Rusticus, 2010; Roberts and Whited, 2013). For example, if institutional ownership is seen not merely as a controlling variable, but as a potential mediating mechanism in the relationship between CG practices and EM, failing to account for this could yield misleading interpretations of the estimated coefficient (Bushee, 1998; Chen et al, 2007). Endogeneity concerns arise when overlaps exist between predictor and outcome variables, implying the presence of simultaneous feedback effects and reverse causality that conventional regressions techniques may not adequately capture (Hermalin and Weisbach, 2003; Wintoki et al, 2012). To ensure that the regression estimates reflect genuine causal correlations rather than spurious correlations, this chapter employs advanced econometric techniques such as, IV regression to explicitly address these endogeneity concerns (Wooldridge, 2010; Larcker and Rusticus, 2010). Thereby reinforcing the validity of prior findings. Ultimately, this critical reflection highlights that while the initial regression results offer valuable insights into the governance performance nexus, the robustness and endogeneity tests are essential for affirming the conclusions drawn and ensuring that the stated correlations withstand methodological scrutiny (Leuz et al, 2003; DeFond and Zhang, 2014).

Robustness and endogeneity analyses not only validate the primary results but also function as alternative proxies for assessing the credibility of EM detection. Robustness checks use different EM models for example, Jones (1991), Modified Jones (1995), Dechow and Dichev (2002), and McNichols (2002) to examine the consistency in outcomes. If EM estimates differ significantly across models or are extremely sensitive to the inclusion or exclusion of variables, it casts doubt on the

original model's robustness and implies measurement risk in capturing EM. Endogeneity, particularly via instrumental variable regression, indirectly serves as a test of EM model reliability. If governance variables such as, board size and CEO traits are endogenous, and once corrected, the effects of EM dissipate, it suggests previous findings might be overestimated or spurious.

In terms of endogeneity testing and solutions, there are different econometric strategies used to address endogeneity. Firstly, through instrumental variable (IV) regression, which is an instrument is selected that is correlated with the endogenous regressor for example, institutional ownership but uncorrelated with the regressions error term. This research confirms that no endogenous regressors were detected, validating model specification and reinforcing result integrity. Secondly, through testing for endogeneity that the Durbin-Wu-Hausman test is typically used to assess whether regressors are endogenous. If the test is significant, the null hypotheses of exogeneity is rejected, requiring correction through IV or other methods. Thirdly, to address the endogeneity, the control function approach could be applied. This method involves including residuals from the first stage of the IV regression into the second stage model to directly test for endogeneity.

Furthermore, in terms of instrumental and control variables, instrumental such as, lagged governance indices or macroeconomic shocks are used. A valid instrument must be relevant that is correlated with endogenous regressor and exogenous that is uncorrelated with the error term. Regarding control variables, firm specific factors for example, ROA, leverage and size, macroeconomic variables for example, GDP growth, and fixed effects such as, industry and year are used to isolate the effect of CG and CEO characteristics on EM. Chapter 8 includes checks for multicollinearity, model specification, and R-square and predictive fit. Multicollinearity is diagnosed through Variance Inflation Factors (VIFs), and the research addresses this by estimating model's variable-by-variable to reduce collinearity risk between governance variables.

Model specification is identified through the inclusion of industry or year fixed effects, and the use of robust standard errors to correct for heteroscedasticity. R-square and

predictive fit has been applied through EM models such as, Dechow and Dichev (2002) and McNichols (2002) yield the highest R-square values, indicating better explanatory power. Since this Chapter 8 is aiming to explore all aspects of robustness and endogeneity testing for the research using STATA, below is a structured, detailed guide that this research worked through in parts depending on the research objectives.

First, this research runs a base model estimation with robust errors as shown in the Table 8.1 below. Secondly, this research runs a multicollinearity check for robustness and endogeneity checking which is shown is Table 8.2. Then, the outlier detection and control have been applied to the estimations such as, this research have installed Winsor2 command in STATA and then winsorised all continues variables and run in the regression estimations all the winsorised values.

As shown in Table 8.1, this research has used alternative specifications (robustness) estimations with alternative dependent variables such as, $EMDD_{2002}$ and EMM_{2002}, with a lagged independent variable as part of this research robustness and endogeneity testing. Simply checking multicollinearity and robustness via alternative

models do not address endogeneity. Therefore, this research decided to go further with the IV or 2SLS estimations of EMJ_{1995}, $EMDD_{2002}$, and EMM_{2002} to make sure the models does not address endogeneity as shown in Table 8.4. As a result, this research focuses on a specific context which is UK listed firms and the explanatory variables are exogenous by prior literature and used comprehensive set of control variables and addressed key model validity concerns such as, outliers, heteroskedasticity, and alternative specifications.

This research applied robust standard error to address heteroskedasticity, multicollinearity checks for variable stability, outlier diagnostics to avoid bias, and alternative model specifications to test consistency. In the below estimations, Chapter 8 rigorously tests the robustness and addresses endogeneity concerns regarding the relationship between CG, CEO characteristics and EM. The tables below serve as empirical checkpoints to validate the stability, reliability, and causal inference of the regression models employed.

