Faculty of Business and Law

Reading between the lines of the Remuneration Report: The effect of Executive Pay and Earnings Management

By

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This thesis is being submitted in partial fulfilment of the requirements for the award of

Doctor of Philosophy

DECLARATION

I, Kevin Axel N'Guessan, hereby declare that this thesis is all my own work and the sources of information and material I have used have been fully identified and properly acknowledged as required. No material is included for which a degree has previously been conferred upon me.

ACKNOWLEDGEMENTS

As Psalms 37:4 says “Delight thyself also in the LORD; and he shall give thee the desires of thine heart”. I am grateful to the Lord Almighty for the grace, the strength and the courage to see the end of this tumultuous journey. Without him, this achievement would have been non-existent.

My sincere thanks to my supervisors, Dr Salma Ibrahim, Dr Jinsha Zhao and Dr Mahmoud Elmarzouky. I would never forget the meeting I had with Salma on the 24th of January which ultimately helped me achieve this incredible work. Jinsha and Mahmoud have constantly encouraged me to give my best.

Special thanks are addressed to my family and friends. My parents Konan and Lydia as well as my siblings Noémie and Wilfried have been a real support through their prayers. I cannot forget Sol Béni and Mum Armande for their constant support. Their prayers have been invaluable. The journey has been long but my friends and close ones, especially Sarah, Ivan, Bouba, Surakh, Aurelia, Aulyria and Dora have never stopped encouraging me to step up and complete this project. For this, I would forever be grateful.

I would like to also thank Jean Luc Soboh for its immense support.

My last thanks are given to the Ivorian Ministry of Higher Education and Scientific Research who through the scholarship has helped me complete this PhD study.

ABSTRACT

The complexity of corporate financial disclosures has attracted a lot of interest from researchers, especially with the introduction of the International Financial Reporting Standards (IFRS) and other governance-related regulations. The concept of readability, which is one component of complexity, is the focus of this thesis as it relates to the quality and usefulness of the information provided to stakeholders. Thus, the readability of corporate disclosures appears critical as it has repercussions on the judgement and decision process as well as the perception of stakeholders. The readability of corporate financial disclosures could either be used maliciously to intentionally obfuscate or to signal superiority and legitimize the actions of management. In this thesis, I focus on the readability of the financial disclosures (annual report and remuneration report) and how CEO compensation and earnings management are seen as incentives influencing corporate financial disclosures' readability.

This thesis is tripartite. The first part investigates the evolution of the readability of the annual reports and CEO compensation. Secondly, this research examines the association between the readability of the remuneration report and the excessive CEO pay. The third part focuses on the link between the readability of the remuneration report and the level of earnings management.

The UK FTSE350 Index was chosen as it includes firms with the largest market capitalization. This work covers the years 2011 to 2019 which captures the period around the introduction of the Business Enterprise and Regulatory Reform Act (2013) together with the Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013 (hereafter 2013 Reforms). The analysis suggests that the

UK annual reports continue to get more complex and longer as CEOs keep receiving huge pay packages. Moreover, in cases where CEOs are overpaid, a more readable remuneration report is issued in line with the legitimacy theory. Finally, high levels of earnings management result in complex remuneration reports, in line with the obfuscation theory.

This study contributes to the literature by firstly extending prior work (Conyon et al., 2006) on the trend of executive pay change over recent times ; it also adds to the literature by investigating the trend in readability over a recent time period in which regulatory reforms in the UK have targeted increased transparency and clarity in remuneration disclosures as a way of enhancing firm-shareholder communication. Secondly, this work extends the existing literature (Laksmana et al., 2012) by investigating the association between excessive compensation and readability in a UK sample over a recent time period. In that context, the 2013 regulatory reforms act as the backdrop allowing me to focus on a period whereby the reporting environment is more open and transparent in terms of remuneration information. Thirdly, this thesis provides novel knowledge by investigating the association between earnings management and remuneration report readability, which has not previously been investigated.

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CSR	Corporate Social Responsibility
CEO	Chief Executive Officer
FRC	Financial Reporting Council
NED	Non-executive directors
LTIP	Long term Incentive Plan
AGM	Annual General Meeting
CFIE-FRSE	Corporate Financial Information Environment – Final Report Structure Extractor
DRR	Directors' Remuneration Report
HPC	High Pay Center
EPS	Earnings per share
TSR	Total Shareholder Return
MBO	Management Buy-Out
IPO	Initial Public Offering
SEO	Seasoned Equity Offering
R&D	Research and Development
GAAP	Generally Accepted Accounting Principles
AEM	Accrual-based Earnings Management
SOX	Sarbanes-Oxley Act
REM	Real Earnings Management
PPE	Property, Plant and Equipment
ROA	Return on assets
MD&A	management Discussion and Analysis
JRS	Job Retention Scheme
CCFF	Coronavirus Corporate Financing Facility
NLP	Natural Language Processing
UKCGC	UK Corporate Governance Code

CHAPTER 1:

INTRODUCTION

1.1.Background of the research

In the preface of the 1998 SEC's Plain English Handbook, Warren Buffet mentioned: *"For more than forty years, I've studied the documents that public companies file. Too often, I've been unable to decipher just what is being said or, worse yet, had to conclude that nothing was being said […] Maybe we simply don't have the technical knowledge to grasp what the writer wishes to convey […] In some cases, moreover, I suspect that a less-than scrupulous issuer doesn't want us to understand a subject it feels legally obligated to touch upon."* This statement perfectly stresses the importance of the readability and understandability of the firm narrative disclosures for investors since the majority of the annual reports comprises of textual contents. After all, *"Without question, getting investors the information, they need, in a form they can use, is the most basic ingredient of insuring good corporate governance."* argued SEC Chairman Christopher Cox in 2007. Thus, with the readability of corporate disclosures being essential for good corporate governance, this thesis consists of three chapters involving the readability of corporate disclosures. To legitimize the importance of this study, the new regulatory

direction that the UK Government wants to instil acts as the backdrop for this research. This allows me to focus on a period following the 2013 regulation in order to ensure that the reporting environment is more open and transparent in terms of remuneration information which enables the hypotheses to be tested in a period that does not suffer from lack of disclosure.

The first study provides a descriptive analysis of the trend in annual report readability and executive pay from 2011 to 2019 in the UK. The second study examines the relationship between the readability of the remuneration report and CEO excess pay. Specifically, this study investigates two opposing views. On one hand, firms that overpay their CEOs would obfuscate the unjustified pay in complex remuneration reports in accordance with the agency theory and managerial power theory. On the other hand, firms will be transparent about pay to legitimize their actions according to the legitimacy theory. The issue of executive compensation has attracted a lot of interest. For instance, the Department for Business, innovation and Skills commented that FTSE 100 CEO pay increased by 320% between 1998 and 2010 without a similar increase in the FTSE100 index highlighting the lack of support and understanding from shareholders about the continuous increase in executive pay decoupled from an increase in performance. The insensitive pay-performance relationship has exacerbated the need for a strong set of regulations. The 1992 Cadbury Report advises on the disclosure of directors' emoluments, the separation of duty between the CEO and chairman and the establishment and composition of the remuneration committee. However, it became apparent that these recommendations were not enough and in 1995 the Greenbury Report was introduced. The Greenbury Report suggests enhancing accountability and performance by clearly setting the responsibilities for designing executive pay and transparent reporting for

shareholders. In 1998, the Cadbury, Greenbury and Hampel Reports were merged into the UK Corporate Governance Code. The Code presents standards of best practice for listed companies on board composition, compensation, shareholder relations and involvement, accountability, responsibility and audit. As executive compensation continued to be hotly debated despite the enactment of the UK Corporate Governance Code, the UK, a pioneer, introduced the say-on-pay regulations in 2002 which were amended in 2013. Despite the evident efforts from regulators to curb what is perceived to be excessive, CEO pay continues to be on the rise. One way to cover the unjustified pay packages granted to CEOs is to obfuscate the corporate disclosures (Laksmana et al., 2012; Merkl-Davies and Brennan, 2008).

The third study tries to answer the question "Does the complexity of the remuneration report in the annual report relates to earnings management"? This analysis is underpinned by the agency theory and the obfuscation view and the legitimacy theory. Earnings management has become a rampant practice in firms as the accrual-based accounting system yields managers the discretion to manipulate earnings either opportunistically or efficiently. The interest in earnings management increased in the aftermath of the 1990s corporate scandals. Healy and Wahlen (1999) document that one of the reasons for earnings management is executive compensation. Executives manipulate earnings upwards to maximize their current and future bonuses (Healy, 1985) or downwards to create some reserves and increase the likelihood of meeting targets in future years (Degeorge et al., 1999). Studies have investigated the association between the readability of annual reports and earnings management and found evidence in support of the obfuscation hypothesis (Ajina et al., 2016; Lo et al., 2017).

1.2.Theoretical considerations

There are three main theories that underpin this research namely the agency theory, the managerial power theory and the legitimacy theory.

The agency theory emphasizes the separation between control and ownership which results in a divergence of interests between management and shareholders (Jensen and Meckling, 1976). Compensation is thus seen as the way to align the interests of both parties. However, the managerial power theory disapproves of the existence of an "optimal contract" as its proponents argue that the design and implementation of compensation contracts is dictated by powerful CEOs (Bebchuk and Fried, 2004). One common ground between the agency theory and the managerial power theory is that they see executives as opportunistic and self-centered and as such there are reasons to believe that they would take actions to cover their excessive compensation or their manipulation of the accounting numbers for their personal gain by modulating the complexity of the corporate disclosures.

On the other hand, proponents of the legitimacy theory support that companies must operate in a socially responsible manner by taking actions and decisions to remain legitimate (Deegan et al., 2000; O'Donovan, 2002). Under the legitimacy theory, executives would have incentives to voluntarily present stakeholders with information signalling their obedience to the regulations and the societal expectations (Hawashe, 2019) which could be reflected in the corporate disclosures. Therefore, the legitimacy theory not only focuses on the information revelation but also on revealing information that the stakeholders can understand before legitimizing the actions of companies. Thus, while the agency theory and managerial power theory point towards an obfuscation

strategy in corporate disclosures, the legitimacy argues that corporate disclosures would be transparent.

1.3.Research questions and approach

Agency theorists argue that the agency problem stems from the separation of ownership and control in which the shareholders appoint the management to control the firm and make decisions on their behalf (Jensen and Meckling, 1976). The separation of ownership and control creates information asymmetry between both parties. Thus, to bridge the gap between owners and management, truthful and transparent corporate reporting becomes essential.

The remuneration report constitutes an integral part of the annual report as it discusses the remuneration awarded to management. The need for a transparent and truthful remuneration report becomes evident as studies have shown that executive pay does not always reflect firm performance (Buck et al., 2003; Hooghiemstra et al., 2017; Laksmana et al., 2012). Thus, when shareholders perceive executive compensation as unjustified it is reasonable to believe that the first point of call would be the remuneration report which contains comprehensive information about executive pay packages. In doing so, they can access the relevant information related to the design and implementation of executive pay and then assess its appropriateness (Laksmana et al., 2012).

The accrual-based accounting system grants managers some discretion over the choice of accounting methods. This discretion could be used either opportunistically to maximize their personal gain (Healy and Wahlen, 1999; Ibrahim et al., 2011), avoid debt covenant violation (Beneish, 2001; Jha, 2013) or boost their remuneration (Fields et al., 2001) or

efficiently to signal optimism about future performance (Al-Shattarat et al., 2018). To achieve these objectives, managers manipulate earnings using accruals or real activities (Degeorge et al., 1999; Healy, 1985).

The proclivity of excessive pay and earnings manipulation renders the reading ease of the remuneration report paramount as shareholders' impression could be influenced. On one hand, Tan et al. (2014) document that readable reports get easily understood by shareholders. On the other hand, Li (2008) reports that complex reports are too costly to be understood by shareholders. Thus, to cover their aberrant actions, it is plausible that the preparers of the remuneration report would modulate its complexity.

The focus of this thesis translates into the following three research questions:

1. What is the trend in annual report readability and CEO pay?
2. Is excessive pay hidden in a complex remuneration report?
3. Is earnings management hidden in a complex remuneration report?

This study employs an unbalanced panel data in a longitudinal design with a deductive approach. Based on the Hausman test, we show a combination of fixed and random effects results. The data for the readability of the annual report and the remuneration report is obtained by processing downloaded annual reports using the Lancaster University's Corporate Financial Information Environment – Final Report Structure Extractor (CFIE-FRSE) desktop application. The executive compensation, earnings management and financial and governance data are collected from Bloomberg.

The initial sample data is selected from the FTSE350 index between 2011 and 2019 resulting in a final sample of 198 firms, with 941 firm-year observations. Even though the sample size could be criticised we did not deem appropriate to extend the sample to

firms outside the FTSE350 due to different regulations. For example, the 2012 version of the UK Corporate Governance Code stipulate that while smaller firms should have at least two independent non-executive directors, larger firms should have at least half of their board, excluding the chairman, made of independent non-executive directors.

As impression management could be done in various ways (Merkl-Davies and Brennan, 2008), this study only focuses on the reading ease manipulation of the remuneration report. Four measures, namely the Fog index, Flesch index, wordcount and number of pages, have been used to assess the reading ease. The analysis of CEO pay focuses on the unjustified element (overpaid or underpaid). Earnings management is proxied using the magnitude of accruals as defined in Dechow et al. (2010).

1.4.Main findings of the study

The findings of the study are threefold in line with the three main chapters of this thesis. The first study describes the trend in annual report readability and executive pay from 2011 to 2019 in the UK. The analysis suggests that CEOs keep receiving huge pay packages despite calls for change and public criticism. On average, CEO pay has been above the 2011 level throughout our sample period implying that the regulations introduced did not produce a complete turnaround as expected. On the other hand, annual reports which constitute the main communication medium between firms and shareholders continue to get longer, bulkier and difficult to read. It seems that firms are trying to provide more information to shareholders, in accordance with the regulations but the increased disclosure does not seem to have an effect as the annual reports are complex to read and understand.

The second study investigates the association between the readability of the remuneration report and CEO pay. We found that, in cases where CEOs are overpaid, a more readable remuneration report is produced in line with the legitimacy theory. This suggests that the introduction of remuneration-related regulations seems to help mitigating impression management through obfuscation.

The third study examines the relationship between the readability of the remuneration report and earnings management and report that the presence of earnings management is associated with complex remuneration reports, in line with the obfuscation theory.

1.5.Major contribution of the study

The relevance of this study is threefold. Firstly, this research investigates the trend in readability of the annual report vis-à-vis CEO pay in the context of the 2013 Reforms which is the start of the new direction that the UK Government wants to instil to tighten the pay-performance sensitivity, empower shareholders and facilitate the communication with shareholders. Conyon et al. (2011a) and Frydman and Saks (2010) are the only studies that have examined the evolution of executive pay in the US while Li (2008) covered the readability of the US annual reports. To the best of my knowledge, this thesis is the first to examine the trend in the annual report readability and CEO pay in the UK between 2011 and 2019. Since 2011, the UK has seen more and more public concerns and outrage about the rise in pay not resulting from performance. The assessment of the appropriateness of the pay packages awarded to executives depends on the readability and understandability of the remuneration disclosures. Li (2008) reports that the annual reports of US public firms seem to become increasingly more difficult to read despite the introduction of regulations aiming at promoting transparency in disclosure. This study

provides an insight into the trend in readability over a recent time period in which regulatory reforms in the UK have targeted increased transparency and clarity in remuneration disclosures as a way of enhancing firm-shareholders communications.

Another contribution of this study relates to the issue of the readability of the remuneration report and CEO pay. The remuneration report constitutes an important part of the corporate reporting as it discusses the pay package granted to management and should help shareholders assess the appropriateness of the compensation packages awarded to management. While Laksmana et al. (2012) and Hooghiemstra et al. (2017) investigate the US and UK firms, they focus on the say-on-pay period (DRR in the UK context). They both contend that firms that excessively pay their CEOs tend to produce complex remuneration reports which corroborates the obfuscation theory. This study provides an analysis of the association between the readability of the remuneration report and CEO pay in the context of an improved set of regulations which to the best of my knowledge has not yet been covered. This study extends the works of Laksmana et al. (2012) and Hooghiemstra et al. (2017) and contributes to the literature by reporting a complete turnaround in firms' reporting behaviours even in extreme cases where CEOs are excessively paid. In that context, the 2013 regulatory reforms act as the backdrop allowing me to focus on a period whereby the reporting environment is more open and transparent in terms of remuneration information

Thirdly, this study contributes to the extant literature by investigating the link between the readability of the remuneration report and the level of earnings management. To the best of my knowledge all related studies have focused on the readability of the annual report as a whole or the readability of the management discussion and analysis. This chapter adds novel knowledge by investigating the association between earnings

management and remuneration report readability, which has not previously been investigated. It shows that earnings management reduces the clarity and transparency of the remuneration reports.

1.6.Structure of the thesis

The thesis is structured as follows:

Chapter 2 discusses the theories related to the main aspects of this research. The theories discussed include agency theory, managerial power theory, stakeholder theory, social comparison theory, tournament theory and the legitimacy theory.

Chapter 3 discusses the various corporate governance reports (Cadbury, Greenbury, Hampel), the UK corporate governance code, the UK Directors' remuneration report regulations and the various pay-related reports from the High Pay Centre. This chapter also discusses the various elements of executive pay in the UK.

Chapter 4 starts with the various earnings management definitions and terminologies used in the literature. I also discuss the earnings management incentives (signalling vs opportunistic), the popular earnings management practices and finally the earnings management strategies (Accrual based and real activities earnings management).

Chapter 5 discusses the readability concept. It starts with some definitions, then presents the various readability measures used in the literature and finally provides some empirical evidence involving the readability of the annual report.

Chapter 6 provides a descriptive analysis of the trend in annual report readability and executive pay from 2011 to 2019.

Chapter 7 examines the relationship between the readability of the remuneration report and CEO excess pay. Specifically, this section investigates two opposing views. On one hand, the firms that overpay their CEOs would obfuscate the unjustified pay in complex remuneration reports in accordance with the agency theory and managerial power theory. On the other hand, firms will be transparent about pay to legitimize their actions according to the legitimacy theory. I found that the second view holds when CEOs are overpaid.

Chapter 8 tries to answer the question "Does the complexity of the remuneration report in the annual report relates to earnings management?". This analysis is underpinned by the agency theory and the obfuscation view and the legitimacy theory. Since earnings management could be opportunistic or efficient, firms that manage earnings could produce complex remuneration reports to hide their actions.

Chapter 9 concludes this thesis by highlighting the limitations of the research as well as the avenues for further research.

CHAPTER 2:

THEORETICAL FRAMEWORK

2.1. Introduction

The extant literature abounds with theories that propose factors susceptible to affecting the level of executive compensation, the readability of firms' disclosures and the proclivity of earnings management. The most relevant theories related to executive compensation include the agency theory, the managerial power theory, the stakeholder theory, the social comparison theory and the tournament theory. Together, these theories investigate the relationship between stakeholders and highlight the incentives for earnings management. The readability of firms' disclosures is best examined through the agency theory and the legitimacy theory.

The remainder of this chapter proceeds as follows. The first five sections will relate to theories covering executive compensation and the subsequent impact on earnings management. Sections 7,8 and 9 present the theoretical background on readability. Section 10 concludes this chapter.

2.2. Agency Theory

Agency theory stems from the ubiquitous relationship between one party named the principal and another named the agent. Agency theory has been widely used as a basis for theoretical and empirical work in many areas of social studies as well as being extensively applied in investigating research questions about executive compensation (Eisenhardt, 1989; Tosi and Gomez-Mejia, 1989). The agency relationship points to the fact that the principal confers some decision-making authority and discretion to their agent to perform the work delegated to them (Eisenhardt, 1989; Jensen and Meckling, 1976). Seen as a contract, the principal-agent relationship has at its core the overlying problem of the separation between ownership and management. In other words, the shareholding dispersion (ownership) coupled with the fact that the principal rarely get involved in the day-to-day affairs of organisations result in the appointment of the agent (management).

The problem of the separation of ownership and control was brought up by Bearle and Means (1932) and later repeated by Jensen and Meckling (1976) who defined the principal-agent relationship as a contract. This contract suggests the presence of a fiduciary relationship, in which, the agent is supposed to act in the best interests of the principal. For the supposed fiduciary relationship to work, the principal must employ the most qualified and motivated agent. However, this is often not the case due to the classic agency problem of asymmetric information (Shapiro, 2005). The principal not only lacks complete knowledge of the agent's abilities, skills and expertise to carry out the delegated tasks diligently but also can hardly verify these prerequisites before hiring the agent or while on the job. Hence, the principal may attract and hire low-quality agents due to the adverse selection issue or the hidden information problem (Eisenhardt, 1989; Shapiro,

2005). The second fold of the classic agency problem is the moral hazard or hidden action issue. This results from the principal's difficulty to check whether the agent has put in the right amount of effort in performing the assigned tasks.

Parties involved in the agency relationship can have conflicting desires and interests. Jensen and Meckling (1976) suggest that if these parties are utility maximisers, the proclivity for opportunistic (self-interest) behaviour from the agent increases. One more reason for the goal conflict between the principal and the agent is the attitude towards risk. The agency theory emphasises that the principal should be risk-neutral as they can diversify their investments whereas the agent is unable to diversify their employment and that the agent's utility is positively related to pecuniary incentives and negatively related to effort resulting in risk aversion (Eisenhardt, 1989; Shapiro, 2005). This suggests that if the behaviour of the agent cannot be controlled, the interests of the principal are unlikely to be fulfilled.

Lambert (2001) argues that generally, conflicts of interest arise because the agent is shirking (effort aversion), can divert resources for his private consumption or use these resources to the detriment of the principal or because the agent is less concerned about the future repercussions of his decisions as he does not foresee a future with the firm (differential time horizons). Agency theory hypothesizes that ownership dispersion and goal incongruence between the principal and the agent give rise to agency costs (Bacha and Ajina, 2019; Banks et al., 2018; Jensen and Meckling, 1976). The agency costs include some monitoring costs incurred by the principal to restrain the deviant actions of the agent and hence reduce moral hazards, some bonding costs incurred by the agent to ensure their actions will be in the best interests of the principal as well as the residual loss

which is a decrease in the principal's welfare resulting from the goal incongruence (Banks et al., 2018; Jensen and Meckling, 1976; Van Puyvelde et al., 2012).