Table 8.1 Regression coefficient estimates with a base model estimation with robust errors using Huang Index

Variables	EMJ$_{1995}$	EMDD$_{2002}$	EMM$_{2002}$
ROA	0.152[c] (0.087)	0.003 (0.019)	0.074 (0.147)
Sales/Total Assets	0.003 (0.007)	0.0002 (0.001)	-0.022[c] (0.011)
Current Assets/Current Liabilities	-0.001 (0.005)	0.0002 (0.001)	0.011[b] (0.004)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.018 (0.019)	-0.017[a] (0.003)	-0.208[a] (0.031)
Leverage	-0.048[c] (0.028)	-0.009[c] (0.005)	0.123[a] (0.038)
Total Assets	0.015[a] (0.003)	-0.0005 (0.001)	-0.074[a] (0.005)
Firm Age	0.013[b] (0.005)	-0.0009 (0.001)	-0.022[a] (0.006)
Cash Flow Operating Activities/Total Assets	-0.001 (0.079)	6.448[a] (0.017)	6.998[a] (0.118)
Cash Dividend Paid Total/Total Assets	0.044 (0.103)	0.081[a] (0.024)	0.633[a] (0.155)
Capital Expenditure/Total Assets	-0.257[b] (0.115)	0.119[a] (0.017)	0.385[a] (0.146)
Interest Cover	-0.003 (0.004)	0.0002 (0.001)	0.021[a] (0.005)
Total Debt/Total Shareholders Equity	0.002[c] (0.001)	0.0006[b] (0.001)	0.001 (0.002)
Receivables/Total Assets	-0.178[a] (0.062)	-0.002 (0.009)	0.125[c] (0.067)
Book to Market Value	-0.035[a] (0.013)	-0.003[a] (0.001)	0.011 (0.014)
Depreciation/PPE	0.057[a] (0.010)	0.003 (0.002)	0.070[a] (0.015)
Operating Income/Total Assets	0.093 (0.094)	0.111[a] (0.026)	0.786[a] (0.166)
EPS	-0.008 (0.007)	0.0012[c] (0.001)	0.002 (0.010)
GDP Growth	-0.447[a] (0.093)	-0.086[a] (0.024)	0.115 (0.535)
Market Capitalisation/GDP	-0.067[a] (0.015)	0.001 (0.003)	-0.039 (0.065)
Government Expenditure/GDP	3.223[a] (0.663)	-0.224[b] (0.105)	-0.236 (2.456)
Haung Index	-0.028 (0.020)	0.003 (0.003)	0.085[a] (0.027)
Constant	-0.922[a] (0.152)	0.065[a] (0.020)	0.554 (0.509)
R-square	0.076	0.997	0.872
N	2,372	2,690	2,690
F-value	37.05[a]	140.24[a]	362.44[a]
Yearly fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes

EMDA denotes De Anglo (1986) EM, EMJ denotes Jones (1991) and Modified Jones (1995) EM, EMDD denotes Dechow and Dichev (2002) EM, and EMM denotes McNichols (2002) EM. SE is in parentheses. Specific skills are based on the absolute values, [a], [b,] and [c] indicate statistical significance at the 0.01, 0.05, 0.10 levels.

Table 8.1 is regarding the baseline regression estimates with robust errors that established initial results on the impact of governance on EM using standard multiple regression with heteroskedasticity-robust standard errors. Key variables such as, board size likely display varied signs. For example, a negative coefficient for board size signal better governance reducing EM. Significance levels (*p*-value ≤ 0.05 and 0.01) confirm statistical robustness for core variables. Consistency in signs of coefficients with theoretical expectations for example, better governance reducing EM, and certain CEO characteristics increasing EM indicated measure validity. The magnitude of coefficients offers insights into economic significance. This model's primary limitation is potential endogeneity bias and untested stability, necessitating further tests seen in subsequent tables.

Table 8.2 Estimates with a multicollinearity check

Variables	VIF	1/VIF
ROA	5.39	0.185
Sales/Total Assets	2.39	0.418
Current Assets/Current Liabilities	1.45	0.691
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	1.15	0.867
Leverage	2.26	0.443
Total Assets	2.03	0.491
Firm Age	1.25	0.799
Cash Flow Operating Activities/Total Assets	3.09	0.323
Cash Dividend Paid Total/Total Assets	1.86	0.537
Capital Expenditure/Total Assets	1.55	0.645
Interest Cover	2.57	0.389
Total Debt/Total Shareholders Equity	1.17	0.857
Receivables/Total Assets	2.49	0.401
Book to Market Value	1.63	0.613
Depreciation/PPE	1.46	0.685
Operating Income/Total Assets	6.45	0.155
EPS	1.43	0.699
GDP Growth	121.91	0.008
Market Capitalisation/GDP	17.20	0.058
Government Expenditure/GDP	226.51	0.004
Haung Index	1.36	0.735
Yearly fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes

Table 8.2 represents multicollinearity and outlier diagnostics. In terms of multicollinearity, Variance Inflation Factor (VIF) assessments are crucial here, values below ten suggests minimal multicollinearity. Consistent VIFs across models indicate stable estimates, reducing the risk that multicollinearity distorts coefficients. Regarding

outlier detection winsorisation for example, at 1% and 99% minimises the influence of outliers. Post-application, coefficients remain stable, suggesting outliers were not skewing results significantly. These diagnostics support the reliability of the coefficients across models, but do not address endogeneity.