To minimize agency costs, the principal can design appropriate incentive contracts. The interests of the agent and the principal can converge if there is enough incentive alignment in the form of compensation policies (Shapiro, 2005). Eisenhardt (1989), Shapiro (2005) and Van Puyvelde et al. (2012) suggest that the owners can align the interests of their agent with theirs by offering a compensation contract that is more outcome-based (e.g. bonuses, equity ownership, long term incentive plans) than behaviour-based (e.g. salary). Such contracts are effective in mitigating the agent's self-interest pursuit as the preferences are aligned and the rewards for both parties are contingent on the same decisions. Also, the principal can incur monitoring costs to improve the information they have and verify what the agent is doing thus reducing the moral hazard. Information systems curb the agent's self-serving behaviour since the principal cannot be deceived resulting in the likelihood of the agent behaving in the best interest of the principal (Eisenhardt, 1989).

Lambert (2001) contends that agency theory has shaped the theoretical paradigms in financial accounting, auditing and most importantly managerial accounting. Accounting systems propose an array of traditional indicators to measure financial performance which has been tagged as motivating dysfunctional actions from managers and hence earnings management. Although earnings management is seen to be used by managers for their own benefit to the detriment of the shareholders, studies have shown that it could be beneficial (Jiraporn et al., 2008). Due to goal divergence, managers could be tempted to adopt self-serving behaviour to increase their wealth to the detriment of shareholders' value and this issue is exacerbated by the separation of ownership and control. Thus,

though costly to the principal, monitoring of the managers appears essential since these costs are ultimately passed to the managers who would ideally want to alleviate them.

Garen (1994) argues that agency theory has an important impact on executive remuneration. Watts and Zimmerman (1978) argue that because managers are utility maximisers, there is a tendency to choose accounting policies that suit their own interests that is to say presenting better results resulting in higher compensation. The principal relies on executive compensation to align their interests to those of their agent. The legal theorists, who advocate for optimal contracting suggest that the labour market for agents (CEOs) is efficient (Dorff, 2004). As such, the board of directors, on behalf of the owners can provide performance-related compensation to motivate the executives to work in the best interests of the owners and increase shareholder value. However, Lambert (2001) argues that an optimal contract, in line with the risk preferences of the agent and the principal, is one in which the shareholders are not concerned about bearing all the risk whereas the agent is protected against all risks. This highlights the difficulty in designing a contract that perfectly reconciles the interests of the shareholders and the executives. Although financial performance mostly forms the basis for the design of performance-based remuneration, it is argued that this could lead managers to focus on the wrong things and neglect the important non-financials like customer satisfaction, innovation and learning and quality (Kaplan, 2009; Lambert, 2001).

Annual reports are prepared to reduce the information asymmetry between the management and the shareholders. Based on the optimal contracting view, if the interests of the executives and the shareholders are reconciled there are no reasons for the executives to present information that is costly (time and money) to understand to the shareholders. In other words, the optimal contract advocates for annual reports that are

easy to read and understand. Since the remuneration report highlights the pay packages of the executives vis-à-vis the performance of the firm, companies with executives that are appropriately incentivised are likely to produce remuneration reports that are easy to read (Bacha and Ajina, 2019).

Scholars have raised concerns about the optimal contracting hypothesis which is germane to the agency theory. The optimal contracting hypothesis supports the fact that compensation contracts are the result of arm-length bargaining between on one side the agent who is seeking the best possible contract for themselves and the principal on the other side also attempting to get the best possible deal. Bebchuk and Fried (2004) contend that directors who represent the shareholders have not only financial incentives to support compensation packages that suit executives but also social and psychological motives such as collegiality, conflict avoidance or friendship. They further posit that these incentives allow executives to exert pressure on directors in designing compensation that is inconsistent with the arm-length paradigm.

Research has also pointed to the limits of the agency theory and suggested the use of the stewardship theory (Davis et al., 1997). Proponents of the stewardship theory emphasize that the agency theory present a pessimistic picture of human behaviour as agent is seen as opportunistic and self-serving and hence require monitoring to control their actions and argue that even though the interests of the principal and agent diverge, the agent will be incentivised to work in the best interests of the principal. This is because doing so will translate into higher utility and fulfil their personal goals of achievement, affiliation and self-actualisation (Davis et al., 1997; Van Puyvelde et al., 2012). The stewardship theory also implies that agents can be trusted, and that motivation is intrinsic.

In conclusion, research has shown that agency theory has an impact on the design of executive compensation (Gayle et al., 2018) and earnings management (Lambert, 2001). As managers have incentives to choose actions and decisions that favour their self-interest, the likelihood of earnings manipulation increases. In addition, it is not unreasonable to believe that managers will attempt to hide their deviant actions by disclosing complex information in the annual reports. Nevertheless, academics are not unanimous on the strength of the tenets of the agency theory as argued by Bebchuk and Fried (2004) and Van Puyvelde et al. (2012).

2.3. Managerial power theory

The managerial power theory stems from the shortcomings of the agency theory. Agency theory assumes that there is arm's length bargaining between the directors and the executives in the design of pay arrangements. Following the corporate governance scandals, studies that debunked the optimal contracting assumption are numerous. Critics of the optimal contracting view argue that if the agent is not able to be opportunistic in the contracting process because of the arm's length bargaining assumption, executive compensation becomes a cost and hence a problem and not the solution to align the interests of the agent and principal (Bebchuk and Fried, 2004; Otten and Heugens, 2007).

Bebchuk and Fried (2004) comment that it is important to recognize that managers can influence the pay-setting process. They further argue that directors have financial, social and psychological incentives to sanction remuneration packages that favour the executives. These give managers power over sympathetic directors resulting in pay arrangements that are inconsistent with the arm's length contracting view. Proponents of the agency theory recognize the presence of executives' power because they can adopt

self-serving behaviour to the detriment of shareholders to obtain excessive pay arrangements though Grabke-Rundell and Gomez-Mejia (2002) argue that the agency theory focuses on financial rather than behavioural hypotheses.

Finkelstein (1992) reports some sources of executive power including structural power, and ownership power. The managerial power theory emphasizes that executives' structural power or position resulting from the organisational structure allows them to control and influence the directors and extract rents for personal benefits (Bebchuk and Fried, 2004; Finkelstein, 1992; Otten and Heugens, 2007). The degree of executives' influence on directors is contingent on the interest convergence between the directors and the shareholders. As such, if directors are more aligned to executives' interests, there are reasons to suppose that executives would receive pay arrangements that are weakly related to performance. Dorff (2004) argues that due to the selection process, directors that are elected are not those who have the incentive and ability to monitor the executives (i.e., public institutional shareholders) but rather directors who lack the expertise to question executives' decisions and have no interest in opposing the CEO.

Another source of executive power is ownership. Research postulates that managers with substantial shareholding in the company will be more powerful (Finkelstein, 1992). Grabke-Rundell and Gomez-Mejia (2002) argue that as executives can extract rents through their structural or ownership power, they are also concerned about their self-image and prestige which would lead them to produce a performance whether they work in the best interests of the shareholders or not. This suggests that intrinsic incentives other than compensation may limit the aberrant actions of the executives. Moreover, Bebchuk and Fried (2004) emphasize that there are exogenous factors that could also restrain the behaviours of executives and directors.

Shi et al. (2017) examine forms of external governance including shareholders, the market for corporate control and rating agencies that affect firms and hence executives and directors. Because of the shareholding dispersion, the firm's owners constitute a weak external governance force. Furthermore, in theory, the market for corporate control may act as a deterrent for executives who would like excessive pay arrangements and directors who would sanction these arrangements due to the rising social costs. However, Bebchuk and Fried (2004) posit that the market for corporate control has little restrictive power and cannot stop deviations from a sensitive pay-performance relationship unless the pay causes outrage costs. They further argue that a pay arrangement that is abusive and excessive will raise media attention and public criticism, increase owners' pressure on executives and directors or even damage their reputations. Because the external perception of the fairness and appropriateness of the pay vis-à-vis the performance matters, powerful executives would camouflage their compensations.

As a tenet of the managerial power theory, executives would use their power over directors to make pay arrangements opaque and hide the insensitivity of pay to performance and reduce outrage. This could lead to some "legitimized" earnings management as high paid CEO companies tend to use consultants to justify the high remuneration package (Wade et al., 1997). It is, therefore, reasonable to believe that firms, where executives received unjustified pay, would have remuneration reports that are opaque and difficult to read to hide the disconnect between pay and performance and avoid public outrage. Information asymmetries exist between management (preparers of the financial information) and the shareholders (users of the financial information). Annual reports purport to bridge the information gap between preparers and users. Research has shown that CEOs use their power to hide and extract rents. Ali et al. (2020)

report a positive relationship between the CEO's equity-based pay and earnings management consistent with the managerial power view. It is shown that CEOs manage earnings to hide their self-serving actions which ultimately leads to less readable annual reports (Ajina et al., 2016; Bloomfield, 2008; Lo et al., 2017; Seifzadeh et al., 2020).

Powerful CEOs can support the election of "supposedly independent" directors who are going to sanction the pay proposed by the executives. van Essen et al. (2015) argue that board characteristics can facilitate or restrain the use of managerial power in the design of pay arrangements. They argue that companies with CEO duality, long-serving CEOs, bigger board sizes and a low proportion of independent directors tend to facilitate managerial power. Executives who handle the CEO and the Chairman positions benefit from the structural power to control the pay-setting process. Also, the more years a CEO has spent in a firm the tighter the bonds of collegiality and friendship and the lower the tendency of directors to question the actions of the CEO. van Essen et al. (2015) argue that larger boards lack cohesion and coordination which enable managerial power. Moreover, the higher the proportion of independent directors the lower the power of CEOs yet Coles et al. (2008) question the effectiveness of independent directors to restrain earnings management. It appears evident that the combination of executive power and some firm characteristics can also have an impact on the quality of disclosures.

Research has also considered ownership characteristics and their impact on managerial power. Bebchuk and Fried (2004) argue that concentrated owners have both the means and incentives to control the actions of management. Because they possess huge investments in firms their returns are highly contingent on firm performance and therefore, they would use their influence to constrain the actions of the executives. As such, executive compensation is decreasing with the presence of blockholders (Khan et

al., 2005). Moreover, the presence of concentrated ownership results in a tighter pay-performance link (Bebchuk and Fried, 2004). Institutional investors tend to alleviate the managerial power within companies. van Essen et al. (2015) argue that because they invest heavily on behalf of their clients, institutional investors have the incentives to monitor the actions and decisions of management (Bebchuk and Fried, 2004; Hartzell and Starks, 2003).

In conclusion, the managerial power theory stems from the shortcomings of the supposed arm's length bargaining and argues that executive compensation is also a result of the power of executives due to their position and ownership or directors that are not incentivised enough to constrain the actions of the executives and defend the interests of the shareholders. Again, similar to the agency theory, the managerial power theory brings together the level of executive compensation which could result in earnings management and poor disclosure readability to camouflage the rents extraction. The discussion above emphasizes the importance of corporate governance mechanisms both internal and external to mitigate deviations from the optimal contracting view, increase the sensitivity of pay to performance and alleviate the proclivity of camouflage and earnings management.

2.4. Stakeholder Theory

The focus of the agency theory and the managerial power theory is the relationship between the agent and the principal. These theories argue inter alia that on one side directors can bargain at arm's length and design optimal contracts for the executives on behalf of the shareholders and on the other side directors are taken advantage of by powerful executives who can extract rents to the detriment of shareholders. The

stakeholder theory proposes a new perspective that encompasses not only the shareholders but also the other stakeholders. Freeman (1984) defined a stakeholder as "any group or individual who can affect or is affected by the achievement of the firm's objectives". Freeman and McVea (2001) argue that managers need to understand not only the interests of the internal stakeholders (shareholders, employees, management) but also those of the external stakeholders (competitors, government, suppliers and customers among others) and act as their representatives. Mitchell et al. (1997) identified a model that identifies stakeholders and indicates how to treat them. They further propose power, (ability to influence the firm), urgency (the likelihood of a claim requiring immediate attention) and legitimacy (having a legitimate relationship with the firm) as the identification characteristics of the stakeholders.

Donaldson and Preston (1995) argue that the value of a firm is contingent on whether the interests of all stakeholders are considered. They further comment that companies that adopt a holistic approach by considering all stakeholders and not just the shareholders should in theory have the best performances. The stakeholder theory brings about a turnaround in the way businesses should act as it suggests that the objective of a firm should not just be profit maximisation or the maximisation of shareholder value. Companies, where managers tend to balance the interests of shareholders and stakeholders, can achieve sustainable shareholder wealth (Rampling, 2012). This is because long term profits for shareholders could only be attained through fair dealing and trust with the customers and suppliers and the hiring and retention of high quality and committed staff.

Thus, this new paradigm emphasizes the importance of firm performance measures that also focus on the interests of the other stakeholders. The balanced scorecard proposed by

Kaplan (2009) identifies measures that capture the interests of the customers and employees as the scorecard emphasizes that financial performance is the final result of the other perspectives. Combs and Skill (2003) found that there is limited evidence on the relationship between executive compensation and stakeholder management and posit that the consideration of stakeholders' interests is likely to have a negative influence on executive remuneration.

Rampling (2012) argues that shareholders' desire for long-term sustainable profits is at the expense of short-term profits. This suggests that corporate social responsibility (CSR), which is the way firms balance the interests of shareholders and stakeholders should be considered even though it could result in low short-term profits. As executive compensation should be related to firm performance, some self-centred opportunistic executives could be tempted to sacrifice the interests of stakeholders and focus on profit maximisation in the short run.

Jensen (2010) comments that the stakeholder theory argues for the "fairness doctrine" that is to say a balance between the interests of shareholders and stakeholders without specifying how managers should go about dealing with competing with stakeholders' interests. He further contends that the stakeholder theory renders the executives unaccountable for their actions which could lead to earnings management. Prior et al. (2008) found that investments in discretionary CSR harm the firm's bottom line. However, Mattingly et al. (2009) report a positive relationship between effective stakeholder management (e.g. strategic CSR) and earnings quality. Recently, more companies are adopting the integrated reporting approach which focuses on presenting more comprehensive information about all aspects of a firm's performance and value creation to internal and external stakeholders. If managers are self-centered and

opportunistic, they may try to hide their aberrant actions by making this information difficult to decipher. Rampling (2012) acknowledges that tensions arise when defining priorities between the interests of all stakeholders.

The stakeholder theory goes a step further in the principal-agent relationship by taking into account the interests of shareholders and stakeholders as attention to stakeholders' interests ultimately culminates in economic benefits for the shareholders. Stakeholder theory argues that management affect firm performance and self-serving executives could deceitfully engage in discretionary CSR to hide earnings management. The discussion above shows the relevance of the stakeholder theory vis-à-vis earnings management, executive compensation and readability of financial disclosure.

2.5. Social Comparison Theory

The social comparison theory has been examined in psychology scholarship. It explains the tendency we have to compare ourselves with others. Social comparison theory was introduced in 1954 by psychologist Leon Festinger. Festinger (1954) argues that people have an intrinsic motivation to evaluate themselves, via comparison to others. Conyon et al. (2011) contend that the pillar of the social comparison theory is the need to evaluate one's opinions and abilities. They further suggest that individuals learn about and assess themselves by comparison to other relevant people of similar or superior calibre.

The social comparison theory suggests two types of comparisons. Upward social comparison occurs when we assess ourselves with those who we believe are superior to us (Kesici and ErdoĞan, 2010). These upward comparisons often stem from our desire to improve our status or level of ability by learning from others. Downward social

comparison takes place when we compare ourselves with others who we believe to be inferior to us. Social comparison theory not only plays a role in the opinion that we make of ourselves but also in the way that we behave.

The social comparison theory has been used to explain CEO pay packages in prior organizational research. O'Reilly et al. (1988) argue that compensation committees determine CEO remuneration by making social comparisons. Thus, this suggests that CEOs have an incentive to have board members and compensation committee members that are paid more. Furthermore, in designing CEO compensation, compensation committee members rely on their pay and comparisons with similar or better CEOs. Tversky and Kahneman (1974) propose an anchoring and adjustment theory in which people's evaluation is affected by an initial value and is subsequently adjusted. Thus, the starting point for compensation committee members when fixing CEO pay is their salaries before adjusting it upwards based on the social comparisons.

As compensation consultants have an input in the design and structure of pay arrangements Conyon et al. (2011) contend that consultants rely on prior compensation experiences gained to inform their decisions. Because decision-makers often look at what comparable firms are doing Conyon et al. (2011) report a positive relationship between CEO pay and peer firms that share consultants. Finkelstein and Hambrick (1988) suggest that what were seen as determinants of CEO pay failed to explain the magnitude of pay given to CEOs as the relationships were neither significant nor persistent. In line with the social comparison theory, O'Reilly et al. (1988) report a strong link between CEO pay and the pay level of outside members of the board of directors, who serve on the compensation committee.

The social comparison theory fails to link CEO pay packages to firm performance. Through the peer comparison, executives could be awarded some pay packages that are not deserved. With the call for increased disclosure on remuneration matters, the fear of public outrage and the proclivity of jeopardizing future roles, the compensation committee members, together with the CEO could manage earnings to make the pay packages acceptable. Moreover, the readability of the remuneration report could be modulated to cover their actions.

In summary, the social comparison theory emphasizes the need to assess our opinions and abilities by identifying people who are believed to have similar attitudes or skills. The theory has shown its relevance in the pay-setting process as CEOs can take advantage of the social comparisons by ensuring the "appropriate" individuals are appointed on the compensation committee culminating in CEO pay rising without being linked with performance. The social comparison view also highlights the impact of managerial power on the appointment of compensation committee members. Thus, if managerial power is present, it is not unreasonable to expect CEOs to manipulate earnings to achieve their objectives and modulate the readability of the remuneration report with the collaboration of the remuneration board to cover their wrongdoings.

2.6. Tournament theory

The tournament theory extends the agency theory perspective by suggesting that a firm's management hierarchy is analogous to a rank-order tournament in which the best performers are rewarded with the most senior management role (Pepper and Gore, 2015). Lazear and Rosen (1981) define the tournament theory as a series of tournaments among agent or contestants in which the winners move up the ladder aiming for the ultimate prize

which is the CEO position and the CEO remuneration. Research has shown that the differential between CEO pay and that of the highest pay at the next hierarchical level is significant and this gap acts as an incentive to motivate contestants to win. Lazear and Rosen (1981) state that " *on the day that a given individual is promoted from vice-president to president, his salary may triple. It is difficult to argue that his skills have tripled in that one day, presenting difficulties for standard theory… It is not a puzzle, however, when interpreted in the context of a prize*", suggesting that performance, skills and effort hardly explain the difference between the CEO pay and the next level below.

Because what matters is not the absolute performance of the contestants but their relative performance vis-à-vis other contestants, proponents of the tournament theory argue that the theory explains the differentials (O'Reilly et al., 1988) postulating that the disproportionate size of the gap could purely be seen as an incentive to motivate tournament contestants so they do not dwell on past achievements (Chen et al., 2011; O'Reilly et al., 1988). This is confirmed by Connelly et al. (2014) who argue that if the differentials are small contestants are not motivated to produce an optimal level of effort. However, they warn that enormous prizes can also be counterproductive as they induce so much effort from the contestants that they must be broadly compensated.

O'Reilly et al. (1988) argue that the tournament theory fails to provide the boundaries in an organisation setting rendering the identification of contestants cumbersome. Moreover, they found no empirical evidence of a tournament taking place to explain the gap between CEO pay and that of the next hierarchical level. Connelly et al. (2014) provide useful insights into the reasons of companies' escalate compensation structures.

In summary, the tournament theory suggests that CEO compensation may not always be the result of economic determinants as emphasized by the managerial power theory and

the social comparison theory. As it is hard to determine the number of participants and the optimal prize spread (difference between post and pre-promotion wages) is not defined by the proponents of the theory, its impact remains limited.

2.7. Legitimacy theory

Just like the stakeholder theory, the legitimacy theory is one of the social theories has been used in the extant literature to explain corporate behaviour and management incentives for information disclosure. Even though, the theory has been mostly linked with corporate social and environmental information disclosure, it could be applied for the purpose of this study on readability. O'Donovan (2002) argues that firms operate the way they do because society allows them to. This creates a social contract between firms and society in which companies must operate in a socially responsible manner. The legitimacy theory, based on the managerial stand that it adopts, focuses on the managerial actions and decisions that executives select to remain legitimate (Deegan et al., 2000). As legitimacy is assessed by society, companies aim to ensure that there is a high degree of congruence between organisational operations and the society's expectation of how firms should carry out their activities to reduce the legitimacy gap (Deegan et al., 2000). Wartick and Mahon (1994) propose some reasons for divergences between firms and society resulting in a legitimacy gap. They argue that the legitimacy gap could arise when there is a change in firm performance while the expectations of society remained intact or vice versa and when both performance and expectations change but move in opposite directions.

Proponents of the legitimacy theory suggest that that it is essential for firms to constantly monitor their legitimacy. Once legitimacy is at risk, firms ought to identify means to

regain it as well as stakeholders who are going to reinstate legitimacy (Deegan et al., 2000). O'Donovan (2002) posits that once the legitimacy gap widens, firms act to regain legitimacy by targeting those seen as its "conferring publics". Thus, the legitimacy theory could be summarised as *"the greater the likelihood of adverse shifts in a corporation's conferring publics' perceptions of how socially responsible a corporation is, the greater the desirability on the part of the corporation to attempt to manage these shifts in social perceptions"* (Deegan et al., 2000). Research suggests that firms' legitimation management tactics depends on whether they are trying to gain, maintain or repair their legitimacy (Deegan et al., 2000). As such, it is important to communicate actions to the conferring publics. Annual reports are the principal communication medium between firms (in search for legitimacy) and the shareholders in particular and the stakeholders in general (the conferring publics). Thus, in line with the social contract, executives would have incentives to voluntarily present stakeholders with information signalling their obedience to their part of the bargain and protect or gain legitimacy. In this way, managers communicate that the firm's values and operations comply with the regulations and the societal expectations (Hawashe, 2019). He further argues that annual report disclosure requirements demonstrate firms' compliance with societal obligations.

It appears evident that the legitimacy theory simply suggests that managers use annual report content to ensure stakeholders approval. However, as the agency and the managerial power theories both highlight, it is not unreasonable to believe that managers are self-serving and thus could behave in ways that are not in the best interest of the conferring publics. Hildyard (2019) shows that the CEO-average worker pay ratio has been on the rise since 1999 mainly due to the ever increasing CEO remuneration despite calls from the public to control and curb executive pay. High Pay Centre (2015) shows

that companies either failed to report the pay ratio or reported one using alternative measures not prescribed by the Companies Act. The manipulation of the pay ratio could be done to legitimize the huge pay packages given to executives. The information displayed in the annual reports is pointless if the intended public is unable to decipher the message. Thus, firms can also maintain or repair their legitimacy by producing readable annual reports to mitigate the information asymmetry and narrow the legitimacy gap. Therefore, the legitimacy theory not only focuses on the information revelation but also on revealing information that the conferring publics can understand before legitimizing the actions of companies.

To sum, the legitimacy theory shows the importance of disclosure in the legitimation process of companies. As more and more regulations are introduced to increase the transparency in the annual reports, firms are making effort to comply. However, where performance does not explain executive pay, it is possible that firms disclosures would be opaque and difficult to understand.

2.8. Chapter Summary

The theoretical background chapter lays down all the theories that relate to earnings management, executive compensation and readability. The most used theory, the agency theory, highlights the importance of well-designed pay packages that align the interests of the principal and the agent. The agency theory stipulates that the opportunistic nature of the agent increases the likelihood of earnings management to justify pay and the modulation of readability to cover wrongdoings. Closely related to the agency theory, the managerial power adopts a different stance and executive compensation design is at the mercy of the powerful CEOs through their influence on the remuneration committees.

This, coupled with the fear of media attention, public criticism or damaged reputations could increase the proclivity of earnings management and the manipulation of readability to hide the aberrant actions. The stakeholder theory emphasizes the trade-off between long-term and short-term decisions that CEOs take which subsequently influence their remuneration. The social comparison theory and the tournament theory suggest that executive pay is not always the product of economic determinants and points towards the likelihood of earnings management that could be covered through complex disclosures. Finally, the legitimacy theory supports transparency in firm disclosures. Thus, in cases where pay packages are not justified, this theory argues that firms will openly disclose information with explanations. In the light of the above discussion, the agency theory and the legitimacy theory appear to be the closest theories that relate to the focus of this thesis.

CHAPTER 3: REGULATION AROUND EXECUTIVE COMPENSATION IN THE UK

3.1. Introduction

Over the years, questions have been raised concerning the effectiveness of the corporate governance regulations as the literature documents an increasing number of corporate governance scandals and an evident disconnect between executive pay and firm performance. This has culminated into calls from stakeholders for reforms to be made to restrain aberrant actions. While corporate governance scandals and reforms occurred in most countries, this study focuses on the UK. As regulatory bodies have tried to change the landscape with numerous reports and governance codes amendments, the UK present an interesting setting to study executive remuneration and earnings management in such a governance aware country. This chapter aims at discussing all relevant executive compensation regulations highlighting the main reforms that each regulation introduced.

The discussion will start with the Cadbury, Greenbury and Hampel reports, look at the Corporate Governance Code, the 2002 and 2013 Regulations before presenting some studies from the High Pay Centre. The various elements of pay will be discussed in section 3.8 and section 3.9 concludes the chapter.

3.2. The Cadbury Report-1992

The Cadbury Committee was created in May 1991 by the FRC, the London Stock Exchange, and the accountancy profession as the result of a rising lack of investor trust in the transparency and accountability of listed companies caused by the financial collapses of Coloroll Group in 1990, Polly Peck in 1991 and the Maxwell Group in 1991. (Petrin, 2015). The committee was set up specifically to investigate the alarming issue of corporate failure and the evident inability of the financial disclosures of those companies to communicate the true picture of their financial health. The report defines corporate governance as *" the system by which companies are directed and controlled"*.

The report argues for a clear separation of responsibilities at the top. Specifically, this recommendation purports to the separation between the Chairman role and the CEO position. The aim of such measure was, consistent with the managerial power theory, to mitigate CEO power and improve the independence of boards. As the essence of the report was to restore corporate reliability, the report suggests that boards be mostly and principally made up of outside directors. The report also looks at the remuneration aspect and suggests the disclosure of the emoluments of the highest-paid UK director and those of the Chairman with relevant information about the performance-based pay and the evaluation criteria. Moreover, the report advises that remuneration committees should be comprised mostly of non-executive directors to increase independence and reduce the

influence of CEOs in the pay-setting process. Finally, the report argues for the establishment of audit committees comprising of at least three non-executive directors (NEDs). Studies have shown that they increase shareholders' confidence in the work of the auditors. The Cadbury Report promotes the comply-or-explain framework whereby companies listed on the London Stock Exchange must indicate their level of conformance with the code or provide explanations for deviations.

Overall, the key mission of the Cadbury Report 1992 key mission was to propose measures to improve corporate reliability and confidence based on transparent information, continued self-regulation, more independent boards and greater auditor independence (Shah and Napier, 2017). Despite the efforts of the Cadbury report, it became apparent that the measures proposed did not solve all issues and that further regulations were needed to address the rising executive compensation.

3.3. The Greenbury Report-1995

The Greenbury Committee was established in 1994 by the Confederation of British Industry in response to public and shareholders' calls for action about the level of pay and other directors' remuneration in the UK. The report argues for enhancing accountability and performance by clearly setting the responsibilities for designing executive pay and transparent reporting to shareholders.

Section A of the report recommends the setting up of remuneration committees made up of NEDs with the mission to establish the firm policies on executive pay on behalf of the board and the shareholders. The report indicates that the chair of the compensation committee should be accountable to the shareholders.

Section B covers the disclosure and approval and suggests that the remuneration committee should issue a report to shareholders setting out levels of executive pay showing all components (including pension, contracts of service and early termination arrangements). The report should also outline the benchmark group of companies and the performance criteria. This section emphasizes the need to present all components of executive pay (i.e., salary, benefits in kind, bonus and Long-term incentive plans (LTIPs)) as well as share options for each executive. More importantly, shareholders should sanction all LTIP whether payable in cash or shares awarded to executives.

Section C focuses on the remuneration policy. Compensation should be linked more tightly to performance and set at a level necessary to attract, retain and motivate the top talents without being excessive. The reports suggest that high pay linked to performance is necessary to attract quality talents as well as reconcile the interests of shareholders and executives. Performance criteria should be relevant and stretching to benefit shareholders. All LTIPs should be subjected to shareholders' approval and share options should not be offered at a discount.

Section D of the report proposed the inclusion of more restraints in the awarding of compensation to departing CEOs. The report also includes provisions for service contracts and executive pay in the event of termination and suggests not more than one year for the notice period (except for new executives). In line with its predecessor, the Greenbury report advocates for voluntary obedience to the regulation (comply or explain) and self-regulation.

3.4. The Hampel Report-1998

The Hampel committee was created by the FRC with the help of the London Stock Exchange, the Confederation of British Industry, the Institute of Directors, the Consultative Committee of Accountancy Bodies, the National Association of Pension Funds and the Association of British Insurers. The Hampel report purports to consider the Cadbury and Greenbury principal matters as well as assessing the effectiveness of the Cadbury recommendations through consultation with organisations and individuals.

The Hampel report includes provisions concerning the directors in Section A. The report recommends the avoidance of CEO duality (the comply and explain framework) and the appointment of independent NEDs. These recommendations aim at ensuring board balance between executive and non-executive directors and mitigating the centralisation of power into individuals or small groups of individuals.

Section B focuses on executive compensation. Following the recommendations of the Greenbury report, the Hampel report argues that pay should be sufficiently high to attract and retain the talented individuals needed to manage the company successfully and that there should be a clear link between compensation and firm and individual performance. Also, the pay determined by the remuneration committee should be the result of a transparent pay-setting process and should be disclosed in detail in the annual reports.

Section C of the Hampel reports considers the shareholders. Specifically, the report suggests the inclusion of shareholders' approval in LTIPs matters thus giving any dissatisfied shareholders the option to vote their dissatisfaction by using their votes at the AGM.

Section D focuses on accountability and audit. Specifically, the reports advocate for a set of balanced and understandable reports (not just the financial statements but also price-sensitive public reports and reports to regulators). Moreover, the report emphasizes the importance of a sound relationship with the auditors.

One specific recommendation of the report is that it suggests that boards are free to make the decisions that would in their opinions result in shareholder wealth (e.g., have CEO duality, or not to subject pay policy before the AGM for approval) as long as they are transparent emphasizing the idea of "principles over one size fits all" rules.

3.5. The UK Corporate Governance Code

In 1998, the Cadbury, Greenbury and Hampel reports were merged to form The UK Corporate Governance Code (formerly known as the Combined Code). The code presents standards of best practice for listed companies on board composition, compensation, shareholder relations and involvement, accountability, responsibility and audit. The provisions of the code were added to the London Stock Exchange listing requirements.

The 1998 code advocates for a distinct separation of responsibility between the chairman (running the board) and the CEO (running the company). To ensure board balance, section A of the code recommends the appointment of independent non-executives. This, combined with the chairman and CEO separation should ensure a balance of power and decision-making authority. The code also focuses on the level and composition of directors' pay. It contends that pay should be as high as needed to attract and retain quality directors without being excessive and that there should be a clear link between a portion of the pay (a significant proportion of the total remuneration) and the individual and

company's performance. More importantly, the code argues a transparent remuneration setting process in which executives are not involved.

In 2010, a revised version of the UK Corporate Governance Code was released which superseded the 2008 version of the code. One difference was the consideration of board balance. The 2010 code advocates for a transparent and objective appointment process of board members and the inclusion of board diversity and gender diversity to avoid groupthink. The 2010 revision also recommends the addition of non-financial metrics in the design and structure of remuneration and the possibility of reclaiming variable pay in cases of misstatement or misconduct.

The FRC subsequently released a revised version of the code in 2012. This version focuses on the importance of boardroom diversity on the effectiveness of boards. The extant literature supports the consideration of gender diversity as there is evidence of higher financial reporting quality, lower earnings management practices, enhanced readability and better firm performance (García Lara et al., 2017; Nadeem, 2021). Also, boards are responsible for ensuring that the annual report and accounts are presented in a fair and balanced manner to ensure they are understandable and consistent with the economic reality of the company.

The 2014 revision of the code was a response to the 2013 consultations on directors' pay. This version of the code emphasizes the importance of the design and implementation of remuneration policies that aim at achieving long-term firm prosperity. In the same vein, to avoid reward for failure, the code suggests the inclusion of clawback arrangements that enable the recovering or withholding of variable compensation when necessary.

The latest revision of the code was released in 2018. This version of the code intends to enhance the quality of boards as well as promote quality relationships with all stakeholders. Moreover, the code reinforces the need for diversity to improve board effectiveness. On remuneration, it was indicated that compensation policies and practices be designed and structured using more stretching and demanding criteria and that the link between firm strategy, long-term prosperity and remuneration should be strong and evident.

3.6. The UK Directors' Remuneration Report Regulations

The UK corporate governance regime relies on the 'comply or explain' approach that gives firms the flexibility and freedom to adhere to rules set in the code (the spirit of the code) or provide explanations where deviations are deemed fit to ensure long-term prosperity. This framework was introduced by the Cadbury report and continues to be an integral part of the London Stock Exchange listing requirements. Research has shown that companies continued to have insufficient independence on board, remuneration committees were inappropriately constituted, and the chairmen were not independent on appointment (Grant Thornton, 2013) thus impairing the ability of compensation committees to set and design appropriate compensation packages. The low levels of compliance and the skyrocketing remuneration levels forced the regulators to introduce the Directors' Remuneration report 2002 (hereafter DRR Regulations).

The DRR Regulations required listed companies to issue directors' remuneration reports annually. Specifically, Schedule 7A of the regulations recommends that the remuneration report entails not only the role and composition of the remuneration committees but also a comprehensive presentation of the remuneration policies for directors, performance

criteria for the award of share options or LTIPs, notice periods, service contract details, specific pay for each director and payments made to departed directors. This regulation introduces the say-on-pay giving shareholders the right to voice their opinion in remuneration matters. The say-on-pay regulations give shareholders a non-binding vote indicating whether or not they approved the directors' remuneration report. The approval of the DRR requires at least 50 per cent of shareholders' vote for the resolution to be passed (Conyon and Sadler, 2010). Petrin (2015) reports that say-on-pay and the mandatory disclosure did not stop the rising remuneration levels and the link between pay and performance was hard to discern. Moreover, research suggests that compelling evidence of a disconnect between pay and performance in large UK listed companies, unstainable "ratcheting-up of executive pay," and overly lengthy and complex remuneration disclosure documents led to the introduction of the 2013 Reforms.

The 2013 Reforms focused on four key aspects: the regulators aimed at restoring a tighter pay-performance relationship, alleviating the reward for failure phenomenon, enhancing the relationship and communication between firms and shareholders as well as empowering shareholders. The 2013 reforms aim to achieve these goals by using a two-tiered approach. First, the new rules require at least once every three years a binding shareholder vote on a company's general policy for annual executive remuneration. Second, companies are required to hold an annual, non-binding advisory vote by shareholders on the company's ongoing implementation of its executive remuneration policy, as reported on by the board at the end of each year. Moreover, the 2013 reforms emphasise the need for increased shareholder participation combined with greater corporate remuneration disclosure. Thus, the new set of government regulations aims at controlling the ratcheting-up of executive pay, improving the pay-performance sensitivity

and enhancing the transparency and clarity of the remuneration disclosure to facilitate shareholders participation.

Under the 2013 Reforms, the remuneration report should first consist of an annual statement by the chair of the compensation committee explaining the executive pay decisions and year-on-year changes. Secondly, the report should show an annual report on remuneration explaining how the remuneration policy has been implemented. Also, the reforms require firms to present for each executive a table showing a single total pay figure at the end preceded by the basic salary, benefits, bonus, long term pay, pension-related benefits. A graph comparing share performance vis-à-vis a larger index and a table showing annual bonus and long-term pay against the maximum opportunity (Petrin, 2015). Thirdly, the report should contain the remuneration policy subject to shareholders' mandatory votes.

3.7. High Pay Centre (HPC)

The HPC is an independent think tank that mainly focused on economic inequality and top pay matters in the UK. Formed at the aftermath of the financial crisis, the HPC's goal is to achieve equality and a fairer pay distribution in corporate UK. The HPC investigated the levels and amounts of pay given to executives and reports that FTSE 100 CEO median single figure compensation has increased from £2,197k in 2009 to £3,873k in 2017 (High Pay Centre, 2018). Performance-related elements (short-term and long-term incentive plans) account for 78% of FTSE 100 CEO single figure pay in 2017. To reduce the pay level, the report recommended that the length and complexity of remuneration reports be reduced to enable easy scrutiny by shareholders. Moreover, the report suggests the inclusion of both non-financial and financial measures in the design of CEO pay.

Attracting and retaining talented executives has always been cited as a reason for the huge increase in executive compensation. However, after investigating CEO pay in advanced economies, Hildyard (2013) reports that UK CEOs are the second-highest-paid behind their US counterparts. Moreover, to reiterate the invalidity of the urge to pay more to keep quality executives, he argues that because companies mostly promote CEOs from within rather than recruiting externally, the fear of seeing CEOs leave for companies offering more compensation nationally or internationally is less plausible.

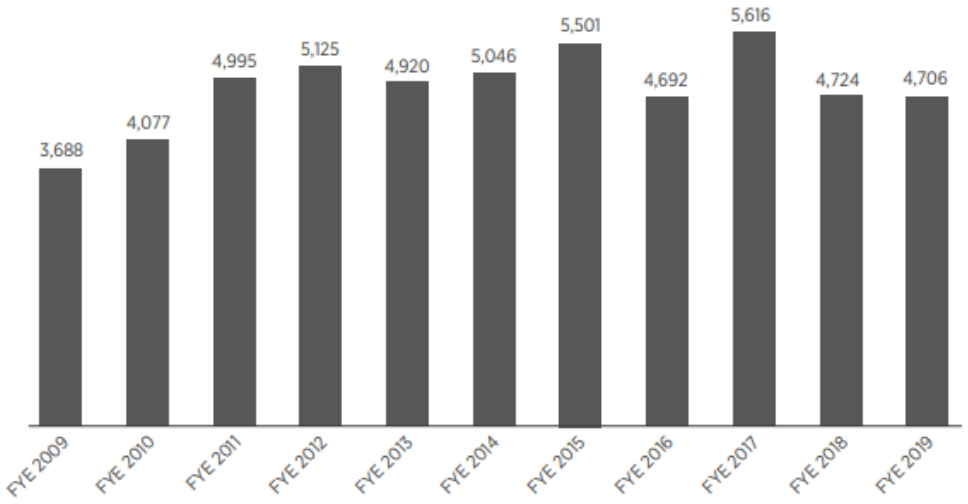
In 2021, the HPC subsequently analysed the fairness and adequateness of bonus payments and LTIPs and report that between 2009 and 2019, both short-term plans and LTIPs almost always pay out (94% and 85% of cases respectively), a high proportion of their potential maximum value (HighPayCentre, 2021). This finding suggests that the performance criteria used are relatively easy to achieve and therefore the pay is not seen as an incentive to motivate executives to maximize shareholder wealth but rather just as a tool to attract and retain quality executives. Moreover, the HPC argues that the commonality of bonus and LTIP payments means that these elements of pay are not used as rewards for performance.

3.8. Components of Executive Compensation

Executive compensation refers to the sum of base salary, annual bonus, stock-based pay, severance pay, pension and all other benefits and allowance used to attract and retain talented executives. Agency theory suggests that executive compensation ought to bridge the gap between the interests of the agent and those of the principal. Thus, it is paramount that the structure of executive compensation is appropriate to motivate executives to maximize the interests of stakeholders. The levels of executive compensation have

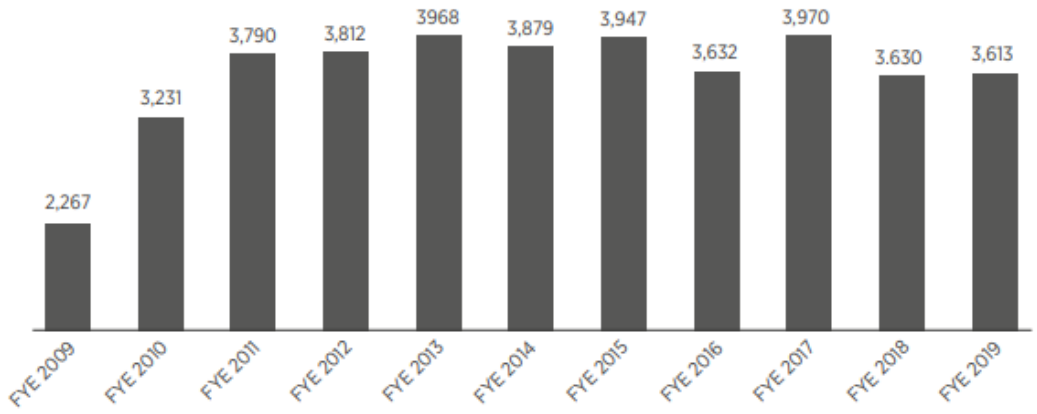
attracted several scholars' interest. Gregory-Smith et al. (2014) report a positive relationship between executive pay and dissent on executive remuneration. Moreover, the Department for Business, innovation and Skills commented that FTSE 100 CEO pay increased by 320% between 1998 and 2010 without a similar increase in the FTSE100 index. This highlights the lack of support and understanding from shareholders about the continuous increase in executive pay decoupled from an increase in performance. Annual bonus payments and long-term incentive plans (LTIPs) constitute the biggest part of executive compensation in the UK (HighPayCentre, 2021). Figures 3.1 and 3.2 present the pay trends.

Figure 3.1: Mean single figure of all FTSE 100 company CEOs since 2009/10 (£'000)



Source: High Pay Centre and CIPD (2020)

Figure 3.2: Historic median single figure of all FTSE 100 company CEOs (£'000)



Source: High Pay Centre and CIPD (2020)

Figures 3.1 and 3.2 suggest that even though CEO pay continues to oscillate, it has been on the rise since 2010. CEO pay hit its peak in 2017 (both mean and median) and its lowest point is recorded in 2009 (both mean and median). The following subsections cover the components of executive pay.

3.8.1. Short-term pay

Short-term pay is the sum of the base salary and the annual bonus received by executives for the previous year's performance.

3.8.1.1. Base salary

A base salary is the contractual monthly amount given to executives. This component is neither related to performance criteria (firm performance) nor the individual performance of the executives, thus the name fixed pay. The base salary depends on the size of the firm, the sector of activity and the relative skills, abilities and experience of the

executives. The social comparison theory suggests that CEO pay is the result of social comparisons. When fixing CEO pay, compensation committee members use their salaries as a starting point before adjusting it upwards based on the comparison with peers from similar firms. This component of pay is very critical because other pay components are determined as a proportion of the base salary, thus a rise in base salary would affect all related pay. Another salient point related to the base salary is that the fixed characteristic of such pay is attractive to risk-averse executives as an increase in salary could be preferred to a substantial increase in performance-based pay.

3.8.1.2. Annual bonus

Annual bonuses are meant to act as an incentive for executives to make decisions that result in higher firm performance. Annual bonuses are based on the achievement of some past performance thresholds set by the remuneration committee. To effectively act as an incentive, annual bonuses have to be related to stretching performance targets (HighPayCentre, 2021). Base salary and annual bonuses constitute the cash compensation even though, firms could opt to pay the bonus in shares to strengthen the pay-performance relationship. Because annual bonuses are mostly short-term, companies that over-rely on annual bonuses can motivate executives to focus more on the short-term and neglect the long-term performance. Thus, it is evident that performance targets that are used to award annual bonuses must be aligned with the overall strategy of the company. Annual bonuses are mostly based on a combination of financial, operational, social and governance metrics. Studies investigating FTSE 100 CEO pay between 2009 and 2019 have reported CEOs receive a substantial proportion of their bonus pay 94% of the time.