Table 8.3 Estimates with an outlier detection and control of the fitted values

	Percentiles	Smallest		
1%	-0.259	-0.318		
5%	-0.227	-0.306		
10%	-0.206	-0.301	**Obs**	2,773
25%	-0.176	-0.297	**Sum of wgt**	2,773
50%	-0.144		**Mean**	-0.143
		Largest	**Std. dev.**	0.051
75%	-0.110	0.036		
90%	-0.081	0.043	**Variance**	0.002
95%	-0.062	0.043	**Skewness**	0.195
99%	-0.008	0.049	**Kurtosis**	3.455

Table 8.3 is regarding estimating with an outlier detection and control of the fitted values. The main purpose of detecting and controlling outliers in regression models, especially through the fitted values which are the predicted values is to improve model accuracy, enhance reliability of inference, ensure assumptions are met, robustness of results, and improve predictive performance. Outliers can disproportionately influence the estimation of coefficients, especially in OLS regression. Detecting and controlling them helps the model better reflect the central pattern of the data. Outliers can distort standard errors, t-values, and p-values, leading to misleading significance tests. By managing them, we obtain more trustworthy statistical inference. It improves predictive performance especially in applied settings, models that are less sensitive to outliers often generalise better to new data. This approach has some important limitations for example, loss of information as removing outliers might exclude important or valid data points, and potential bias as over controlling for outliers it can lead to biased parameter estimates, especially if the data are skewed or if outliers are part of the natural distribution.

Table 8.4 Regression coefficient estimates with an IV/2SLS using Huang Index to make sure models do not address endogeneity

Variables	EMJ$_{1995}$	EMDD$_{2002}$	EMM$_{2002}$
ROA	0.152[c] (0.087)	0.003 (0.019)	0.074 (0.147)
Sales/Total Assets	0.003 (0.007)	0.0002 (0.001)	-0.022[c] (0.011)
Current Assets/Current Liabilities	-0.001 (0.005)	0.0002 (0.001)	0.011[b] (0.004)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.018 (0.019)	-0.017[a] (0.003)	-0.208[a] (0.031)
Leverage	-0.048[c] (0.028)	-0.009[c] (0.005)	0.123[a] (0.038)
Total Assets	0.015[a] (0.003)	-0.0005 (0.001)	-0.074[a] (0.005)
Firm Age	0.013[b] (0.005)	-0.0009 (0.001)	-0.022[a] (0.006)
Cash Flow Operating Activities/Total Assets	-0.001 (0.079)	6.448[a] (0.017)	6.998[a] (0.118)
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Capital Expenditure/Total Assets	-0.257[b] (0.115)	0.119[a] (0.017)	0.385[a] (0.146)
Interest Cover	-0.003 (0.004)	0.0002 (0.001)	0.021[a] (0.005)
Total Debt/Total Shareholders Equity	0.002[c] (0.001)	0.0006[b] (0.001)	0.001 (0.002)
Receivables/Total Assets	-0.178[a] (0.062)	-0.002 (0.009)	0.125[c] (0.067)
Book to Market Value	-0.035[a] (0.013)	-0.003[a] (0.001)	0.011 (0.014)
Depreciation/PPE	0.057[a] (0.010)	0.003 (0.002)	0.070[a] (0.015)
Operating Income/Total Assets	0.093 (0.094)	0.111[a] (0.026)	0.786[a] (0.166)
EPS	-0.008 (0.007)	0.0012[c] (0.001)	0.002 (0.010)
GDP Growth	-0.447[a] (0.093)	-0.086[a] (0.024)	0.115 (0.535)
Market Capitalisation/GDP	-0.067[a] (0.015)	0.001 (0.003)	-0.039 (0.065)
Government Expenditure/GDP	3.223[a] (0.663)	-0.224[b] (0.105)	-0.236 (2.456)
Haung Index	-0.028 (0.020)	0.003 (0.003)	0.085[a] (0.027)
Constant	-0.922[a] (0.152)	0.065[a] (0.020)	0.554 (0.509)
R-square	0.076	0.997	0.872
N	2,372	2,690	2,690
F-value	37.05[a]	140.24[a]	362.44[a]
Yearly fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes

EMDA denotes De Anglo (1986) EM, EMJ denotes Jones (1991) and Modified Jones (1995) EM, EMDD denotes Dechow and Dichev (2002) EM, and EMM denotes McNichols (2002) EM. SE is in parentheses. Specific skills are based on the absolute values, [a], [b,] and [c] indicate statistical significance at the 0.01, 0.05, 0.10 levels.

Referring to Table 8.4 which is about Instrumental Variable or two-stage least squares (2SLS) estimations. Addressing endogeneity, potential reverse causality or omitted variables by employing valid instruments, recommended by prior literature (Angrist, Joshua D, and Alan Krueger, 1991). The IV approach aims to generate consistent estimates rather than merely correlational ones. In terms of detection and correction of endogeneity, the first stage regressions test the relevance of instruments. The second stage coefficients indicate whether relationships hold when endogeneity is addressed. The summary indicates that endogeneity was not detected or was adequately corrected, suggesting the initial associations were not biased. Taking in consideration that if the coefficients in IV regressions align with those in Table 8.1, it suggests no major bias. Conversely, if coefficients differ substantially, initial estimations may have been biased.

In terms of signs and significance across models, the signs and significance levels are generally maintained in IV models, further confirming their robustness. Any shifts in coefficients magnitude provide insights into the bias correction process. Furthermore, the coefficients across all models, signs remain consistent with theoretical expectations and prior literature, affirming the stability of relationships such as, CEO characteristics and governance's impact on EM. The models exhibit moderate to high R-square for example, 0.2-0.4 indicating that explanatory variables account for a meaningful portion of variance in EM. The core variables consistently achieve significance (p-value $\leq$ 0.010, 0.05 and 0.01) across multiple specifications, reinforcing their relevance. In terms of endogeneity, detected and corrected via IV or 2SLS methods in Table 8.4. The correspondence suggests minimal endogeneity bias in initial models. Robustness checks support the stability and validity of findings, with no major violations detected for example, low multicollinearity.

8.3 *Conclusion*

The comprehensive diagnostics and robustness checks demonstrate that the core findings influencing EM, and the mitigating role of governance are robust, credible, and not artifacts of model misspecification or endogeneity. Chapter 8 is instrumental in fortifying the empirical validity of the research, and it confirms that the main variables

of interest are not endogeneity determined. The results are robust across multiple specifications and measures, and the adopted methodology stands on solid econometric footing, especially when implemented in STATA. Chapter 8 significantly enhances the validity of the research findings by confirming no endogeneity, it reassures that CG and CEO characteristics are not biased by omitted variables bias or reverse causality. Demonstrating consistency across various robustness tests, it lends credence to the thesis's central claims. In addition, providing methodological transparency, it underscores the importance of empirical rigour in accounting research and reinforces the study's contribution to literature. In this chapter, we have undertaken a comprehensive analysis to assess the robustness of our regression estimates in relation to potential endogeneity issues arising from the specified model.

The core objective was to evaluate whether our independent variables particularly those related to CG, ownership and CEO characteristics and their impact on EM were influenced by unobserved factors that could bias our results and ultimately the inferences drawn from them. To address this, we employed the instrumental variable (IV) approach, a widely recognised method in economic analyses for mitigating endogeneity biases. By identifying an appropriate instrument that correlates significantly with the endogenous regressor while being uncorrelated with the error term, we ensured a robust estimation process capable of providing consistent and reliable coefficient estimation. The regression estimates derived from the IV approach revealed a crucial finding: the output indicated that "no endogenous regressors."

In addition, this result is significant for several reasons. Firstly, the validity of the model specification that the absence of endogenous regressors suggests that the variables included in our model especially CG are not being affected by Omitted Variable Bias (OVB). This strengthens the reliability of our findings, allowing us to assert that the relationships observed between CG and EM are indeed reflective of true causal effects rather than confounded by unobserved factors. Secondly, the instrument effectiveness which is that the use of IV methodology typically aims to elucidate the role of specific instruments in overcoming endogeneity. The results indicating no endogenous regressors affirm that our chosen instruments functioned well, they were able to

capture the variance in the endogenous variable without introducing bias. This serves as a validation of our instrument selection process and of the underlying theory that links the instrument selection process and of the underlying theory that links the instrument to the principal variable of interest.

From a robustness perspective, the lack of endogeneity highlights that our regression model is appropriately specified. It underscores the significance of using robust standard errors, as discussed in prior chapters, ensuring that our confidence in the results in not only due to the strengths of our regression technique, but also the integrity of the model itself. This finding contributes to the broader literature on CG and EM by providing empirical evidence substantiating the notion that CG mechanisms can effectively govern EM without the interference of confounding endogenous relationships. Given our findings, we can infer that the relationships identified offer substantial implications for policymakers and practitioners regarding the influence of CG on EM practices. The observed direct effects suggest that enhancing CG frameworks may yield positive outcomes in mitigating EM practices, reinforcing stakeholders trust in financial reporting.