3.8.2. Long-term pay

Long term pay relates to remuneration awarded to executives over more than one year. Pensions, stock options, long-term incentive plans and share incentive plans are the main elements of long-term pay.

3.8.2.1. Pension

Pension is used as a motivator to induce executives to work hard and remain as long as possible in office as this pay is received upon retirement. Linking pension pay to performance is paramount to ensure the directors keep making efforts when they are close to retirement (Lazear, 1990). As pension represents a proportion of the base salary, an increase in base salary will have some repercussions on the pension. Factors affecting pension build-up depends on whether pensionable pay is based exclusively on basic salary or includes some or all of any bonuses paid and length of service (Ndzi, 2014).

3.8.2.2 Share options

Share options give executives the right to acquire a firm's shares at the exercise price for a pre-specified period (Hall and Murphy, 2003). The executives may enjoy these benefits upon achievement of certain conditions like a specific office tenure or a specific performance objective as they are non-tradable and could be forfeited if the exercise conditions are not met. The Inland Revenue regulations, the best practice guidelines from the Association of British Insurers and the National Association of Pension Funds restricted the granting of share options in the UK in the 1980s. The value of the share options awarded was restricted to the higher of £100,000 or four times the executive's

current remuneration (Ndzi, 2014). The restrictions were also concerned with the exercise period which is no earlier than three years and no later than ten years. Share options granted executives some increase in wealth not based on performance as they were issued at a 15% discount.

Although share options directly link managerial pay and share price appreciation and firm performance, the incentives from share options do not perfectly mimic the incentives from share ownership. Ndzi (2014) reports that share options were counterproductive because they grant executives some high monetary benefits when there is share appreciation, but executives were not affected when the share price was shrinking leaving only shareholders to bear the loss. This component of pay is attractive as it enables firms to attract and retain talented executives without a cash outlay. Share options constitute a popular element of executive pay because they were regarded as a tool to align the interests of executives with those of shareholders. However, opportunistic executives can manage earnings resulting in a share price increase.

3.8.2.3. Long-term incentive plans (LTIPs)

The LTIPs were introduced in 1995 to motivate executives to adopt a long-term focus and reward long term firm success (Buck et al., 2003). This element of executive compensation stems from the shortcomings of the annual bonus (short-term focus) and the share options (fail to create a win-win and lose-lose mindset for executives and shareholders). LTIPs usually are in cash or shares and vest only upon the achievement of certain pre-determined performance criteria (Pass, 2003). The performance targets mostly used in the UK are earnings per share (EPS) and total shareholder return (TSR) (High Pay

Centre, 2012a). LTIPs aim at aligning the interests of the executives and shareholders by promoting a long-term focus similar to share options but differ in the mode of vesting. LTIPs' performance criteria are more varied, and the firm's performance is compared to a benchmark group rather than the Retail Price Index (Ndzi, 2014). Ndzi (2014) further argues that LTIPs can be hard to understand by shareholders as shown by the 2003 HSBC Banking Group LTIPs. Executives were rewarded if the firm performance was above the threshold EPS adjusted upward for inflation in Hong Kong UK and the US. If the threshold was passed, the number of shares granted to the executive would be contingent on the TSR vis-à-vis comparator group of nine companies, a 'top 20' of banks and an index of 300 other banks. If the HSBC's total shareholder return performance was above the fiftieth percentile of the composite group, the executive received shares in full, with an additional 20% of the full award if the performance is in the top quartile. Therefore, to understand the award given to executives under the LTIP, shareholders had to follow the share prices of 329 companies.

Studies investigating FTSE 100 CEO pay between 2009 and 2019 have reported that a substantial proportion of LTIPs is paid out 85% of the time (HighPayCentre, 2021).

3.8.3. Benefits and Perks

Benefits could include vacation, holidays, sick days, severance pay, life insurance, medical insurance, luxurious free company accommodation, company car (Conyon, 2006). The executive benefits are a step-up on the employee benefits. These amounts contribute to the rise of executive pay as they represent a considerable percentage of the base salary. Perks are non-monetary benefits that ensure comfort and luxury to the senior management and executives. Yermack (2006) argues that perks may either work as

incentives for executives to make more effort or reduce firm value if executives consume more than necessary. Grinstein et al. (2008) contend that perks constitute the opaquer component of executive compensation because they are underreported and difficult to observe.

3.9. Chapter Summary

From the above discussion, it is clear that regulators have tried to reduce the disconnect between pay and performance through regulations. The UK history of corporate governance regulations could thus be seen as a sequence of incremental steps each aimed to alleviate the problems of managerial malfeasance (Conyon and Sadler, 2010; Jensen and Meckling, 1976). However, executive pay continues to rise, and performance-based pay almost always pays out resulting in an insensitive pay-performance link. The pay rise is partly explained by the increase in disclosure and transparency about pay and the inability to find proper benchmark companies.

CHAPTER 4: EARNINGS MANAGEMENT LITERATURE

4.1. Introduction

The extant literature suggests that earnings management has become rampant in companies. This chapter aims to discuss the concepts of earnings management while highlighting the main incentives and strategies of earnings management. Earnings management could occur when managers use their managerial discretion to manipulate the statement of profit or loss resulting in the bottom line being different from the economic reality. Earnings management is utilised to either increase or decrease earnings. The chapter begins by providing some literature-based definitions of earnings management. The following section presents the various incentives linked with earnings management. We then review the popular earnings management practices and conclude with an examination of the earnings management strategies.

4.2. Earnings management: Definitions and terminology

Schipper (1989) suggests that the importance of understanding the concept of earnings management lies in its link to accounting accruals and firm performance as Lipe (1986) argues that accounting accruals contain useful information. The extant literature provides a multitude of definitions for the concept of earnings management due to the varying purposes identified by researchers leading to no widely accepted definition of earnings management. Therefore, it is not surprising to see the number of interchangeable terms such as creative accounting, income smoothing, window dressing, or financial engineering being used to refer to earnings management (Ibrahim et al., 2020).

Schipper (1989) defines earnings management as *"a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to say, merely facilitating the neutral operation of the process)." ... "A minor extension of this definition would encompass "real" earnings management, accomplished by timing investment or financing decisions to alter reported earnings or some subset of it"*. Healy and Wahlen (1999) argue that *"earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.* Davidson et al. (1987) see earnings management as *"the process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about the desired level of reported earnings."* Watts and Zimmerman (1990) describe earnings management as the result of management discretion and judgement over the accounting numbers. Fields et al. (2001) argue that such discretion can be value-increasing or value-maximizing (signalling motivations) for companies on one hand and

opportunistic on the other hand. The above definitions highlight that earnings management is always intentional and that its intended impact and consequences are always known in advance. Healy (1985) argues that executives manipulate accounting accruals to influence their bonuses which is value-decreasing for shareholders and Beneish (2001) reports that these practices occur when firm performance is abnormally good or bad.

Ronen and Yaari (2008) contend that earnings management practices fall under 3 categories, inter alia white, gray and black. The "white" earnings management is seen as profitable for firms as it improves the transparency and disclosure content of the financial information. It is thus a way for managers to signal their perceptions and opinions about future cash flows. The earnings management definition of Beneish (2001) and Sankar and Subramanyam (2001) align with the "white classification. The "gray" earnings management is defined by Ronen and Yaari (2008) as the manipulation of financial numbers within the limits of the rules. As such, that type of earnings management aligns with Fields et al. (2001) as it could either be used to serve managers' benefits (opportunistic) or value-maximizing. Finally, the "black" earnings management refers to the manipulation of the financial reports to fraudulently misrepresent the economic reality. This category describes earnings management as detrimental and aligns with Schipper (1989) and Healy and Wahlen (1999). This classification suggests that earnings management practices can be put on a continuum with legitimate earnings management practices on one end and fraudulent practices on the other. Dechow and Skinner (2000) argue that illegitimate managerial actions that violate the accounting rules can either be seen as fraud or earnings management, thus highlighting the fine margins between fraud

and earnings management. They further posit that "good" earnings management ranges from conservative accounting to aggressive accounting as seen in table 4.1.

Table 4.1: Dechow and Skinner (2000)'s distinction between Fraud and earnings management

"Good" earnings management practices	Conservative accounting • Overly aggressive recognition of provisions or reserves • Overvaluation of acquired in-p R&D in purchase acquisitions • Overstatement of restructuring charges and asset write-offs • Delaying sales and accelerating R&D or advertising expenditures Neutral accounting • Earnings that result from a neutral operation of the process Aggressive accounting • Understatement of provision for bad debts • Drawing down provisions or reserves in an overly aggressive manner • Postponing R&D or advertising expenditures • Accelerating sales
"Bad" earnings management practices (Fraud)	• Recording sales before they are realizable • Recording fictitious sales • Backdating sales invoices • Overstating inventory by recording fictitious inventory

The scholarship on earnings management is replete with terms that are related to earnings management. McKee (2005) argue that “income smoothing, accounting hocus-pocus, financial statement management, the numbers game, aggressive accounting, re-engineering the income statement, juggling the books, creative accounting financial statement manipulation, accounting magic, borrowing from the future, banking income for future, financial shenanigans, window dressing and accounting alchemy” are terms used to mean earnings management. Table 4.2 summarizes some of them.

Table 4.2: Alternative earnings management terms used in the literature

Term	Definitions	Term cited by
Creative accounting	"It is the use of permitted cosmetic window dressing accounting techniques to present a flattering picture of a company's financial state" (Mellahi et al., 2010)	(Blake et al., 2000), (Breton and Taffler, 1995),(Akpanuko and Umoren, 2018)
Income smoothing	"…taking actions to dampen fluctuations in their firms' publicly reported net income" (Trueman and Titman, 1988)	(Bao and Bao, 2004), (Tucker and Zarowin, 2006)
Aggressive accounting	"Aggressive earnings management involve the manipulation of reported financial information to achieve the desired process result" (Powell et al., 2005)	(Desai et al., 2006), (van Rinsum et al., 2018)
Window dressing	"Window dressing refers to a wide range of techniques that an audit client can use to enhance the financial position of an entity through manipulated disclosures" (Lin et al., 2014)	(Breton and Taffler, 1995), (Hillier et al., 2008)

The recurrent themes in the various definitions of earnings management include opportunism, manipulation and intent. Because the intent is hardly observable to others than the perpetrator, Powell et al. (2005) argue that it is impossible to unambiguously distinguish between earnings management and fraud.

Earnings management could be related to agency theory, managerial power theory and stakeholder theory. According to the agency and stakeholder theorists, earnings management, if used at all, should be with the intent of maximizing value for shareholders. On the other hand, because CEOs are too powerful, they could use earnings management to camouflage the disproportionate pay that they set themselves and receive. The extant literature based on the socioemotional wealth theory suggests the use of earnings management by family businesses to increase their reputation (Ibrahim et al., 2020) through accruals-based earnings management (Achleitner et al., 2014).

4.3. Earnings management incentives

Earnings management motivations can be viewed as either being opportunistic or signalling. The extant literature provides a large body of evidence for opportunistic earnings management where managers manipulate earnings by using their discretion in order to maximizing their personal gain (Healy and Wahlen, 1999; Ibrahim et al., 2011). Even though it is less discussed in the literature, earnings management could be used to signal or communicate information about future performance (Al-Shattarat et al., 2018).

Healy and Wahlen (1999) argue that earnings management incentives could be classified into capital market expectations and valuation, contracts written in terms of accounting numbers and antitrust or other government regulation.

4.3.1. Capital market incentives

The use of accounting information by analysts and investors for share valuation constitutes a capital market incentive for earnings management. Studies have investigated

the likelihood of earnings management in periods of capital market transactions such as management buyouts (MBOs), initial public offerings (IPOs) and seasoned equity offerings (SEOs). In MBOs, a preliminary evaluation of the firm is needed based on the company's financials. Thus, DeAngelo (1988) and Perry and Williams (1994) concur that in the preceding years, managers of buyout companies tend to use income-decreasing earnings management. By deflating the earnings, they can try to reduce the valuation of the firm and facilitate the buyout. Earnings management is also practised in periods of IPOs and SEOs. Studies concur that managers tend to manage earnings upwards before equity offerings and subsequently reverse them afterwards (Beneish, 2001; Healy and Wahlen, 1999). Teoh et al. (1998), Teoh et al. (1998a), Teoh et al. (1998b) and Ibrahim et al. (2011) provide evidence of positive abnormal accruals before IPOs and SEOs and a poor stock return performance in the subsequent years. The income-increasing earnings management helps executives set a high starting offer price. Hirshleifer et al. (2004) report that the objective of firms engaging in earnings management before equity and debt issues is to present higher earnings to obtain a lower cost of capital. Moreover, Kassamany et al. (2017) report the presence of upwards earnings management before a merger.

Other studies suggest that earnings management takes place to meet the analyst's forecasts (Burgstahler and Dichev, 1997; Byzalov and Basu, 2019; Healy and Wahlen, 1999). They argue that firms use income-increasing earnings management to avoid missing on analyst forecasts. They further report that the "buy" recommendations by analysts result in income increasing earnings management to meet expectations whereas the "sell" recommendations translate into income-decreasing earnings management creating accounting reserves for future years. Iatridis and Kadorinis (2009) reason that

because companies that fail to meet the analysts' forecasts could experience finance accessibility and growth difficulty, executives tend to either overestimate or underestimate the earnings through earnings manipulation to obtain favourable market premiums. Furthermore, Burgstahler and Dichev (1997) report an abnormally low number of small decreases in profit and small losses and an abnormally high number of small increases in profit and small profits. The tendency to manage earnings increases when pre-managed earnings (losses) are close to zero suggesting that executives may find it difficult to change huge losses into profits. On the other hand, the likelihood of earnings management is highest when managed profits are close to zero suggesting that managers may find it difficult to change a small profit into a huge profit through earnings management.

4.3.2. Contracting incentives

Financial reports are used by external stakeholders to regulate and monitor the actions of the executives. Healy and Wahlen (1999) identify two main contracting motives namely executive compensation and debt covenants.

Debt covenants represent restrictions on managers to ensure performance targets are kept above a contractual threshold specified by the firms' lenders. The extant literature argues that debt covenants provide an incentive for earnings management. Violating a debt covenant has many implications including the variability of major financial measures like profits and liquidity and a higher bankruptcy risk (Iatridis and Kadorinis, 2009). Violating a debt covenant also reflects the poor competence of executives which ultimately translates into poor firm performance, and can affect the stock price and the managerial reputation (Iatridis and Kadorinis, 2009; Jha, 2013).

To avoid the detrimental effects of violating a debt covenant, executives may be encouraged to use their discretion and engage in earnings management. Studies have shown that executives manage earnings upwards to either alleviate the restrictiveness of accounting-based constraints in debt agreements or to avoid the costs of covenant violations (Beneish, 2001). Jha (2013) found some evidence of income-increasing earnings management in the quarters preceding a debt-covenant violation, thus confirming the debt-covenant hypothesis. Sweeney (1994) and Fields et al. (2001) report that managers of firms approaching debt covenant default respond with income-increasing earnings management. Franz et al. (2014) also confirm the debt covenant hypothesis, even though Jha (2013) suggests that income-decreasing earnings management would be optimal before a violation.

The relationship between executive compensation and firms' accounting choices has been the subject of several studies. Proponents of the agency theory argue that boards of directors on behalf of shareholders can reconcile the interests of executives and those of shareholders by designing appropriate incentive pay contracts that strongly tie managerial benefits (pay) to shareholders' benefits (shareholders' wealth and value, long-term prosperity). Executive pay is made up of a fixed component (e.g., base salary) and a variable component (short-term and long-term pay). Annual bonuses are mostly tied to accounting measures such as return on assets, earnings or return on equity. Long-term pay is often tied to EPS or TSR. As the greater proportion of pay is based on accounting numbers, executives have an incentive to manage earnings upwards.

The optimal contracting theory suggests that executives' use of discretion to boost their remuneration should also align the interests of executives with those of shareholders, yet there is no empirical evidence of this effect (Fields et al., 2001). Healy (1985) reports

that executives select current discretionary accruals to maximize their current and future bonuses. When earnings are expected to fall between the maximum opportunity (upper bound also called stretch target) and the lower bound (threshold target), executives engage in income-increasing earnings management. For example, in 2018 Tesco established three performance targets (threshold, target and stretch) each associated with a vesting level (30%, 50% and 100% respectively). Thus, if performance falls below the target level executives could manage earnings upwards to meet or beat the target. Furthermore, when earnings are expected to be below lower limits, executives could engage in income-decreasing earnings management (Degeorge et al., 1999). As there is no additional financial reward for exceeding the upper bound and bonuses will not be awarded for poor performance, executives create some reserves to increase the likelihood of meeting targets in future years. However, Holthausen et al. (1995) report no evidence of income-decreasing earnings management below the lower bound as this could result in removal from top management or could cause a breach of debt conditions. Dechow and Sloan (1991) investigate CEOs' opportunistic behaviour and conclude that CEOs in their final years of office manage discretionary investment expenditures (reduce R&D expenditures) to improve short-term earnings performance which results in higher compensation. Shuto (2007) shows that firms where executives performed poorly, hence no bonus, adopt income-decreasing accruals. Ibrahim and Lloyd (2011) and Tahir et al. (2019) confirm the presence of earnings management when bonus pay is linked to financial measures and that the inclusion of non-financial measures reduced the likelihood of income increasing earnings management as these measures force management to focus on the long-term. Richardson and Waegelein (2002) corroborate these findings as they report that firms that include LTIPs in executive pay packages experience a lower level of earnings

management compared to firms that use only short-term bonus plans. Kuang (2008) argues that executives are more likely to engage in earnings management if their pay packages include performance-vested stock options.

4.3.3. Regulatory incentives

The extant literature has examined the effects of industry-specific regulation on accounting choice. Some industries are monitored for compliance with regulations via accounting data. In the US, the banking regulatory system imposes on banks certain adequacy ratio guidelines (Fields et al., 2001). As failing to meet these requirements may be too costly for companies, firms have an incentive to manage the statement of profit or loss and statement of financial position (Healy and Wahlen, 1999). Liu et al. (1997) report that when the capital is close to the minimum limit, bank executives tend to delay income-decreasing accruals until the audit period. Moyer (1990) found that banks avoid regulatory costs by making some adjustments to the loan loss provisions and loan charge-offs. Studies have investigated the insurance industry and report that when companies are close to reaching the threshold for regulatory attention, executives tend to reduce the loss reserves through earnings management (Petroni, 1992). She further found that poor performers manipulate the balance sheet by overstating the value of their assets. The International Trade Commission uses profit before tax as one of the metrics of injuring so companies that claim injury by external competition have reasons to manager earnings downwards. Thus, Jones (1991) found evidence of income decreasing earnings management in the year of import relief investigations.

4.4. Popular Earnings management practices

The GAAP and IFRS give managers some discretion over the choice of accounting methods. Thus, it appears that earnings management within the limit of the IFRS is deemed permissible. Earnings management could occur through several techniques specifically aiming at manipulating the accounting numbers to either boost or reduce the earnings. This section will highlight the popular practices used to manage earnings.

4.4.1. Improper revenue recognition

Companies can manage earnings through early recognition of revenue. Under accrual accounting, revenue should only be recognized when realised and earned. Managers who manage earnings through this technique accelerate future revenue and recognise them before the year-end to increase their earnings and hence the bottom line. These future revenues could stem from genuine sales or from mere attempts to get some stocks off the balance sheet to record revenue. This could result in firms hiding some inventory which are presumably sold (and record a revenue) or record a revenue even when there is no agreement between the buying and selling companies. This phenomenon is called channel stuffing. In 1997, the CEO of Sunbeam Inc. announced a false turnaround which increased the share price. Albert J. Dunlap, the CEO, manage earnings by accelerating sales from later periods into earlier periods (offering its customers discounts and other incentives to place their purchase orders before the period when they would otherwise have done so) and improperly recognising revenue (booked $1.5 million in revenue) from a false sale (the wholesaler held Sunbeam merchandise over a quarter-end, without accepting any of the risks of ownership) to a wholesaler. While this technique reduces the

informativeness of financial disclosure, Hurtt et al. (2000) suggest that more than half of all financial reporting fraud involves overstating revenue.

4.4.2. Big bath and Cookie Jar reserves

The big bath technique suggests that managers of companies experiencing low profits in a particular year may decide to use their discretion to further reduce the earnings through write-downs. The aim is to make the current period appear worse which helps show improved results in subsequent periods. As such executives could manage earnings downwards without jeopardizing their employment (Omar et al., 2014; Zhou and Habib, 2013). However, Toumeh and Yahya (2019) suggest that instead of being seen as a strategy to conceal failure, the big bath strategy should be regarded as a technique employed by managers to get rid of unprofitable assets.

The cookie jar reserve strategy is similar to the big bath technique. The cookie jar technique is used in good financial health. Similar to the big bath, managers tend to reduce earnings to an acceptable point (when earnings are above the maximum opportunity used to determine the annual bonus) by bringing forward future expenses or delaying the recognition of revenue. Toumeh and Yahya (2019) argue that managers can purposely overstate the sales returns when the performance is good and reverse them in years of poor performance. Caylor and Chambers (2015) describe deferred revenue as a form of cookie jar reserve as the revenue is deferred until it is needed in poor years. For example, in 1999, the Security and Exchange Commission alleged that Microsoft substantially misstated its earnings by "setting aside artificially large reserves to reduce revenues, with the idea of reversing that procedure to record the revenues in less profitable times" between 1994 and 1998 (Gordon, 2002).

4.4.3. Big Bet on the future

This technique resembles the big bath technique. Here, executives opt to acquire another company from which they hope to earn a good return. The acquired company acts as a cover to write off R&D costs in the acquisition year or the acquisition could be a way to reduce earnings by subtracting the acquisition price (Toumeh and Yahya, 2019). Omar et al. (2014) report that executives can take advantage of the acquisition as the consolidation results in higher earnings.

4.4.4. Depreciation, Amortization and depletion

To enhance the confidence in the regulatory accounting bodies and respond to changes in the business landscape and capital markets, accounting standards are issued. The latest changes have concerned the rules on revenue recognition (IFRS15) and the treatment of leases (IFRS16). While the objective of these amendments is to improve the accounting standards, the adoption can be exploited by opportunistic executives. Applying the new standards can constitute a legitimate way to manage earnings. Similarly, the accounting standards prescribe the guidelines to be followed. For instance, IAS 16 recommends that the non-current assets be depreciated over their useful economic life. The same applies to intangibles like goodwill and trademarks which are amortized. As the standard gives managers some discretion over the depreciation method, the economic life and the residual value, these can be manipulated to either increase or decrease the earnings. Toumeh and Yahya (2019) report that the management of Southwest Airlines amended the useful economic life of their assets from 20 years to 25 years to increase their earnings. Other tactics include the capitalisation of revenue expenditure (that are normally expensed) and the reduction of the allowance for bad debts.

4.4.5. Classification shifting

Another earnings management practice is classification shifting. This practice consists of misclassifying items within the statement of profit or loss without altering the net income (Malikov et al., 2018). The aim of this method is to boost the core earnings by modulating the line items of the income statement. Classification shifting, thus, offers a way of influencing investors' perception by increasing core earnings (Athanasakou et al., 2011). Malikov et al. (2018) suggest that increasing the core earnings could be achieved by understating the core expenses or by overstating the core earnings. Studies have examined the understatement of core expenses to increase core earnings. McVay (2006) investigates the prevalence of classification shifting in US firms and reports that they increase core earnings by misclassifying some core expenses (e.g., from cost of sales or selling, general and administrative expenses) into one-off expenses. In the same vein, Athanasakou et al. (2011) report that UK firms misclassify core expenses into income-deflating special items.

Malikov et al. (2018) suggest that firms can also overstate core earnings by shifting non-operating revenues to operating revenues. Using a UK sample between 1995 and 2014, they report that firms engage in classification shifting of non-operating revenues to increase core revenues. They further ascribe the increasing prevalence of this management tool to the adoption of the IFRS that provide greater scope for revenue manipulation.

4.5. Earnings management strategies

The two principal strategies used by executives who indulge in earnings management are accrual-based earnings management (AEM) and real activities earnings management

(REM). Dechow and Skinner (2000) define AEM as the manipulation of accruals or accounting methods to either increase or decrease earnings either within the limits allowed by the accounting standards or GAAP or outside them thus resulting in fraud. In addition or as an alternative to AEM, managers can also manage earnings by altering the timing or structure of operating, investing or financial decisions which is REM (Enomoto et al., 2015). The following sections will specifically look at each earnings management strategy.

4.5.1. Accrual-based earnings management (AEM)

The accrual accounting basis requires companies to record the financial effects of transactions, that will necessitate a movement of cash, in periods when the transactions have occurred and not when the cash is paid or received. Accrual accounting dictates the rules for the recognition of revenues, expenses, gains or losses. Dechow and Skinner (2000) argue that accrual accounting informs investors on firm performance as the reported numbers under accrual accounting are smoother than the underlying cashflows. Most companies manipulate accruals to adjust their earnings through the use of managerial discretion in accounting choices. Dechow and Dichev (2002) and Nam et al. (2012) highlight the superiority of accrual earnings over current cash flows in predicting future cash flows due to the timing and mismatching issues related to the underlying cash flows showing the benefits of accrual accounting.

In the US, Cohen et al. (2008) examined the prevalence of AEM before and after the introduction of the Sarbanes-Oxley Act (SOX). They report an overreliance on AEM in the pre-SOX period from 1987 which decreased post-SOX as REM became the most dominant earnings management strategy used. Capkun et al. (2016) and Jeanjean and

Stolowy (2008) investigated the impact of the adoption of IFRS on the proclivity of earnings management and found that the prevalence of earnings management did not decrease post-IFRS. Ho et al. (2015)'s findings that while the prevalence of earnings management increased in the aftermath of the introduction of the IFRS, firms are less likely to use AEM suggesting an increase in the use of REM.

Gaver et al. (1995) report that managers select income-increasing discretionary accruals when earnings are expected to fall below the minimum threshold which could severely affect their bonus awards and vice versa. Holthausen et al. (1995) and Healy (1985) corroborate the above findings as they found that managers use income-decreasing strategies once they achieve the upper limit of their bonuses. Guidry et al. (1999) report that business-unit level managers manipulate discretionary accruals to maximise their bonuses. Duellman et al. (2013) argue that companies with low monitoring intensity experience opportunistic financial reporting through the use of AEM. Kassamany et al. (2017) contend that companies that prepare for a merger use upwards AEM. Christie and Zimmerman (1994) report that takeover-target managers manipulate discretionary accruals to increase the value of their firms. Hirshleifer et al. (2004) show that firms use discretionary accruals before equity and debt issues to obtain a lower cost of capital. Balachandran et al. (2008), Bergstresser and Philippon (2006) and Shrieves and Gao (2002) investigate executive behaviour in relation to option holding and report that managers use discretionary accruals to increase the share price and thus maximize their share options payoffs. Fields et al. (2001) argue that executives opt for accounting choices that help them increase their compensation and preserve them from violating the debt covenants through the use of discretionary accruals. Kuang et al. (2014) conclude that compared to internally appointed CEOs, outside CEOs tend to use AEM to enhance their

performance to survive in the short term. Li and Thibodeau (2019) investigated the link between AEM and CSR and show that executives are more likely to manipulate earnings to increase their remuneration when CSR rating is low.

Studies that have investigated the presence of AEM for the reasons mentioned above provide some means to reduce it. Leuz et al. (2003) and Enomoto et al. (2015) propose that earnings management should be decreasing in investor protection because high protection reduces insiders' ability to acquire private control benefits. Harakeh et al. (2019) and Fan et al. (2019) concur that female presence on board limits the prevalence of earnings management. Saona et al. (2020) report a decrease in earnings management as the voting rights of the controlling shareholder increased. They further add that board size and independence and audit committee composition also mitigate earnings management.

The evidence presented above suggests that AEM can be used opportunistically. However, AEM could be an efficient way of communicating information about the firm (Beaver, 2002). Subramanyam (1996) argues that AEM could be used to enhance the ability of earnings to reflect the economic value of firms to market participants. Moreover, AEM could enhance the predictability power of future profitability. Thus, apart from being opportunistic, AEM could be used to send signals to market participants about the firms' future performance. Louis and Robinson (2005) studied how accruals could convey information about stock splits and report that the market perceives the pre-split abnormal accrual as a signal of future good performance rather than managerial opportunism.

4.5.2. Real activities management (REM)

Managers can also manage earnings by altering the timing or structure of operating, investing or financial decisions. Studies found that earnings management can take several forms and report earnings manipulation not only via accounting estimates and accruals but also through operational, investing or financial decisions. Healy and Wahlen (1999) and Dechow and Skinner (2000) reason that managers manage earnings through accelerating future sales, adjustments to shipment schedules, reducing or delaying R&D and maintenance expenses. Roychowdhury (2006) argues that despite REM being more costly to the firm and managers themselves, it is the preferred earnings management channel. This is because auditors could easily detect AEM compared to REM through pricing or production. Roychowdhury (2006) defines REM as "*departures from normal operational practices, motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations*". He further argues that these activities contribute to improving managerial performance but is detrimental to firm value. Graham et al. (2005) corroborate this view as they report that executives' determination to meet earnings targets results in manipulative actions that decrease the company's value. This is because the manipulation affects positively current periods to the detriment of future periods. For instance, managers whose aim is to meet earnings benchmarks could use aggressive price reduction to induce more demand. As this fulfils the short-term objective of increasing sales, it jeopardizes the long-term potential as customers expect a lower price in the future leading to lower future margins (Gunny, 2010; Roychowdhury, 2006).

Another avenue for REM is through the reduction of discretionary expenditure like R&D, maintenance, advertising, staff training considering these costs are facultative. Reducing

these expenses means more earnings in a particular year but this ultimately decreases future earnings when they are rather essential. Bens et al. (2002) examined the effect of awarding staff stock options and revealed that when there is EPS dilution, in stock-based compensation, executives tend to shift resources from real investments to the repurchase of their own stocks. The resources are obtained from the reduction in R&D investments. Dechow and Sloan (1991) report that CEOs approaching their final year in office tend to manage earnings through cutting R&D spending to increase short term earnings and maximize their compensation.

Research suggests that opportunistic executives could also build up excess inventory as a REM practice. An increase in closing inventory resulting from the overproduction decreases the cost of goods sold, thus increasing the net profit. While this maliciously helps managers achieve their short-term targets, Gunny (2010) argue that this results in more insurance and storage costs in future periods. Bartov (1993) reports that managers manage earnings through the timing of income recognition from the disposal of non-current assets. He further reasons that managers do so to smooth earnings and avoid debt covenant violations.

The empirical evidence suggests that managers use REM when their credit rating is BBB or BB to affect the perception of credit rating agencies (Brown et al., 2015). Al-Shattarat et al. (2018) argue that REM through sales, discretionary expenditures, and production costs to achieve earnings benchmarks has a significantly positive impact on firms' subsequent operating performance and signals firms' good future performance. Li (2019) reports a negative relationship between REM and earnings persistence. Ge and Kim (2014) show that REM impairs credit ratings and is positively associated with bond yield spreads.

Studies examined REM and report that while AEM is decreasing in stronger investor protection, REM is increasing in stronger investor protection partly due to managerial discretion and information asymmetry (Enomoto et al., 2015). They further contend that REM is lower when there are a lot of analysts following the company.

The evidence presented above suggests that REM can be used opportunistically. However, REM could be an efficient way of communicating information about the firm value (Al-Shattarat et al., 2018). Roychowdhury (2006) and Zang (2012) argue that firms manage earnings through REM to signal their optimism about the future performance. Gunny (2010) studies the relationship between REM and firm performance and reports that US firms that manage earnings upward to meet/beat earnings benchmarks achieve a more positive impact on the client's cash flow and subsequent operating performance. In the same vein, Zhao et al. (2012) found that firms with managers that manage earnings through REM to just meet or beat earnings benchmarks register better future performance.

4.6.Earnings management proxies

This section discusses some commonly used earnings management proxies. Earnings management is strongly linked to earnings quality. Lo (2008) and Ball and Shivakumar (2008) show that earnings management results in poor earnings quality. Studies that have examined earnings management classify earnings quality proxies into properties of earnings. Studies that have used the properties of earnings as earnings quality proxies focus on earnings persistence, the magnitude of accruals, the abnormal accruals (residuals) derived from the accrual model, the smoothness of earnings and target beating using the distribution model (Dechow et al., 2010).

4.6.1.Earnings persistence

Persistent earnings signify that reported earnings are not just the results of a particular event but rather a firm to maintain current earnings for a foreseeable future (Fatma and Hidayat, 2019). Earnings persistence is estimated by regressing future earnings on current earnings. The coefficient on current earnings represents earnings persistence. Thus, a higher (lower) coefficient reflects a more (less) persistent earnings stream. Intuitively, earnings persistence is used to proxy earnings quality because if earnings are persistent, then current earnings could estimate more accurately future earnings and yield less valuation errors (Dechow et al., 2010). In relation to earnings management, low persistence in earnings translates into earnings management. Dechow et al. (2010) argue that earnings persistence is the result of a firm's true performance and the discretion allowed by the accounting system. Thus, earnings could be persistent in the short run if companies engage into earnings management. Li (2008) examined the relationship between the readability of annual reports, firm performance and earnings persistence. Using a US sample of 55,719 firm-years between 1994 and 2004, he found that firms with annual reports that are difficult to read have less persistent earnings. Li (2008) argues that the findings are in line with the management obfuscation theory.

4.6.2.Magnitude of accruals

Over the years, the definition of accruals has evolved. Early studies investigating accruals defined the term as "non-cash working capital and depreciation" (Healy, 1985).Following the introduction of the cashflows statement by the accounting boards, accruals are defined as the difference between the reported earnings and the operating cashflows (Hribar and Collins, 2002). Sloan (1996) examines earnings persistence after decomposing earnings

as accruals and cash. Sloan (1996) found that accruals are less persistent mainly due to measurement problems in the accounting system. Fairfield et al. (2003) confirmed the lower persistence of accruals and attribute it to the effect of the true performance. For instance, they document that as competition intensifies, firms drop their prices resulting in lower profit margins. Dechow et al. (2010) argue that when accruals represent the main component of earnings, earnings are less persistent. Thus, extreme accruals indicate low quality and thus earnings management. However, Dechow et al. (2010) raise some concerns over the reliability of this proxy. They argue that the lower persistence of the accruals could stem from the true firm performance, or the discretion allowed in the accounting system. This proxy was used in Leuz et al. (2003).

4.6.3.Residuals from accrual models

The extant literature differentiates two types of accruals namely the normal or non-discretionary accruals and the abnormal or discretionary accruals. The non-discretionary accruals reflect the true performance while the discretionary accruals reflect earnings management. Many researchers have attempted to model the accrual process. The abnormal accruals are the residuals obtained from the accrual models.

Jones (1991) contends that the working capital accruals stem from the true performance (growth in revenue) and that the depreciation is a function of the property, plant and equipment (PPE). Thus, the Jones (1991) model defines accruals as a function of the change in revenue and PPE. A drawback for this model is the low explanatory power (not more than 10%). Dechow et al. (2010) ascribe the low R^2 to the important discretion given to managers in the accounting system. Using the Jones model, Dechow et al. (2003) report that the abnormal accruals are highly and positively correlated with the total accruals. In

addition, Dechow et al. (2011) suggest that abnormal accruals are less powerful than accruals at detecting earnings manipulation. This raises concerns about whether the discretionary accruals truly indicate distortion and earnings management or stem from misspecified accruals models.

Dechow et al. (1995) proposed a modification of the Jones model to alleviate the likelihood of Type II errors (identifying accruals as non-discretionary when are discretionary) they are associated with the Jones model. As credit sales are easily manipulated, the Modified Jones model excludes the growth in credit sales. The Modified Jones model defines accruals as a function of the difference between the change in revenue and the change in receivables and PPE. Some studies have used a variant of the Modified Jones model such as DeFond and Jiambalvo (1994), Chambers (1999) and Dechow et al. (2003).

Kothari et al. (2005) propose a model based either on the Jones model or the Modified Jones model. Studies on accruals concur that there is a highly positive correlation between total accruals and discretionary accruals. Thus, Dechow et al. (2010) warn about the possibility that the discretionary accruals contain an element of firm performance. To mitigate that drawback, Kothari et al. (2005) suggest matching firm-year observations of one firm with another in a same industry and year with the closest ROA. Dechow et al. (2010) point that this approach to measuring discretionary accruals is noisy and should only be used if firm performance is an issue.

Dechow and Dichev (2002) tried to measure the abnormal accruals by regressing the change in working capital on past, current and future operating cashflows. Using this approach, they obtained higher explanatory power compared to the Jones model. The standard deviation of the residuals from the regression is used to measure earnings

quality. Thus, they show that larger standard deviations are associated with lower earnings persistence and larger accruals. However, this approach focused only on short-term accruals and is unsigned.

Francis et al. (2005) argue that earnings quality is best measured using the Dechow and Dichev (2002) approach. However, they modified the approach by including changes in revenues and PPE. These added variables provide a model that incorporates long-term accruals.

4.6.4.Earnings smoothness

Accrual-based earnings alleviate the mismatch between cash payments and receipts and as such, accrual-based earnings are seen to be more informative than cashflows (Dechow et al., 2010). However, the discretion allowed by the accounting system puts some doubts as to whether earnings smoothness reflect the changes in informativeness about the performance. Leuz et al. (2003) argue that management can reduce the fluctuation of reported earnings by modulating the accruals component of earnings. This proxy is estimated as the quotient of the standard deviation of earnings by the standard deviation of cashflows. Dechow et al. (2010) argue that the use of this proxy is problematic at firm-level as the cross-sectional variation in smoothness can result from the true performance, the accounting system or intentional earnings manipulation. Leuz et al. (2003), one of the papers that used this proxy focused on a cross-country analysis.

4.6.5.Target beating using the distribution model

This proxy stems from the kink observed in the distribution around zero of reported earnings (Dechow et al., 2010). Degeorge et al. (1999), Burgstahler and Dichev (1997) and Byzalov and Basu (2019) contend that managers use their discretion to transform small losses into small profits. Leuz et al. (2003) operationalised earnings management as the ratio of small profits to small losses. This proxy is estimated by kinks in the distribution of reported earnings, kinks in the distribution of forecast error or small earnings increments (Dechow et al., 2010). The evidence on the appropriateness of this approach to capture earnings management is unconclusive however. Dechow et al. (2003) report no difference in abnormal accruals between the small profits and the small losses. Beaver et al. (2007) attribute the kink in the distribution of earnings to asymmetric taxes rather than intentional earnings manipulation.

4.7. Chapter Summary

Earnings management can be seen as an inter-temporal movement of accounting numbers between periods. The above discussion has shown that managers rely on earnings management through AEM or REM to achieve their personal goals or to send private signals about the firm to market participants. While the earnings manipulation could benefit the firm, it is mostly used perversely to mislead.

CHAPTER 5: LITERATURE ON THE READABILITY OF NARRATIVE DISCLOSURES

5.1. Introduction

"*For more than forty years, I've studied the documents that public companies file. Too often, I've been unable to decipher just what is being said or, worse yet, had to conclude that nothing was being said […] There are several possible explanations as to why I and others sometimes stumble over an accounting note or indenture description. Maybe we simply don't have the technical knowledge to grasp what the writer wishes to convey. Or perhaps the writer doesn't understand what he or she is talking about. In some cases, moreover, I suspect that a less-than-scrupulous issuer doesn't want us to understand a subject it feels legally obligated to touch upon. Perhaps the most common problem, however, is that a well-intentioned and informed writer simply fails to get the message across to an intelligent, interested reader. In that case, stilted jargon and complex*

constructions are usually the villains." ~ Warren Buffett, a preface of "*A Handbook of Plain English Handbook*".

Warren Buffet's quote perfectly emphasizes the critical importance of disclosure readability. This chapter will thus define the term readability and present the various readability measures used in the extant literature. We will conclude this chapter with some empirical evidence involving readability.

5.2. Readability: Background and definitions

The existing literature on firm disclosure has highlighted the importance of corporate disclosures vis-à-vis the information asymmetry conundrum between managers and outside stakeholders (Bernardi and Stark, 2018). Healy and Palepu (2001) argue that firms provide either mandatory (annual and quarterly reports, financial statements, footnotes and MD&As) or voluntary (management earnings forecasts, press releases, conference calls and sustainability reports) corporate disclosures to close the information gap between managers and outside stakeholders. As discussed above, opportunistic executives could manage earnings to modulate results and maximize their utility function (Ajina et al., 2016). Thus, it is not unreasonable to question executive honesty and objectivity in the explanation and presentation of firm performance. Managers could be tempted to openly discuss and disclose information that makes the performance looks good and hide performance information that could result in criticism. Lo et al. (2017) report that 80% of annual reports, which are the main means of communication between firms and stakeholders, are made up of words. Lehavy et al. (2011) have studied the textual disclosures and shown that, over the years, they are increasing in volume and complexity. These findings reinforce the possibility of information concealment which

could affect investors' understandability of the information. Hassanein et al. (2019) and Loughran and Mcdonald (2016) concur that the way investors react to the information is contingent on the quality of the disclosure. Complex information is costly for investors. Thus, Bloomfield (2008) and Rennekamp (2012) agree that investors have strong reactions towards understandable information and weak reactions towards complex information.

Knowing the importance of the attributes of information for investors, opportunistic managers can either manipulate the information or conceal the information to cover bad performance (Ajina et al., 2016). Modulating the information could be done through the use of positive words or suboptimal comparison with peers to make performance appears acceptable. Concealment refers to the modulation of the reading's ease to make the information more complex to decipher. Rutherford (2003) contends that good performers disclose readable information and bad performers provide complex information. Thus, executives can manage impressions by manipulating the reading ease of the narrative disclosures to obfuscate the actual performance and achieve their personal interests (Ben-Amar and Belgacem, 2018). Courtis (2004) argues that obfuscation can be used as an impression management strategy.

Jones and Shoemaker (1994) distinguish between two types of content analysis: thematic analysis which focuses on the examination of the topic content in a document and the syntactic analysis which focuses on the reading ease of a document. The syntactic analysis can further be broken down into readability analysis and comprehensibility analysis (Smith and Taffler, 1992; Soper and Dolphin, 1964). Comprehensibility analysis questions the audience's ability to understand a text and thus is audience centred. This is done using the cloze procedure where readers are asked to fill in some words in a

document with missing words (Moreno and Casasola, 2016). On the other hand, readability analysis focuses on the text which is the focus of this study.

The extant literature provides several definitions for the term readability. According to Rezaei (2000) readability is concerned with *"ensuring that a given piece of writing reaches and affects its audience in a way that the author intends"*. Chall (1956) defines readability as "*the sum total (including the interactions) of all those elements within a given piece of printed material that affect the success which a group of readers have with it…the success is the extent to which they understand it, read it at optimum speed and find it interesting"*. Newbold and Gillam (2010) posit that readability refers to the identification of a cluster of the population able to effortlessly read and understand a piece of text. Smith and Smith (1971) see readability as an objective and quantitative indicator of the comprehension ease of a written document. Cheung and Lau (2016) define readability as the difficulty of a document and the success in conveying accounting messages. Luo et al. (2018) define readability as the level of reading difficulty of a document. de Souza et al. (2019) maintain that readability "*is about measuring how difficult it is to understand a text, considering the use of frequent and complex syntactic structures"*. Jones and Smith (2014) see readability as *"measuring the textual difficulty of a passage"*. For Lehavy et al. (2011), "*readability is the quality of being easy to read"*. Bonsall et al. (2017) likened the concept of readability to that of plain English advocated by the SEC. They posit that *"plain English is clear, straightforward expression, using only as many words as are necessary. It is a language that avoids obscurity, inflated vocabulary and convoluted sentence construction. It is not baby talk, nor is it a simplified version of the English language. Writers of plain English let their audience concentrate*

on the message instead of being distracted by complicated language. They make sure that their audience understands the message easily".

The readability definitions clearly emphasize that measuring readability consists of focusing on several factors such as content, coherence, structure, reading skill and prior knowledge of the audience and the language.