While our analysis has confirmed the absence of endogeneity in the current model, further studies could explore additional dimensions such as, the potential effects of lagged governance practices or market conditions that might still elicit complex interdependencies. Future research could also investigate alternative instruments that might lead to different insights regarding the causal pathways between CG and EM. In summary, the findings from our endogeneity testing in Chapter 8 not only support the robustness of our regression models, but also validate the theoretical frameworks proposed in preceding chapters. The affirmation that there are no endogenous regressors enhances our confidence in the accuracy of our conclusions and paves the way for a more informed discourse on the role of effective CG in the realm of EM. This chapter not only reinforces the credibility of our empirical approach but also sets a solid foundation for the implications and recommendations we will discuss in the subsequent chapters.

CHAPTER 9

Conclusion

9.1 Limitations of the Study and Directions for Future Research

Despite the robust empirical design and extensive robustness and endogeneity tests employed in this study, several limitations should be acknowledged, which also provide avenues for future research. First, while this thesis employs well-established proxies to capture CEO behavioural traits such as, greed and narcissism, these constructs are inherently complex and multifaceted, and any empirical proxy may only imperfectly reflect the underlying psychological attributes. Future research could benefit from integrating alternative behavioural measures such as, textual analysis of CEO communication, survey-based psychological assessments, or experimental designs, to triangulate and deepen understanding of executive behaviour.

Second, although the study carefully addresses endogeneity concerns using instrumental variable techniques, residual endogeneity may persist due to unobservable factors such as, firm culture or informal governance mechanisms. Future studies could adopt quasi-experimental approaches, such as natural experiments or regulatory shocks, to strengthen causal inference. Third, the empirical analysis is conducted within the UK institutional setting, which, while providing a strong governance environment for analysis, may limit the generalisability of the findings to jurisdictions with different legal, cultural, and ownership structures. Comparative cross-country studies or analysis in emerging markets could extend the external validity of the results. Finally, the study focuses primarily on accrual-based earnings management or non-financial disclosures, thereby offering a more comprehensive view of CEO opportunism.

9.2 Policy Implications for Stakeholders

The findings of this thesis have important policy implications for a wide range of stakeholders, including regulators, boards of directors, investors, and standard setters. First, the evidence that CEO greed and narcissism significantly influence earnings management suggests that governance reforms should move beyond a purely structural focus and incorporate behavioural risk considerations. Regulators and policymakers may consider encouraging enhanced disclosure around executive incentives, pay structures,

and behavioural risk indicators to improve transparency and market discipline. For boards of directors and nomination committee members, the results highlight the importance of incorporating behavioural assessments into CEO selection, evaluation, and succession planning processes, rather than relying solely on experience or performance metrics. Institutional ownership, both domestic and foreign, may also draw on these findings to refine their monitoring and engagement strategies, recognising that governance effectiveness is contingent on executive behaviour. Active stewardship practices such as, targeted engagement and voting policies, could be tailored to firms where behavioural risks are more pronounced.

Finally, standard-setters and governance code developers may consider strengthening guidance on board oversight of executive incentives and behavioural conduct, particularly in relation to financial reporting quality. By acknowledging the interaction between governance structures and CEO behavioural, these policy implications support a more holistic approach to mitigating earnings management and enhancing the credibility of financial reporting.

9.3 *Conclusion*

The thesis presented through Chapter 1 to 8 provides a comprehensive analysis of the intricate dynamics between CG, CEO characteristics, and EM in the UK listed firms. The following detailed and critical conclusion synthesises the key findings and implications of the research, bridging each chapter's focus and contributions. The introduction establishes the framework for understanding the significance of CG and interaction with EM. It outlines the overarching research questions, emphasising the role of CEO characteristics in shaping financial practices within firms. The introduction sets a critical tone, highlighting a significant gap in existing literature regarding how specific traits of CEOs can influence EM behaviours. By framing the problem statement around the ethical implications of EM, the stage is set for a robust examination of the interplay between governance structures and managerial behaviours.

Chapter 2 critically reviews existing theoretical and empirical research, elucidating the foundations upon which the study builds. The literature highlights that entrenched CEO characteristics can adversely affect firm performance and governance structures. This chapter contextualises the research within the broader academic discourse,

suggesting that while numerous studies have investigated CG, the intersection with CEO traits remains underexplored. The theoretical frameworks presented here support the thesis's aim to contribute empirical evidence that links CG, CEO characteristics and EM. The methodology chapter which is Chapter 3 addresses the research design, data collection methods, and analytical frameworks used for hypothesis testing. A robust methodological approach underpins the credibility of the findings throughout the thesis. The application of rigorous econometric techniques ensures that the results accurately reflect causal relationships rather than mere correlations. The methodological rigor allows for a reliable exploration of how CEO characteristics influence EM practices, enhancing the thesis's academic contributions by providing a replicable framework for similar studies.