Newbold and Gillam (2010) argue that matching text to an audience involves using a certain level of language and style of writing that the audience can relate to. Thus, the information source must consider the vocabulary difficulty and the complexity of the syntax used. Although most readability formulae operationalize these components by word difficulty, characters and syllables counts, sentence length and paragraph length Oakland and Lane (2004) contend that word difficulty could be better assessed through word familiarity. Unlike most readability metrics that evaluate word difficulty based on the number of syllables, they suggest the use of word familiarity as a more appropriate indicator. In effect, frequency improves word familiarity as a polysyllabic or complex word could be easier to read and understand if frequently met. Thus, frequency not only improves familiarity but also reading fluency. Unfamiliar and not frequently met words require more time to be processed by the reader and this negatively impacts the audience's ability to clearly process, understand and interpret the written document. For example, certain polysyllabic words like management, depreciation, and amortization are frequently used in annual reports and are familiar to investors in general.

Readers can effectively learn from a written document by gaining a mental grasp of the subject and then translating it into their own words. Newbold and Gillam (2010) argue that new information contained in a text is easily processed and understood if matched with previous knowledge. Previous knowledge is built from experience in a particular

field. Thus, it could be argued that prior knowledge can improve the word familiarity of the audience. In the same vein, research has shown that interest levels could exacerbate or mitigate readability issues (Newbold and Gillam, 2010). Unlike stories that could be easily remembered, technical documents necessitate a greater amount of motivation to be understood especially by those who are unfamiliar with the subject matter. Thus, for a document to be accessible to a less interested audience, the text needs to be more readable.

Another factor that could affect readability is the structure of the text. The structure of the text could enhance or impede its understanding. With annual reports becoming increasingly long year on year, a clear structure can help readers find and decode the information they require. Newbold and Gillam (2010) proposed the evaluation of two concepts to determine whether the structure of a text improves readability or not. These are the propositional density and the lexical incoherence. They argue that the propositional density refers to how a relatively small portion of text could contain a significant amount of information that readers have to decode. Thus, the higher the propositional density, the lower the reading ease. Furthermore, they define lexical incoherence as the linkage between new and previous information. As such, Newbold and Gillam (2010) suggest that the repetition of concepts or the use of connectors are essential to help the reader understand the texts. The structure of text could also be improved using headings, bullet-point lists or a summary of essential points.

5.3. Readability measures

The extant scholarship on readability is replete with measures to estimate the readability of documents yet there is no consensus about the best readability measure.

5.3.1. The Gunning Fog Index

The Gunning Fog Index (Fog Index hereafter) is the most commonly applied readability measure. The Fog Index's popularity stems particularly from its ease of calculation and adaptability to computational measures (Loughran and Mcdonald, 2014). The index measures readability by combining the average length of the sentences with the number of complex or big words. Here, complex words are words that contain three or more syllables. Thus, the Fog Index is mathematically obtained as follows:

Fog Index = 0.4 (average number of words per sentence + percentage of complex words)

The Fog Index computation returns a grade level that estimates the number of formal education years required to understand the text instantly. Hence, lower (higher) values of the Fog Index translate into more (less) readable documents. Li (2008) and Ajina, et al. (2016) provide some interpretation ranges as follows : unreadable if Fog Index >18, difficult if 18>Fog Index>14, ideal if 14>Fog Index>12, acceptable if 12>Fog Index>10 and childish if 10>Fog Index>8.

Despite its popularity certainly stemming from its simplicity, some concerns have been raised about the appropriateness of the Fog Index as a measure of readability of financial documents. Loughran and Mcdonald (2014) show that the second component of the index (i.e., complex/big words) is misspecified. They argue that some of the deemed complex words which are polysyllabic (like agreement, management, depreciation, liability etc) that decrease readability are words that are commonplace in annual reports and easy to comprehend for investors. Thus, this component merely brings measurement error. However, numerous studies have relied on the Gunning Fog index to operationalise the reading ease of documents.

Table 5.1: Studies investigating readability using the Fog Index

Studies	Topics covered
Jayasree and Shette (2021)	The link between the readability of the management discussion section of Indian banking companies and their performance
Xu et al. (2020)	The link between the readability of US listed companies annual reports on trade credit allowance
Bacha and Ajina (2019)	The link between the readability of French listed companies annual reports and corporate social responsibility
Ginesti et al. (2018)	The link between female board participation and the readability of annual reports issued by Italian listed companies
Lim et al. (2018)	The effect of the business strategies adopted by US listed companies on the readability of their annual reports
Hesarzadeh and Bazrafshan (2018)	The link between the readability of the notes to the financial statements of Iranian listed companies and the regulatory review risk
Bonsall et al. (2017)	The link between the readability of US listed companies annual reports and future stock market volatility and equity analysts' earnings forecast properties.
Lo et al. (2017)	The link between the readability of US listed companies management discussion reports and earnings management.
Hooghiemstra et al. (2017)	Investigate whether UK listed firms manipulate the reading ease of remuneration reports to influence shareholder votes.
Laksmana et al.(2012)	The link between the readability of US listed firms remuneration report and the tendency to hide excessive pay
Li (2008)	The link between the readability of US listed companies annual reports, management discussion reports and notes to the financial statements and earnings persistence

5.3.2. Flesch Reading ease and Flesch-Kincaid

The mathematical computation of the Flesch Reading Ease returns the level of education an individual needs to easily read a piece of text by giving the text a score on a 100-point scale. Just like the Fog Index of readability, the Flesch Reading Ease consists of the

average sentence length and the percentage of polysyllabic words (three or more syllables). The mathematical representation is as follows:

Flesch Reading Ease score = 206.835 – (1.015*words per sentence) – (84.6*syllables per word)

The score obtained is related to reading ease approximately as follows: 90–100 (5th grade); 80–90 (6th grade); 70–80 (7th grade); 60–70 (8th and 9th grade); 50–60 (10th–12th grade); 30–50 (college years); and 0–30 (college graduate) (Laksmana, et al., 2012).

Unlike the Fog Index of readability and the majority of readability indices, the higher the reading score, the easier a piece of text is to read. A score of between 70 and 80 suggests that a piece of writing could be understood by an average investor. One challenge, however, with the Flesch Reading Ease is that to derive meaning from a score, a conversion table is needed. The Flesch–Kincaid formula (also known as the Kincaid index) modifies the Flesch Reading Ease by scaling it to a US school grade (one number less than UK school year) and thus takes away the need for a conversion table.

Flesch–Kincaid grade = 0.39 * (Total Words/Total Sentences) + 11.8 * (Total Syllables/Total Words) – 15.59

Asay et al. (2018) criticized the use of the Fog index and the Flesch Reading Ease. They argue that these measures do not appropriately capture the complexity of sentence structures. For example, using the words in the sentence “the cat sat on the mat”, another sentence “the mat sat on the cat” could be obtained. Even though the latter is less readable and understandable, computing the Fog Index and Flesch Reading Ease for these sentences will yield the same result.

Table 5.2: Studies investigating readability using the Flesch Reading ease and Flesch-Kincaid

Studies	Topics covered
Jayasree and Shette (2021)	The link between the readability of the management discussion section of Indian banking companies and their performance
Bacha and Ajina (2019)	The link between the readability of French listed companies annual reports and corporate social responsibility
Hassan et al. (2019)	The relation between the readability of Qatari listed firms' annual reports and their performance
Laksmana et al.(2012)	The link between the readability of US listed firms remuneration report and the tendency to hide excessive pay

5.3.3. Asay et al. (2018)'s readability measure

In 1998, the SEC issued a Plain English Handbook providing some guidance on how to improve communication via financial disclosures. The handbook provides a list of issues that have to be dealt with to improve the readability of financial disclosures. These include the use of passive voice, weak or hidden verbs, superfluous words, legal and financial jargon, numerous defined terms, abstract words, unnecessary details, lengthy sentences, and unreadable design and layout. (Asay et al., 2018; Bonsall et al., 2017; Rennekamp, 2012). Asay et al. (2018)'s readability measure follows that of Miller (2010) who used the proprietary StyleWriter program to develop a multidimensional measure that is based on the recommendations of the SEC. Asay et al. (2018)'s readability measure is computed as follows:

Readability score = Passive Voice + Hidden Verbs + Superfluous words + Negations + Complex Synonyms–Personal Pronouns)*10]/[number of words/average words per sentence]

The raw scores obtained from the computation are then subtracted from 20 to ensure that the adjusted scores are positive and to ease interpretation. Thus, higher scores indicate higher readability.

5.3.4. Bog index

Bonsall IV, et al. (2017) suggest an alternative to the prior measures that capture the plain English writing features emphasized in the SEC's Plain English Handbook using the StyleWriter-The Plain English Editor software. The Bog Index is thus computed as follows:

Bog Index = Sentence Bog + Word Bog – Pep

Higher values indicate a complex and less readable piece of writing. The Sentence Bog relates to the average sentence length that is squared and scaled by the standard long sentence limit (35 words). The Word Bog consists of the plain English style problems and the word difficulty. The plain English style problems, as emphasized by the SEC's Plain English Handbook in 1998, include passive and hidden verbs, overwriting, legal terms, abstract words and wordy phrases. The word difficulty component is calculated using a list of familiar 200,000 words. A score is then obtained based on familiarity and conciseness. The Word Bog is then calculated as follows:

Word Bog = (250*(Plain English Style problems + Word difficulty))/number of words

The third component of the Bog Index relates to writing features that increase the reading ease. The Pep is computed as the sum of the names used and interesting words multiplied by 25 and scaled by the number of words in the document plus sentence variety (i.e., the standard deviation of sentence length multiplied by ten and scaled by the average sentence

length) (Bonsall et al., 2017). Asay et al. (2018) argue that even though the Bog Index is an improvement on the noisy file size measure, the StyleWriter-The Plain English Editor software used provide insufficient information about the components used to measure readability.

Table 5.3: Studies investigating readability using the Bog index

Studies	Topics covered
Blanco et al. (2021)	The link between audit report and the readability of US listed companies annual reports
Nadeem (2021)	The impact of board gender diversity on the readability of Russell 3000 firms annual reports.
Rjiba et al. (2021)	The impact of US listed firms annual report readability on the cost of equity capital
Bonsall et al. (2017)	The link between the readability of US listed companies annual reports and future stock market volatility and equity analysts' earnings forecast properties.

5.3.5. Smog formula

G. Harry McLaughlin published in 1969 the Smog (Simple Measure of Gobbledegook) readability formula. Unlike other creators of readability formulae, McLaughlin believes that word length and sentence length should rather be multiplied and not added (DuBay, 2007). Thus, the Smog is calculated as follows:

Smog = 3 + square root of polysyllable count

McLaughlin defines the polysyllable count as the number of words per 30 sentences that have more than two syllables. The score obtained from the Smog computation represents the number of years needed for a complete understanding of a text and is rated as follows: 9-12 appropriate for secondary educated, 13-16 appropriate for college-educated, 17-18

appropriate for graduate training audiences. Only a few studies including Courtis (1986) have used the Smog formula in the literature.

Table 5.4: Studies investigating readability using the Smog formula

Studies	Topics covered
Courtis (1986)	The link between annual report readability and corporate risk-return
Laksmana et al. (2012)	The link between the readability of US listed firms remuneration report and the tendency to hide excessive pay

5.3.6. Length of document and file size

The length of documents has also been used to assess the readability of financial documents in studies like You and Zhang (2009) and Li (2008). Because of a presumably higher information processing cost, longer documents are more difficult to read. Li (2008) suggests that managers could produce longer documents to conceal adverse information from investors as this has been identified as a sign of bad and complex disclosure. Studies that have relied on this measure have used the natural logarithm of the total number of words or the number of pages. Despite its simplicity, this measure has been criticised because it correlates with the amount of disclosure (Li, 2008).

Loughran and Mcdonald (2014) argue that the Fog Index is poorly specified in financial applications because some of the words that are deemed complex (three or more syllables such as operations, management, company) are easily understood by readers of annual reports. As such, they suggest the use of file size as a better metric. Studies that have used file size (Loughran and Mcdonald (2014); Bonsall IV, et al. (2017)) have used the number

of megabytes of the entire annual reports. The advantage of these measures is that they are consistent with the concept of overwriting which makes documents too comprehensive and long for readers to understand. A potential problem with the use of file size as a measure of readability is that it could capture other things (Bonsall et al., 2017). As the file size includes exhibits (e.g., compensation contracts, supplier/customer agreements, or bond indentures) that are not related to the 10-K filings but reveal information about the firm's activities, it is difficult to ascribe an increase in file size to better readability and not an increased disclosure (Bonsall et al., 2017).

Table 5.5: Studies investigating readability using length of document and file size

Studies	Topics covered
Blanco et al. (2021)	The link between audit report and the readability of US listed companies annual reports
de Souza et al. (2019)	The link between the readability of Brazilian listed firms management discussion reports and firm performance
Bonsall et al. (2017)	The link between the readability of US listed companies annual reports and future stock market volatility and equity analysts' earnings forecast properties.
Loughran and Mcdonald (2014)	Challenge the use of the Fog Index to measure readability of US listed firms annual reports
Li (2008)	The link between the readability of US listed companies annual reports, management discussion reports and notes to the financial statements and earnings persistence

5.3.7. The Dale-Chall Formula

The formula was proposed by Edgar Dale and Jeanne Chall in 1948 and was meant to be an improvement on the Flesch Reading Ease. Moreno and Casasola (2016) argue that this formula is not widely used and its used is mostly seen in the US. The Dale-Chall Readability score relies on word difficulty and sentence complexity and is computed as:

Readability score = 0.1579*(Percentage of difficult words) + 0.0496*(average sentence length

Table 5.6: Interpretation of Dale-Chall readability score

Score	Grade level
4.9 and below	4 and below
5.0 to 5.9	5 to 6
6.0 to 6.9	7 to 8
7.0 to 7.9	9 to 10
8.0 to 8.9	11 to 12
9.0 to 9.9	13 to 15 (college)
10 and above	College graduate

Criticisms have been raised against the Dale-Chall formula which explain its relatively uncommon use. Dawkins et al (1956) argues that the word difficulty component of the formula does not take into account the context, syntax and grammatical structure. The formula assumes that content is readable and organized if the sentences are short neglected other factors that influence understanding. For example, the Dale-Chall formula will deem the sentence “Jack is” more readable than “Jack is sick”. However, the latter followed the structure subject-verb-object which is essential for smooth understanding.

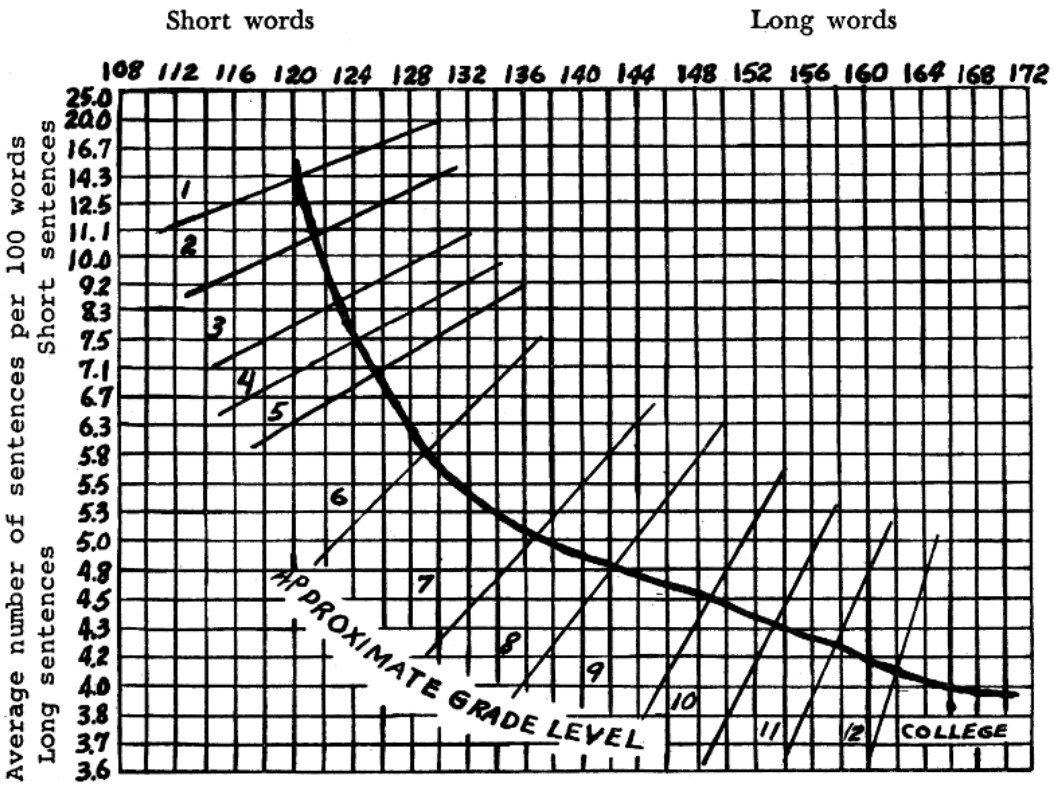
5.3.8. The Fry readability graph

Edward Fry criticized the Dale-Chall formula as presenting it takes 18 printed pages with all words that are deemed difficult. On the other hand, Fry (1968) proposes the use of a graph which emphasizes simplicity. The use of the readability graph is as follows:

1. Select 3 one-hundred-words passages one at the beginning, middle and end ideally of the document
2. Count the total number of sentences in each selected passage and find the average number of sentences
3. Count the total number of syllables in the passages and find the average number of syllables
4. The two averages are then used to determine the grade level. Based on past data, a curve was plotted showing the different grade levels.

As this measure is different from the already existing readability formulae, one important issue was the validity of the measure. Longo (1982) and Fusaro (1988) confirmed the validity of the Fry readability graph. The former compared readability scores obtained from the graph to those from the Dale-Chall Readability formula and the Flesch Reading Ease formula using ten college composition handbooks while the latter used a two-way analysis of variance with repeated measures over one factor and Scheffe post hoc tests.

Figure 5.1: Fry (1968)'s Readability graph



5.4. Empirical evidence involving readability

In this section, we discuss the empirical evidence related to the readability of the annual reports.

5.4.1. Readability of annual reports

Jones and Shoemaker (1994) critically reviewed 26 studies on the readability of annual reports narratives. They report that first, the use of complex syntaxes and unfamiliar vocabulary renders annual report narratives difficult or very difficult to read. Using the Flesch index, they show that the reading ease of annual reports ranges from 16.05 to 47.2 with a mean of 26.13 after adjusting for sample size. With a highly negatively skewed distribution, they conclude that the narratives were too technical and inaccessible to

unsophisticated readers. Secondly, they argue that some parts of the annual reports appear to be more readable than others. The studies of Heath and Phelps (1984), Courtis (1986) and Schroeder and Gibson (1990) concur that footnotes are more difficult to read than the Chairman's statement. Finally, they show that readability is associated with other variables like firm performance and firm size. They, however, raised some criticism about the studies examined. Apart from the fact that only 2 studies used a sample size bigger than 100 annual reports, the readability measures used failed to capture all intrinsic components of readability such as knowledge of the reader or level of interest. They also argue that the measures used were not meant to assess the readability of technical texts such as annual reports.

More recently, Gagnon et al. (2020) investigate the linguistic features of award-winning annual reports. As clear and transparent annual reports save investors from information acquisition costs, accounting associations such as PwC, Investor relations society, Accountancy Age and Report Watch have encouraged companies to produce relevant annual reports through the reporting quality awards. Comparing the shortlisted and non-shortlisted annual reports, they report superior quality (award-winning) reports focusing more on strategy and less on growth. They also found higher cognitive accessibility and fewer grammatical words that amplify understandability difficulties in superior quality reports. Unlike Li (2008) who conclude that longer and more complex reports are of poor quality and signify management hoarding information, Gagnon et al. (2020) contend that award-winning annual reports are longer and at least as complex as their non-listed counterparts.

5.4.2. Readability, earnings, and auditors' behaviour

Li (2008) represents the first US large-sample study on readability with 55,719 firm-years between 1994 and 2004. The study examined the association between annual reports readability, firm performance and earnings persistence. One of the findings reveals that firms with poor results tend to have annual reports that are difficult to read. This suggests that managers may act opportunistically to hide negative information. This behaviour follows from the obfuscation theory or the incomplete revelation theory. As Bloomfield (2008) emphasizes, because markets react slowly to opaque information, managers tend to produce excessively long and complex annual reports to hide bad news. In addition, (Li, 2008) argues that firms that persistently report positive earnings produce annual reports that are easier to read. Bloomfield (2008) discussed other plausible reasons behind the negative relationship between readability and earnings persistence found by Li (2008). He suggests that the observed results could be explained by the fact that bad news is just hard to describe, what he referred to as ontology. This suggests that the long and complex annual reports are not necessarily a result of managers' opportunistic behaviour. Building on the ontology theory, Bloomfield contends that attribution could also explain the lengthier and more complex annual reports. Attribution to external events or uncontrollable events would involve additional text to discuss the circumstances and implications of those events for the firm. Blanco et al. (2021) suggest that annual report readability impacts audit procedures and time. Using a US sample of 11,839 firm-year observations between 2004 and 2015, they report that opaque financial disclosures are associated with increased audit risk, delay and fees.

5.4.3. Readability and executive and board characteristics

Huang et al. (2012), using a sample of US 3,413 firms between 2005 and 2008 report a positive relationship between CEO age and financial reporting quality. Thus, we could go a step further and hypothesize that firms managed by older executives produce superior financial disclosure in the form of more readable annual reports. Using a US sample of 16,341 firm-years between 1993 and 2015, Xu et al. (2018) investigate the relationship between executive age and annual reports readability and report that readability complexity whether due to ontological or opportunistic reasons could be mitigated by executive age. Their results show a positive association between executive age and the readability of annual reports. This suggests that with maturity and experience, executives behave more ethically and are more capable of clearly explaining bad news.

Ginesti et al. (2018) investigate the effect of gender diversity on annual report readability using a final sample of 87 Italian listed firms over the period 2009-2013. They report that gender diversity benefits investors as the presence of female directors on boards results in higher disclosure readability. In the same vein, Harjoto et al. (2020), using an S&P500 sample, found that gender diversity improves the readability of the CSR reports. Nadeem (2021) corroborates the findings of Harjoto et al. (2020) and Ginesti et al. (2018) and reports that board gender diversity positively impacts the readability of annual reports.

5.4.4. Readability, business strategy and CSR

Studies such as Li (2008) and Lo et al. (2017) emphasize that investors understand the lower readability of annual reports as a sign of obfuscating bad news. Whipple and Frankel (2000) argue that over the years firms are increasingly using inter-firm cooperation to enhance performance through the combination of individual strengths.

Strategic alliances can either boost a firm's performance or make it a failure and hence it requires trust between the cooperating firms. When a partner's financial disclosure is complex, investors cannot easily understand and evaluate the performance. This potential sign of obfuscation could translate into poor credibility. When investors perceive a partner as not trustworthy, they may deem the alliance too risky and become pessimistic about the potential benefits of the partnership. Baxamusa et al. (2018) investigated whether partnering with firms with lower readability issues could impact investors' opinions. Using 3162 firm-years between 1995 and 2012 and strategic alliances as a setting they found that having a partner with lower readability issues negatively affects investors' opinion. It does show that partnering with a firm that produces readable annual reports at least does not reduce investors' optimism. Lim et al. (2018) examine the influence of business strategy on annual report readability and found that innovation-oriented prospectors tend to have more complex annual reports compared to efficiency-oriented defenders. Miles et al. (1978) categorize companies into defenders, analyzers and prospectors according to their entrepreneurial, engineering and administrative problems. While defenders tend to excel in stable environments, prospectors prosper in dynamic environments suggesting that complexity affects readability.

Socially responsible firms continue to attract the attention of academics as the demand for true business ethics and transparency keeps rising. As a result, an increasing number of companies devote more time and resources to show their socially responsible intent. The extant literature presents two opposing hypotheses about the effects of the adoption and practice of corporate social responsibility on financial disclosure quality. The stakeholder theory posits that managers ought to apply high ethical norms when dealing with stakeholders. As such, managers' objectives should go beyond the simple profit

maximization goal (for shareholders) and focus on the interests and well-being of all stakeholders. Thus, this strand of literature contends that managers of socially responsible companies are expected to be ethical and transparent in their reporting resulting in a more readable annual report, and hence a lower propensity to obfuscation. On the other hand, the agency framework suggests that focusing on the interests and well-being of all stakeholders impedes the evaluation of management performance. In other words, this strand of literature argues that opportunistic managers may invest in corporate social activities to gain a favorable reputation and less scrutiny from stakeholders and conceal managerial misconduct or suboptimal performance through complex disclosures. Ben-Amar and Belgacem (2018) investigate the relationship between the adoption of corporate social responsibility and the linguistic complexity of the management discussion and analysis contained in annual reports. They report socially responsible firms tend to produce complex management discussion analysis sections supporting the agency theory stand.

5.4.5. Readability, corporate agency and financing costs, and trade credit

The separation of risk-bearing and management duties forces the principal to delegate to their agent. This delegation puts the agent in a privileged position to either make a decision in the best interest of the principal or to act opportunistically to the detriments of the principal. Jensen and Meckling (1976) argue that the principal's inability to monitor the agent create significant agency costs (monitoring costs). The monitoring costs are incurred because of the information asymmetry between the principal and the agent. One of the means to reduce the information gap is through financial disclosure (e.g., annual reports) which are essential for the principal's understanding and evaluation of

management performance. Thus, complex financial disclosure significantly reduces the principal's ability to extract value-related content from the annual reports (Rennekamp, 2012). In other words, financial disclosure readability could either reduce or exacerbate the information asymmetry and enhance the principal's ability to monitor management. Luo et al. (2018) examine the relationship between annual reports readability and corporate agency costs. Using 19,221 firm-year observations between 2001 and 2015, they report that firms with less readable annual reports incur higher agency costs. This, again, highlights the importance of transparent annual reports in reducing the information asymmetry and improving corporate and managerial performance appraisal and monitoring. Complex and ambiguous financial disclosure could be perceived as information risk and impede the accurate evaluation of a firm affecting a firm's borrowing cost. Ertugrul et al. (2017) investigate the association between readability and financing costs and find that companies with less readable annual reports receive stricter loan contract agreements (shorter maturity, greater likelihood of collateral requirements). This supports that managerial information hoarding exacerbates the information risk perceived by lenders. Rjiba et al. (2021) investigated the link between the readability of financial disclosures and the equity cost of capital. Using a US sample, they report that complex disclosures are associated with a higher cost of equity capital. Xu et al. (2020) examined the impact of annual report quality on trade credit and found that suppliers are more generous with firms that produce readable financial disclosures.

5.4.6. Readability and investors and shareholders' behaviour

Miller (2010) examines the relationship between financial reporting complexity and investors' trading behaviour. Using a sample of 13,000 annual reports between 1995 and

2006, they report longer, and complex annual reports result in lower trading activity. Biddle et al. (2009) and Biddle and Hilary (2006) show that higher reporting quality results in more efficient investments. Using a sample of 34,791 firm-year between 1993 and 2005, Biddle et al. (2009)'s results suggest that higher quality annual reports reduce moral hazard and adverse selection issues inherent to the agency problem. Furthermore, Biddle and Hilary (2006) contend that higher quality accounting improves investment efficiency by reducing information asymmetry. You and Zhang (2009) investigate investors' response to the information contained in the 10-K reports. Their findings suggest a sluggish investors' response to the annual reports and that this behaviour is exacerbated when annual reports are complex.

Analysts' reports contain useful firm and industry information that investors can rely on to inform their decision. Thus, the higher the complexity of those reports the higher the cost that investors incur in acquiring relevant information by reducing the time taken to understand the reports. De Franco et al. (2015) examined the significance of analysts' report readability and found a positive association between trading volume reactions and the readability of analysts' reports. This result indicates that the more understandable information investors receive the higher the trades they initiate. Lehavy et al. (2011) investigate the relationship between the firms' communication readability and the attitude of sell-side financial analysts. Because complex reports require more and costly efforts from investors, they argue that readability is negatively associated with the demand for analyst services.

Under the recent SEC requirements in the US and the 2013 Regulations in the UK, shareholders are asked to vote on executive remuneration presented in the remuneration reports. Thus, accessible, and transparent disclosure in the remuneration report is essential

for shareholder voting. As complex disclosures result in lower engagement from shareholders, it is important that the remuneration reports convey a message with clear numbers and narratives. Hemmings et al. (2020) investigated the effects of remuneration disclosure readability and report that managers use the obfuscation strategy to reduce shareholder dissent. However, the study emphasizes that obfuscating only works when CEO pay is not exaggeratedly excessive. Hooghiemstra et al. (2017) find that UK listed firms tend to produce complex remuneration reports to obfuscate excessive CEO pay and lower shareholder voting dissent. Even though both results suggest the same thing by large, there is a nuance in that Hooghiemstra et al. (2017)'s results appear to apply to all cases while Hemmings et al. (2020) suggest that intentional poor readability only work when excess CEO pay is tolerable. Zhang et al. (2014) also found that the quality of the remuneration disclosure negatively affects shareholder voting dissent.

5.4.7. Readability and executive compensation

Only a few studies have investigated the relationship between financial disclosure readability and executive compensation and most of them focused on the US. Laksmana et al. (2012) investigated the link between the readability of the compensation report and management's intention to obfuscate executive pay. Using a sample of US firms between 2007 and 2008, they report that firms that pay their CEOs above the economically determined benchmark tend to produce more complex remuneration reports. As complex information results in weaker reactions from investors and shareholders, CEOs try to obfuscate their excessive pay. This finding aligns with the managerial power theory with the use of camouflage to avoid external criticism. Despite the suggestions of the SEC on how to enhance the readability of financial disclosures, they found that the average

remuneration report is difficult to read. Hooghiemstra et al. (2017) also examined the association between the compensation report readability and CEO pay. Using a UK sample between 2003 and 2009, they report that firms with excessive CEO pay tend to produce obscure remuneration reports. They further reason that the obfuscation strategy is also useful to avoid shareholders voting dissent. Stock options are used to reconcile the interests of shareholders and executives. Chakrabarty et al. (2018), based on a US sample between 1993 and 2014, investigate the impact of stock option pay on the readability of financial disclosure and found that when executives select projects that increase their option values to the detriment of shareholders' value, they provide less readable reports to obfuscate their choices. Mi (2020)'s findings suggest that higher pay-performance sensitivities are associated with more readable annual reports after using a US sample between 1987 and 2016. Hemmings et al. (2020) extend the results of Hooghiemstra et al. (2017) by suggesting that even though the obfuscating strategy works well with excess pay, it appears that it is only the case when the excess is not abnormally high.

5.4.8. Readability and earnings management

Rutherford (2003) reasons that readable (complex) financial disclosures are used to signal good (bad) performances by companies. Firms that perform well report with clarity and transparency while bad performers obfuscate bad information about performance. Ajina et al. (2016) argue that managers can manipulate earnings and use impression management strategies to conceal their actions. Impression management can be done through reading ease manipulation or the use of persuasive words. Using a French sample from 2010 to 2013, they found a positive link between AEM and the Fog score. This finding corroborates Li (2008)'s results that when firms experience a drop in earnings

they try to hide the trend in future earnings by modulating the reading ease of the reports. Lo et al. (2017) report that firms that manage earnings to meet or beat the previous year's earnings tend to have complex management discussion reports. Using a US sample between 2000 and 2012, they found that companies obfuscate their use of AEM and REM to meet or just beat prior year's profits. A Chinese study revealed that executives cover their earnings management practices by reducing the reading ease of the annual reports (Cheng et al., 2018). The above results confirm the relation between earnings management and the obfuscation strategy adopted by managers. However, no study has investigated this issue in the UK context. All studies also focus on the management discussion report or the annual report as a whole.

5.5. Chapter Summary

The above discussion has shed light on the importance of financial disclosure readability. Bloomfield (2008) argues that readability can be used opportunistically by managers to obfuscate bad news. He further contends that readability issues can also stem from genuine situations. As corporate governance aims at improving shareholder activism it is essential the financial disclosure information contents are accessible. Studies have examined the link between the readability of the annual reports and the management discussion reports and earnings management. This opens an avenue for a study involving the UK context, the remuneration report and earnings management.

CHAPTER 6: EVOLUTION OF ANNUAL REPORT READABILITY AND EXECUTIVE COMPENSATION BETWEEN 2011 AND 2019

6.1. Introduction

Chapter 3 and 5 respectively delve into the theoretical aspects of executive compensation and the readability of annual reports. As these topics form the basis of this thesis (together with earnings management), it is essential to have an insight into their evolution over

time. While studies have examined the evolution of executive pay in the US (Conyon et al., 2011a; Frydman and Saks, 2010), no study has focused on the evolution of executive pay using a UK sample between 2011 and 2019. Readability has been widely investigated yet the extant literature lacks a descriptive overview of the readability of UK annual reports between 2011 and 2019.

We bridge this gap and thus contribute to the extant literature on executive pay and annual report readability by providing a descriptive overview of the evolution of executive remuneration and annual report readability in the UK between 2011 and 2019. This study contributes to the literature by firstly extending prior work on trend of executive pay and add to the literature by investigating the trend in readability over a recent time period in which regulatory reforms in the UK have targeted increased transparency and clarity in remuneration disclosures as a way of enhancing firm-shareholders communications.

Our analysis suggests that despite the regulators' intervention, executive pay has been on the rise since 2011 and even in hard time like 2019 with COVID-19, it has not decreased to the 2011 level. Concurrently, annual reports have become bulkier, longer and more difficult to read. Overall, annual reports seem to be more complex when executives receive huge pay packages and vice-versa.

This chapter firstly examine executive compensation between 2011 and 2019 in section 6.2. Section 6.3 focuses on the evolution of readability. Section 6.4 looks at executive pay and the readability of annual reports. Section 6.5 concludes this chapter.

6.2. Executive compensation

6.2.1. Data and sample

The sample period covers nine years (2011-2019). Details are presented in table 6.1. For the analysis of executive pay, the FTSE 350 Index was chosen as the source as it includes firms with the largest market capitalization. Only observations with missing data on CEO compensation were excluded. Data on CEO pay was obtained from Bloomberg. CEO pay is broken down into salary, bonus and other pay (all non-cash and non-bonus pay). This classification is used due to the lack of details on LTIPs, pensions, benefits and other pay received by CEOs on Bloomberg. The final sample used for this part of our analysis is made up of 243 firms and 1898 firm-years observations. Appendix 1 presents the list of companies used for the analysis.

Table 6.1: Compensation sample composition

Description	Number of firms	Firm-Year Observations
Initial sample (FTSE 350 as of 22nd April 2022)	350	3150
Delete:		
Observations with missing CEO compensation data		1252
Final sample	**243**	**1898**

Table 6.2 shows the sector distribution of companies used for the analysis. The most represented industry is the consumer industry (37.78%) followed by the financial sector (23.87%). The least represented sectors are the energy sector (3.42%) and the utilities sector (3.37%).

Table 6.2: Compensation Industry distribution by number of firms

Industry Sector	Number of firms	Firm-year observations	Weight %
Basic Materials	16	136	7.17%
Communications	12	93	4.90%
Consumer	92	717	37.78%
Energy	8	65	3.42%
Financial	58	453	23.87%
Industrial	37	295	15.54%
Technology	11	75	3.95%
Utilities	9	64	3.37%
Total	**243**	**1898**	**100.00%**

6.2.2. Evolution of UK executive pay between 2011 and 2019

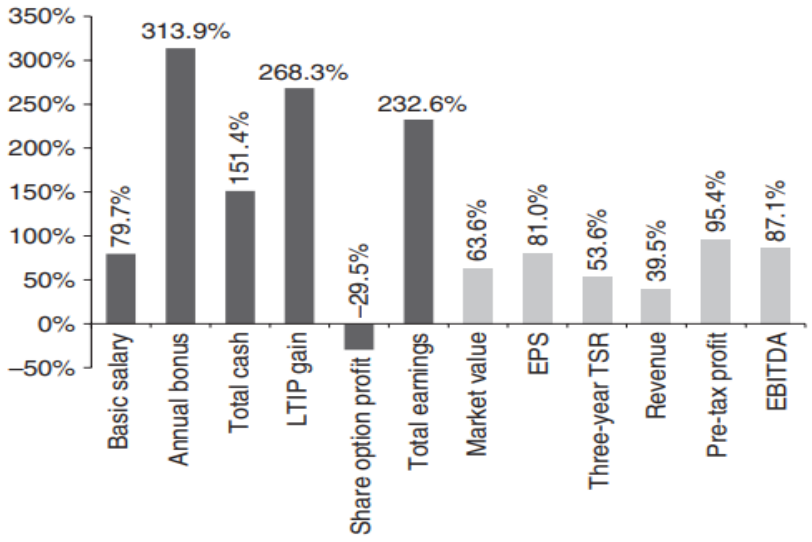
Public outrage towards executive compensation levels stems from two principal causes. Firstly, critics argue that the increase in executive remuneration is disproportionate compared to that of the average worker. Hildyard (2019) argues that between 1999 and 2017, the CEO-average pay ratio in FTSE 100 companies has increased by at least 147% as per figure 6.1. The other reason for public anger at executive compensation is the disconnect between the rising executive pay and corporate performance as shown by figure 6.2. The increase in the individual elements of executive pay outpaces the increase in firm performance.

Figure 6.1: Pay ratio between 1999 and 2017

Year	CEO pay (£m)	CEO/employee pay ratio[a]	Median UK full-time worker pay (£)
2017	5.66	146	28,758
2016	4.58	128	28,195
2015	5.47	129	27,615
2014	4.36	125	27,215
2013	4.71	137	27,011
2012	4.57	125	26,472
2011	4.43	124	26,095/26,244
2010	4.73	138	25,882
2009	4.22	130	25,806
2008	3.96	128	25,165
2007	3.89	151	24,043
2006	3.31	107	23, 367/23, 554
2005	3.3	121	22,888
2004	3.09	119	22,011/22,056
2003	2.79	112	21,124
2002	2.6	107	20,376
2001	1.81	75	19,722
2000	1.69	70	18,848
1999	1.23	59	17,803

Source: Hildyard (2019)

Figure 6.2:Percentage change in median remuneration of FTSE 350 companies vs. corporate performance measure between 2000–2013



Source: Hildyard (2019)

In 2010, Vince Cable, the UK business secretary, announced a review of executive pay after concerns that executives were taking "telephone number" pay (Wearden, 2010). The review stems from the fact that the median total pay of FTSE 100 executives increased faster than the increase in the FTSE 100 index, retail prices or the median employee remuneration. Chart 6.1 shows the mean and median CEO pay between 2011 and 2019. The chart reveals three distinct phases over the course of our sample period namely 2011-2013, 2013-2015, 2015-2019. The first phase, 2011-2013, consists of a sharp increase in mean CEO pay and median CEO pay (71% and 60% respectively). Between 2013 and 2015, mean CEO pay kept increasing but at a slower rate (0.3% in 2014 and 4.3% in 2015) compared to the first phase whereas median CEO pay declined by 8.3% in 2014 before increasing by 12.5% in 2015. The last phase, 2015-2019 shows zig-zag movements in mean CEO pay. A decrease in 2016 of about 8.5% was followed by an increase of 12.9% in 2017. Again, mean CEO pay declined in 2018 (9.8%) before seeing a minor increase of 1.4% in 2019. Over the same period, the median CEO pay kept increasing at a slower rate before dipping in 2018 and increasing in 2019.

Chart 6.1: CEO Pay between 2011 and 2019

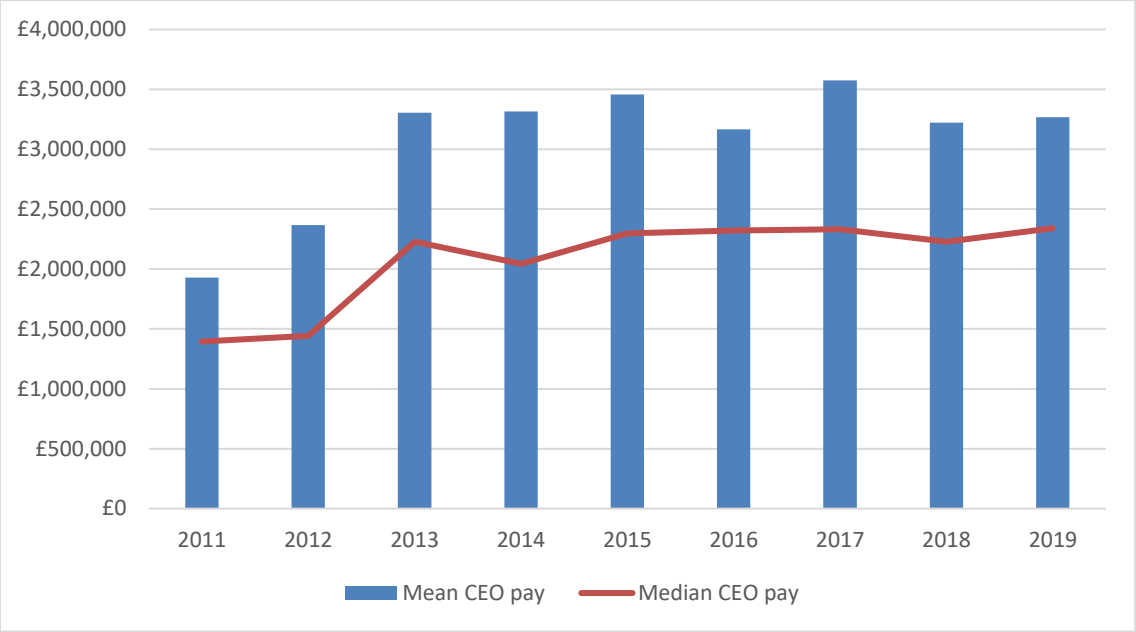
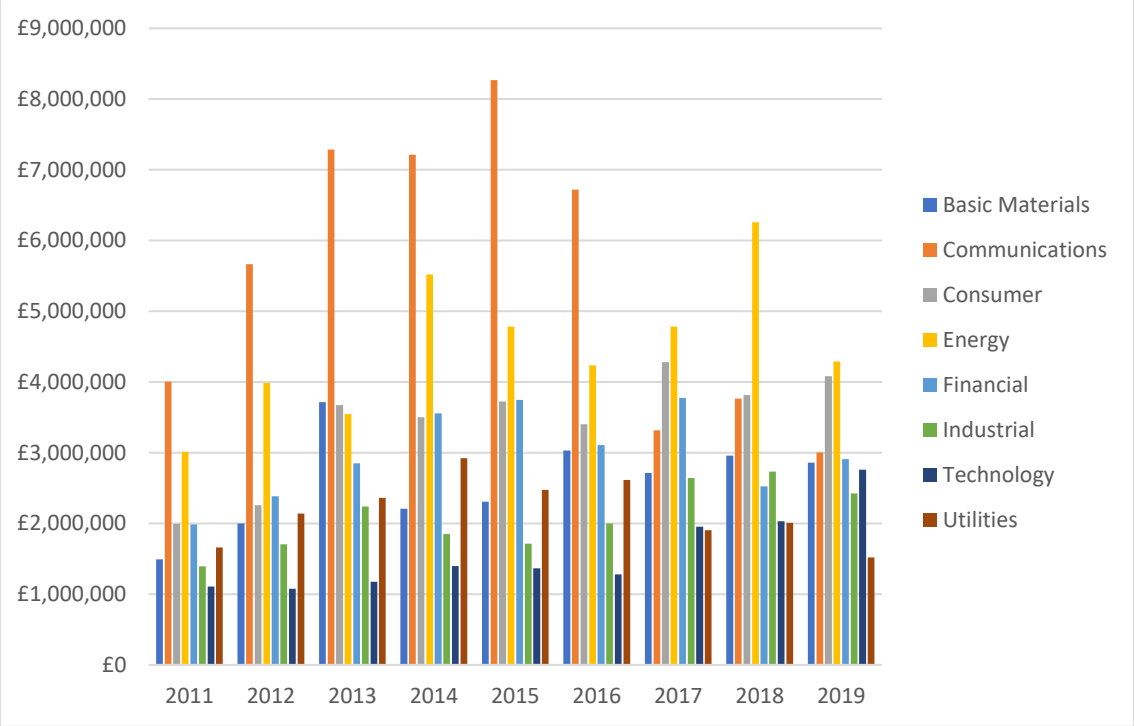


Chart 6.3 provides an insight into CEO average pay by sector.