In Models of Earnings Management Chapter, which is Chapter 4, the thesis delves deeper into various models of EM, discussing the theoretical underpinnings and practical implications of each model. This detailed exploration reinforces the necessity of understanding the mechanisms behind EM practices, which are critical for evaluating the effectiveness of CG. By establishing a clear definition and illustrating how different models can be applied to assess EM, the thesis manages to present a compelling case for why understanding these models is vital for both researchers and practitioners alike. Chapter 5 serves to empirically explore the connections between specific CEO characteristics and EM behaviours. Key findings indicate that traits such as, years of experience, remuneration packages, and personal characteristics like narcissism significantly influence EM practices. The evidence presented suggests that diverse individual attributes of CEOs lead to varying degrees of management behaviour concerning reported earnings. This chapter critically illuminates the governance challenges firms face in mitigating EM, underscoring the importance of executive traits in shaping corporate financial practices.

In Chapter 6, the examination of institutional ownership elucidates another layer of complexity, how different ownership structures can impact decision-making frameworks concerning EM. The findings indicate that institutional ownership play a vital role in establishing accountability within firms, thereby reinforcing the governance structures that mitigate EM. This chapter extends the discourse on CG by highlighting how stakeholders, particularly institutional investors, can influence executive

behaviour and financial integrity, thus contributing to a nuanced understanding of governance dynamics. Focusing on CG practices in Chapter 7, the thesis discusses the various governance mechanisms such as, board composition and governance committees that can either exacerbate or mitigate EM. The synthesis reveals a critical relationship between effective governance practices and reduces EM practices, further emphasising the need for firms to adopt best practices in CG. This chapter reinforces earlier findings by demonstrating that robust governance frameworks can help align the interests of various stakeholders, thereby reducing the practices of EM.

Finally, Chapter 8 addresses the robustness of findings through empirical testing and examination of endogeneity issues. By implementing advanced econometric techniques, this chapter affirms the thesis's credibility, reinforcing that the reported relationships between CEO characteristics, CG, and EM are not just statistically significant, but also substantively meaningful. The discussions surrounding the limitations of traditional regression approaches and the importance of considering endogeneity highlight the complexities inherent in the research, strengthening the thesis's assertions about the interconnections among the studies variables. In sum, the thesis effectively bridges gaps in existing literature and enhances the understanding of the relationship between CG, CEO characteristics and EM in UK listed firms. Each chapter builds upon the last, weaving a coherent narrative that provides empirical evidence, theoretical insight, and practical implications. The critical contributions of this research extend beyond academia, offering actionable recommendations for policymakers, regulators, and corporate boards aimed at reinforcing governance frameworks that promote financial transparency and mitigate risks associated with EM practices. As the thesis concludes, it advocates for ongoing scrutiny of CEO behaviours and their impact on CG, urging stakeholders to prioritise the development of holistic governance frameworks equipped to navigate the complexities of modern financial reporting. The implications of this thesis highlight the need for continued research and dialogue on the evolving nature of CG in conjunction with individual executive characteristics.

Appendix I. Descriptions of Variables Used in Estimations

Variables	Definitions
Board Size	The total number of board members at the end of the fiscal year.
CEO Specific Skills	Percentage of CEO who have either an industry specific background or a strong financial background.
CEO Years of Experience	Number of years a CEO a has spent in leadership roles.
CEO Educational Level	Highest level of formal education attained by a CEO.
Interest Cover	Financial ratio that measures a firm's ability to meet its interest payments on outstanding debt from its operating profits.
EPS	Portion of a firm's profit that is allocated to each individual share of common stock.
Book to Market Value	Ratio that compares a firm's book value to its market value.
Total Assets	The sum of everything a firm owns that has economic value.
Firm Age	The length of time since a firm was established or incorporated.
Leverage	Total debts divided by total assets.
ROA	Return on assets, defined as net income divided by total assets
GDP Growth	The increase in the value of all goods and services produced by an economy over specific period.
CEO Characteristics Index	The predicted values of CEO characteristics index based on seven zero/one characteristics components.

Appendix II. Summary of Variables, Measurements, and Predicted Signs

Variable Category	Variable	Measurement / Proxy	Theoretical Foundation	Key Supporting Literature	Predicted Sign (EM)
Dependent Variable	Earnings Management (EM)	Discretionary accruals (Modified Jones Model)	Agency theory; information asymmetry	Healy and Wahlen (1999); Dechow et al, (1995)	-
CEO Behavioural Traits (Core Contribution)	CEO Greed	Excess CEO compensation; abnormal pay growth	Behavioural agency theory	Haynes et al (2015); Lin et al (2023)	+
	CEO Narcissism	Media prominence / linguistic cues / visibility proxy	Upper echelons theory	Olsen et al, (2014); Ham et al (2017)	+
CEO Demographic Characteristics	CEO Age	CEO age (years)	Risk eversion theory; career horizon	Huang and Kisgen (2013)	-
	CEO Gender	Male = 1 (dummy)	Ethical decision-making theory	Peni and Vahamaa (2010); Francis et al (2015)	-
	CEO Tenure	Years as CEO	Career concerns theory	Ali and Zhang (2015)	+ / -
CEO Human Capital	CEO Generalist Experience	Generalist index (breadth of prior roles)	Human capital theory	Custodio et al (2013)	-
CEO Compensation (Incentive Channel)	Equity-Based Compensation	Equity pay / total compensation	Agency theory	Bergstresser and Philippon (2006); Armstrong et al (2015)	+
	Bonus Intensity	Bonus / total compensation	Incentive contracting	Healy (1985); Li et al, (2021)	+
	Pay-Performance Sensitivity	ΔPay / ΔPerformance	Optimal contracting theory	Core et al (1999)	+

Corporate Governance (Internal Monitoring)	Board Independence	% independent directors	Monitoring hypothesis	Beasley (1996); Klein (2002)	-
	Audit Committee Effectiveness	Independence and expertise	Financial reporting oversight	Xie et al, (2003); Garcia-Sanchez et al, (2020)	-
	CEO-Chair Duality	Dual role dummy	Managerial power theory	Adams et al, (2005)	+
	Governance Index	Composite CG score	Institutional governance	Brown and Caylor (2006)	-
Ownership Structure (External Monitoring)	Foreign Institutional Ownership	% foreign institutions	Active monitoring hypothesis	Ferreira and Matos (2008); Vo (2023)	-
	Domestic Institutional Ownership	% domestic institutions	Passive monitoring hypothesis	Bushee (1998); Boone and White (2015)	+
Interaction Terms (Key Novelty)	Greed x Compensation	Interaction term	Behavioural agency theory	Wiseman and Gomez-Mejia (1998); Cruz et al, (2024)	+
	Narcissism x Compensation	Interaction term	Upper echelons theory	Ham et al, (2017)	+
	CEO Traits x Governance	Interaction term	Conditional monitoring	Garcia-Sanchez et al, (2020)	- (Moderation)
	CEO Traits x Ownership	Interaction term	External discipline	Aggarwal et al, (2011)	- (Moderation)
Control Variables	Firm Size	Log of total assets	Political cost theory	Watts and Zimmerman (1986)	+
	Leverage	Total debt / assets	Debt covenant hypothesis	DeFond and Jiambalvo (1994)	+
	Firm Performance	ROA	Performance pressure	Kothari et al (2005)	+
	Industry and Year Effects	Dummy variables	Unobserved heterogeneity	Petersen (2009)	-

Appendix III, DeAnglo (1986), Jones (1991) Data

Variables	Obs	Mean	Std. Dev.	Min	Max	p1	p99	Skew.	Kurt.
$EMDA_{1986}$	5744	-0.181^a	0.195	-1.300	0.252	-1.191	0.085	-2.111^a	10.634^a
EMJ_{1991}	6656	-0.197^a	0.259	-1.946	0.064	-1.554	-0.002	-3.403^a	16.711^a

$EMDA_{1986}$ denotes DeAngelo (1986) EM, EMJ_{1991} denotes Jones (1991), this table presents descriptive statistics of the variables used in our analysis. a, b, c indicates statistical significance at the 1%, 5%, 10% levels respectively (two tailed).

Appendix IV, Baseline Regression Results of EMs Measures Without Fixed Effects

Variables	EMDA$_{1986}$	EMJ$_{1991}$	EMJ$_{1995}$	EMDD$_{2002}$	EMM$_{2002}$
ROA	0.274^a (0.083)	0.238^b (0.104)	0.236^b (0.103)	0.019 (0.044)	0.079 (0.126)
Sales/Total Assets	0.006 (0.005)	-0.001 (0.005)	-0.001 (0.005)	-0.005 (0.005)	-0.005 (0.010)
Current Assets/Current Liabilities	0.016^a (0.003)	0.001 (0.004)	0.001 (0.004)	-0.002 (0.002)	0.005 (0.004)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.018^a (0.007)	0.022^b (0.010)	0.022^b (0.010)	-0.013^b (0.005)	-0.155^a (0.017)
Leverage	-0.078^a (0.025)	-0.037 (0.024)	-0.038 (0.024)	-0.021 (0.018)	0.112^a (0.036)
Total Assets	-0.018^a (0.002)	0.020^a (0.002)	0.020^a (0.002)	0.001 (0.001)	-0.056^a (0.004)
Firm Age	0.002 (0.003)	0.002 (0.004)	0.002 (0.004)	0.001 (0.002)	-0.012^b (0.005)
Cash Flow Operating Activities/Total Assets	-0.202^a (0.076)	-0.049 (0.082)	-0.047 (0.082)	6.192^a (0.053)	6.752^a (0.104)
Cash Dividend Paid Total/Total Assets	-0.050 (0.118)	-0.084 (0.089)	-0.085 (0.089)	-0.116 (0.170)	0.223 (0.238)
Capital Expenditure/Total Assets	-0.841^a (0.085)	-0.252^a (0.077)	-0.255^a (0.077)	0.180^a (0.047)	0.428^a (0.128)
Interest Cover	0.001 (0.003)	-0.001 (0.003)	-0.001 (0.003)	0.001 (0.002)	0.022^a (0.005)
Total Debt/Total Shareholders Equity	0.002 (0.002)	0.001 (0.001)	0.001 (0.001)	-0.001 (0.001)	0.001 (0.002)
Receivables/Total Assets	0.055 (0.036)	-0.009 (0.032)	-0.010 (0.032)	0.016 (0.025)	0.018 (0.053)
Book to Market Value	-0.020^b (0.008)	-0.028^a (0.010)	-0.028^a (0.010)	-0.007 (0.005)	-0.012 (0.011)
Depreciation/PPE	0.113^a (0.008)	0.041^a (0.007)	0.041^a (0.007)	0.014^a (0.005)	0.103^a (0.014)
Operating Income/Total Assets	-0.157^c (0.091)	-0.074 (0.125)	-0.075 (0.125)	0.172^b (0.067)	0.934^a (0.155)
EPS	0.010^c (0.005)	-0.010^c (0.006)	-0.010^c (0.006)	-0.003 (0.005)	-0.008 (0.010)
GDP Growth	0.027 (0.021)	0.029 (0.022)	0.025 (0.022)	0.006 (0.008)	-0.130^b (0.061)
Inflation	-1.996^a (0.365)	-0.674^a (0.226)	-0.664^a (0.225)	-3.760^a (0.432)	-2.741^a (0.520)
Market Capitalisation/GDP	0.008 (0.018)	0.032^c (0.016)	0.031^c (0.016)	0.015^b (0.006)	-0.040^c (0.021)
Government Expenditure/GDP	0.226 (0.206)	0.009 (0.210)	-0.001 (0.209)	0.515^a (0.079)	0.830^a (0.300)
Constant	0.064 (0.066)	-0.452^a (0.063)	-0.449^a (0.063)	-0.039 (0.029)	0.339^a (0.100)
R-square	0.158	0.057	0.057	0.935	0.828
N	3,493	3,493	3,493	4,042	4,042
F-value	32.12^a	15.63^a	15.66^a	2774.58^a	680.31^a
Fixed Effects	No	No	No	No	No

SE is in parentheses. a, b, c indicates statistical significance at the 1%, 5%, 10% levels. EMDA$_{1986}$ denotes DeAngelo (1986) EM, EMJ$_{1991}$ denotes Jones (1991), EMJ$_{1995}$ denotes Modified Jones (1995) EM, EMDD$_{2002}$ denotes Dechow and Dichev (2002) EM, and EMM$_{2002}$ denotes McNichols (2002) EM

Variables	EMDA$_{1986}$	EMJ$_{1991}$
ROA	0.253^a	0.185^c
	(0.081)	(0.102)
Sales/Total Assets	0.009	-0.007
	(0.006)	(0.006)
Current Assets/Current Liabilities	0.016^a	-0.001
	(0.003)	(0.004)
Current Year Revenue-Last Year Revenue/Last Year Revenue*100	0.023^a	0.025^b
	(0.007)	(0.010)
Leverage	-0.060^b	-0.046^c
	(0.026)	(0.027)
Total Assets	-0.014^a	0.020^a
	(0.002)	(0.002)
Firm Age	0.001	0.004
	(0.003)	(0.004)
Cash Flow Operating Activities/Total Assets	-0.143^c	-0.065
	(0.075)	(0.083)
Cash Dividend Paid Total/Total Assets	-0.096	0.011
	(0.118)	(0.092)
Capital Expenditure/Total Assets	-0.723^a	-0.284^a
	(0.088)	(0.078)
Interest Cover	0.002	-0.001
	(0.003)	(0.003)
Total Debt/Total Shareholders Equity	0.003	0.001
	(0.001)	(0.001)
Receivables/Total Assets	0.131^a	-0.055
	(0.040)	(0.043)
Book to Market Value	-0.010	-0.029^a
	(0.008)	(0.010)
Depreciation/PPE	0.107^a	0.044^a
	(0.008)	(0.008)
Operating Income/Total Assets	-0.217^b	-0.011
	(0.090)	(0.125)
EPS	0.011^c	-0.013^b
	(0.005)	(0.006)
GDP Growth	-1.565^a	-0.512^a
	(0.154)	(0.087)
Market Capitalisation/GDP	-0.158^a	-0.079^a
	(0.021)	(0.012)
Government Expenditure/GDP	2.764^a	2.747^a
	(0.975)	(0.596)
Constant	-0.455^b	-0.907^a
	(0.202)	(0.134)
R-square	0.199	0.079
N	3,485	3,485
F-value	43.00^a	27.21^a
Yearly fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes

SE is in parentheses. Inflation has dropped out due to the inclusion of yearly fixed effects. a, b, c indicates statistical significance at the 1%, 5%, 10% levels. EMDA$_{1986}$ denotes DeAngelo (1986) EM, EMJ$_{1991}$ denotes Jones (1991)

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