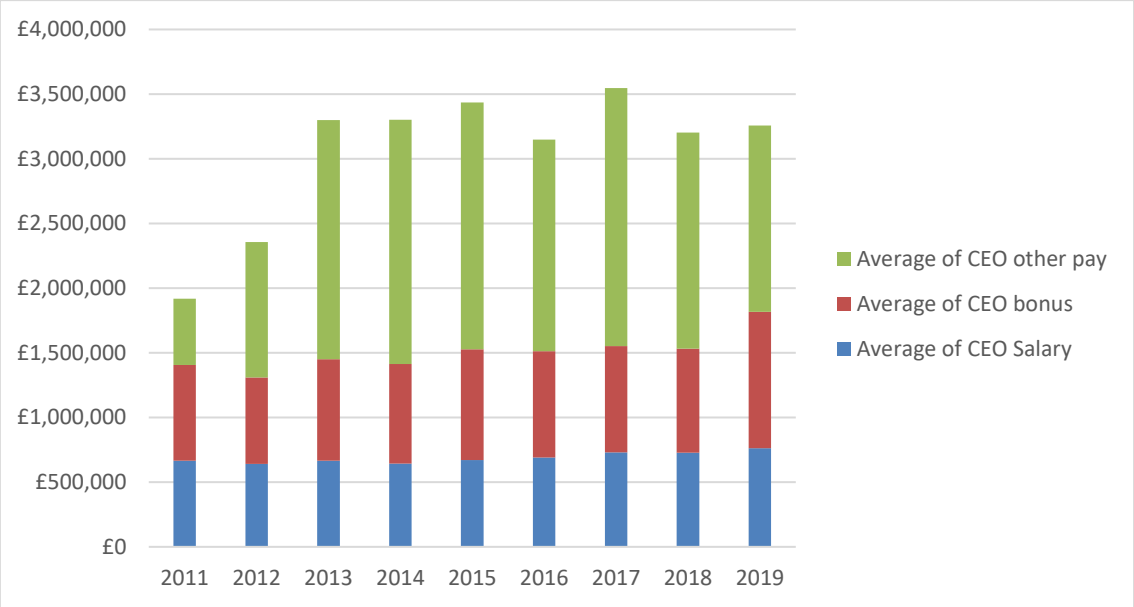
Chart 6.2: Mean CEO Pay by sector



From 2011 to 2016, CEO compensation seems to be driven upwards by the huge packages received by executives in the communications industry. On average, CEOs in the communications sector received at least £1,000,000 more than their counterparts in the closest industry, the energy sector. From 2017, the energy sector became the highest paying sector. It is important to note that unlike the 2011-2016 period where the communications sector hugely dominated executive pay, the 2017-2019 period shows that the other sectors have either caught up or the highest paid sectors have reduced the pay packages they were offering.

Despite the numerous efforts to reduce CEO pay, CEOs keep taking home huge compensation packages for mainly two reasons. Firstly, critics have advocated for a stronger link between executive pay and corporate performance as they claim that shareholders are paying more and getting less (High Pay Centre, 2012b). Research ascribes the increasing trend in pay from 2011 to the desire to link pay to performance using some complex means. The attempts to curb pay include the use of formulaic solutions-based pay which as observed failed to control executive pay which has been the case since 2003 (High Pay Centre, 2012b). For example, the 2003 HSBC Holdings PLC LTIP scheme was based on earnings-per-share (EPS) performance in three countries (Hong Kong, UK, and the US), the total shareholder return in a comparator group of nine companies, a 'top 20' of banks and an index of 300 other banks. This shows how a good intention to link pay to companies goals renders compensation difficult. Chart 6.3 presents a breakdown of CEO pay from 2011 and 2019. Chart 6.3 shows that the other pay element (which is dominated by the LTIP element) has become the biggest pay component from 2012 to 2019. This is driven by the desire to link pay to long-term performance.

Chart 6.3: CEO pay composition



People tend to prefer money now to money in the future. As remuneration committees aim to align the interests of executives and those of shareholders, pay packages tend to rely on LTIPs. As a result, there is a feeling that to incentivize executives with compensation that is received years later, pay must be increased.

The second reason is the apparent failure of the regulations. The Business Enterprise and Regulatory Reform Act (2013) together with the Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013 were introduced in the UK. These regulations require a CEO single figure pay, a shareholder binding vote on the remuneration policy at least every three years and an annual advisory vote on the remuneration report explaining pay over the previous year. The regulations seem to have a negligeable impact on executive pay in 2014 with a 0.3% increase in mean CEO pay and an 8.3% reduction in median CEO pay (shown in chart 6.1). It is apparent that the reduction in median pay was short-lived as it increased again in the subsequent years. In the same vein, High Pay Centre (2015) report that the average advisory vote against was

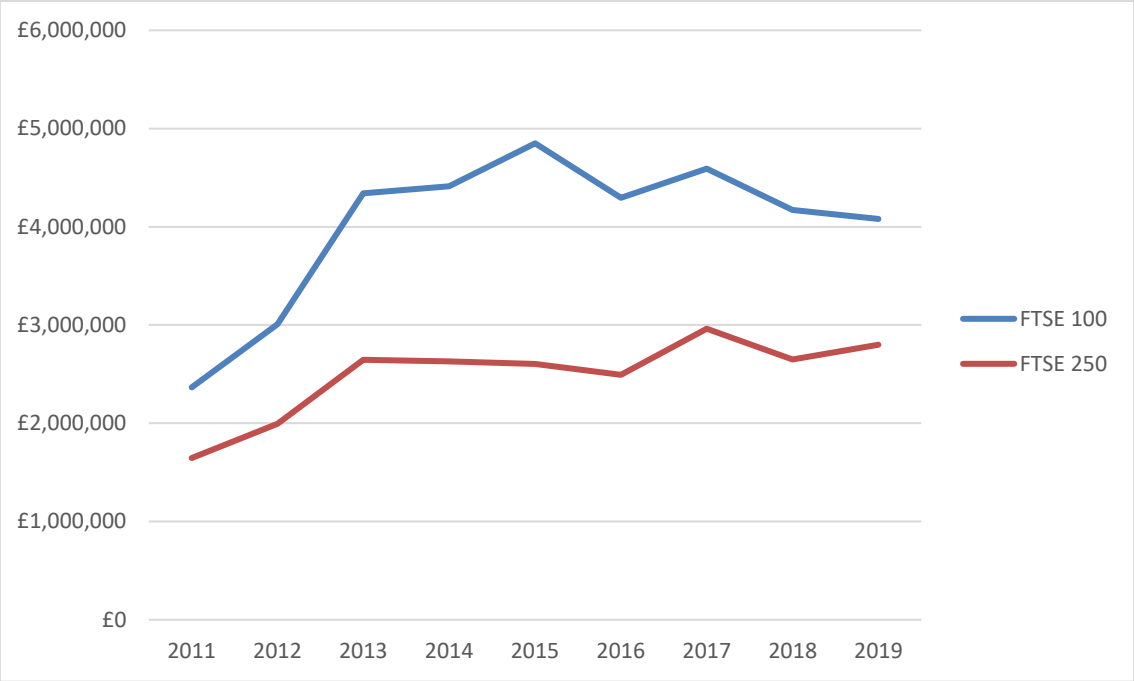
6.4% while the average binding vote against was 5.9% for FTSE 100 companies. This suggests that the introduction of the regulations acted as a mere deterrent but did not seem to have the expected effect which was to curb pay.

CIPD and High Pay Centre (2017)'s report shows that the gulf between the top earners and lowest earners has narrowed. Average pay of the 25 highest paid in FTSE 350 dropped by 24% while there was an increase at the other end of the continuum. Unlike mean pay, median pay keeps increasing in 2016 emphasizing the reduction in pay of top earners. In 2017, mean and median CEO pay packages have both increased by 12.9% and 0.4% respectively (compared to 2016 pay level). In 2018, we note a decrease in mean and median CEO pay by 9.8% and 4.5%. High Pay Centre (2019) reports that FTSE 100 companies have imposed more pay constraints in 2018 compared to previous years. In 2019, against our expectations, CEO pay both mean and median slightly increased compared to 2018 (1.4% and 5.1% respectively). High Pay Center and CIPD (2020)'s report puts forward the devastating effect of the COVID-19 pandemic and economic shutdown on society and firms in general. This resulted in executive pay cuts, the adoption of measures like deferral, reduction of salaries and cancellation of bonuses. To help companies, the UK Government and the Bank of England have put in place the Coronavirus Job Retention Scheme (JRS) and the Coronavirus Corporate Financing Facility (CCFF) to provide short-term loans and mitigate cashflow disruptions (High Pay Center and CIPD, 2020). We explain our results by the fact that the most affected firms were not captured in our sample resulting in the increase seen rather than the decrease expected.

To conclude our analysis of executive pay, it is fair to say that despite attempts to curb CEO pay, pay levels have generally been high. Even in difficult times like 2019, CEOs

received more than what was paid in 2011. Chart 6.4 supports the fact that CEO pay levels especially those from the FTSE 100 kept receiving more and more since 2011 compared to CEOs from the FTSE 250.

Chart 6.4: Mean CEO pay by index



6.3. Readability of annual reports

6.3.1. Data and sample

The sample period covers nine years (2011-2019). Details are presented in table 6.3. For the analysis of annual report readability, the FTSE 350 Index was chosen as the source as it includes firms with the largest market capitalization. This results in 240 firms and a 1,692 firm-year observations sample. Appendix 1 presents the list of companies used for the analysis.

Table 6.3: Readability sample composition

Description	Number of firms	Firm-Year Observations
Initial sample (FTSE 350 as of 22nd April 2022)	350	3150
Delete:		
Observations with missing readability data		1458
Final sample	**240**	**1692**

Table 6.4. shows the sector distribution of companies used for the analysis. The most represented industry is the consumer industry (47.75%) followed by the industrial sector (29.43%). The least represented sectors are the financial sector (1.65%) and the utilities sector (1.60%).

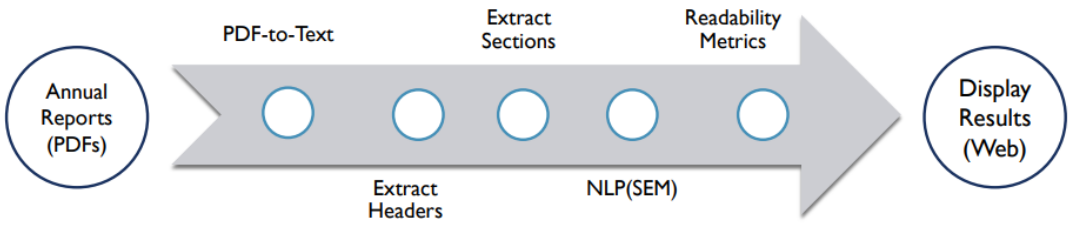
Table 6.4: Readability Industry distribution by number of firms

Industry Sector	Number of firms	Firm-year observations	Weight %
Basic Materials	18	142	8.39%
Communications	7	44	2.60%
Consumer	115	808	47.75%
Energy	12	93	5.50%
Financial	10	28	1.65%
Industrial	61	498	29.43%
Technology	13	52	3.07%
Utilities	4	27	1.60%
Total	**240**	**1692**	**100.00%**

To operationalize readability, we use four measures namely Fog Index, Flesch reading ease, the number of words and the number of pages. We obtain the readability scores from the Lancaster University's Corporate Financial Information Environment – Final Report Structure Extractor (CFIE-FRSE) desktop application. The application relies on Natural Language Processing (NLP) techniques commonly used in the US to investigate the

characteristics of corporate disclosures (El-Haj et al., 2014). The application firstly detects the contents page where the main sections of the annual reports and their associated page numbers are presented. Secondly the contents page is used to determine the structure of the report and extract the headings and their associated page numbers. As all UK annual reports are in pdf format, the page number displayed on the report does not match the page number in the pdf reader. Thus, the application ensures that the correct page number is identified. El-Haj et al. (2014) show that the accuracy rate of the process on UK annual reports is 94%. When the headings are then separated, the narratives are then used to calculate the text readability scores using Flesh and Fog readability measures, the wordcount, the number of pages and the tone of reports using forward looking, hedging, positive and negative words lists. Figure 6.3 summarizes the CFIE analysis process.

Figure 6.3: CFIE analysis process



Source: El-Haj et al. (2014)

6.3.2. Evolution of the UK annual reports readability between 2011 and 2019

Proponents of the agency theory argue that one way to alleviate agency costs is through increased disclosure of management activities and decisions as accounting information is seen as a conflict resolution means between management and shareholders. Increased

disclosure alleviates the information asymmetry between management and shareholders (Healy and Palepu, 2001). Similarly, the proponents of the signaling theory posit that managers rely on annual report disclosure to send a signal to shareholders about firm performance (which affects shares valuation), to reduce information asymmetry and highlights managerial skills (Connelly et al., 2011). Thus, high performing companies will be interested in disclosing more information to emphasize their performance superiority. Healy and Palepu (2001) suggest that the capital need theory could be related to the disclosure content of companies. They argue that firms in need of capital tend to disclose more information to reduce the information asymmetry and thus the financing cost. Lastly, the legitimacy theory also provide some explanation for more transparency and disclosure in annual reports. According to the legitimacy theory, firms are expected to operate within what is acceptable by society as specified by the social contract (Wilmshurst and Frost, 2000). Thus, managers have to ensure society is aware of their actions and decisions through disclosure of information in annual reports. These theories coupled with the call for more disclosure and transparency suggest that UK financial disclosures should increase in volume.

Charts 6.5 and 6.6 confirm the expectation as the page count and the wordcount have increased between 2011 and 2019. The introduction of the Business Enterprise and Regulatory Reform Act (2013) together with the Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013 as well as the revisions to the UK Corporate Governance Code seemed to have resulted in more disclosure in the annual reports.

Chart 6.5: Annual reports page count

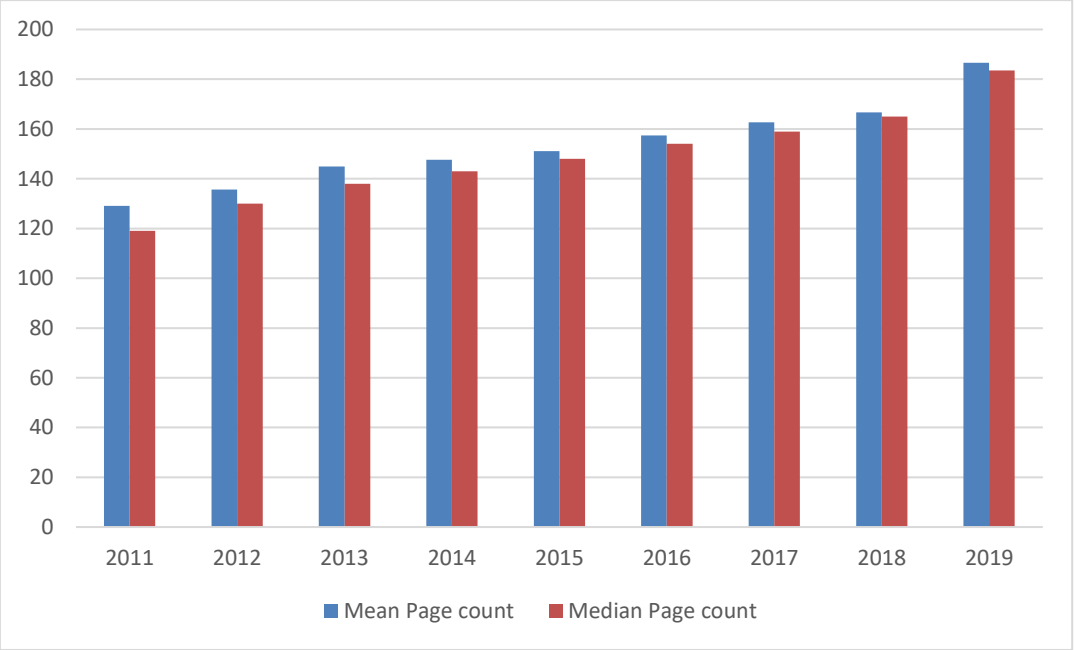
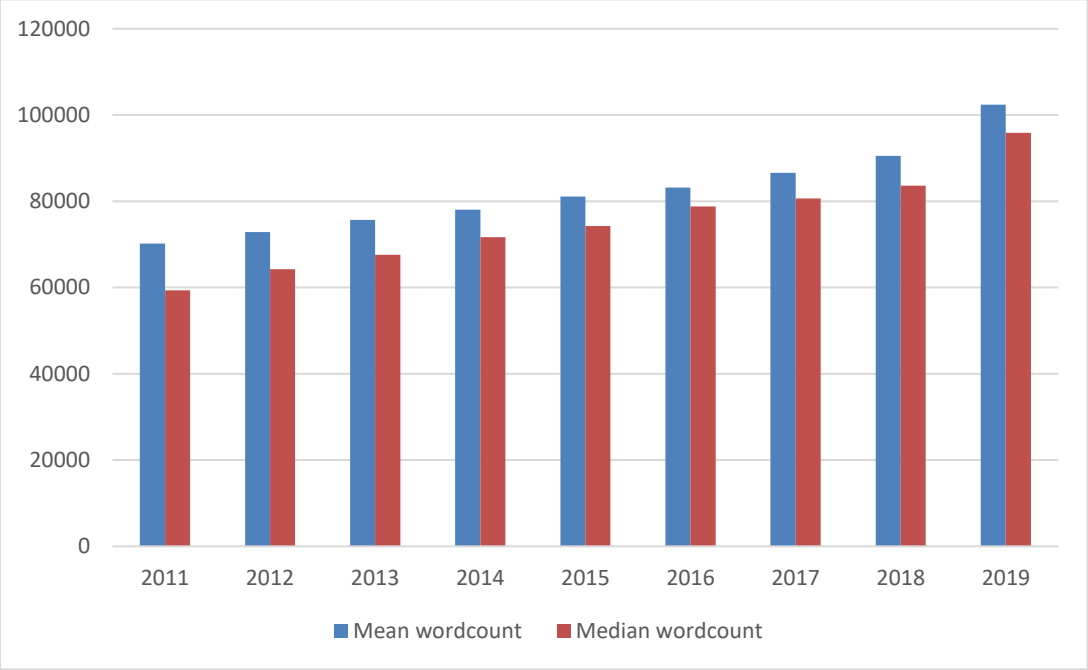


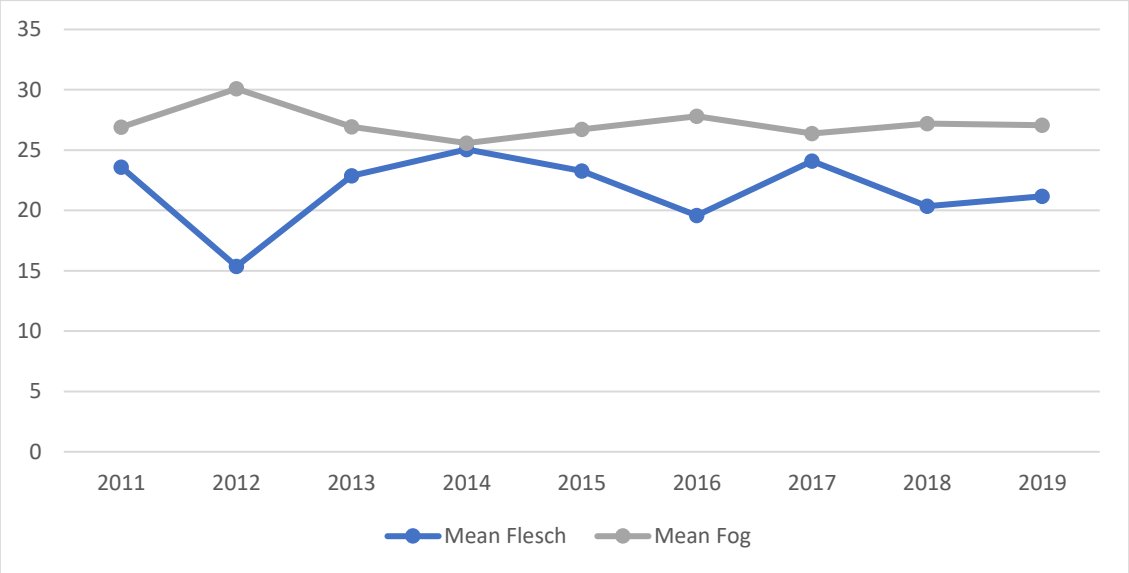
Chart 6.6: Annual reports page count



However, the highest increases were in 2019 where firms had to do more disclosure because of the COVID-19 pandemic. Mean and median wordcounts increased by 13.2% and 14.6% compared to 2018. Bloomfield (2008) argues that bad news is difficult to describe and requires more words and more complex definitions which he termed as ontology.

Clearly, over the years, more information is disclosed in the annual reports. However, the central question of knowing if the increased disclosure is profitable to the shareholders to reduce the information asymmetry remains. Chart 6.7 suggests that, despite the content increase, UK annual reports have and continue to be extremely difficult to read as the Fog score shows values well above 18. However, it is worth noting that after reaching a peak in 2012, readability increased in 2014 before decreasing in subsequent years. Again, the introduction of the Business Enterprise and Regulatory Reform Act (2013) together with the Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013 as well as the revisions to the UK Corporate Governance Code seemed to have impacted the readability of the annual report but the effect was short-lived.

Chart 6.7: Mean Annual reports readability scores



Overall, our analysis of readability suggests that FTSE 350 companies have tried to respond to the call from shareholders and regulators by disclosing more information to narrow the information asymmetry. However, it is evident that shareholders are still bombarded with lots of information that is hard to decipher. This corroborates the low voting dissent levels recorded over the years despite more power (through a binding vote) given to shareholders as shown in figure 6.4.

Figure 6.4: Shareholder dissent in the UK Top 350

Source: Minerva Analytics (2021)

6.4. Readability and executive pay

6.4.1. Data and sample

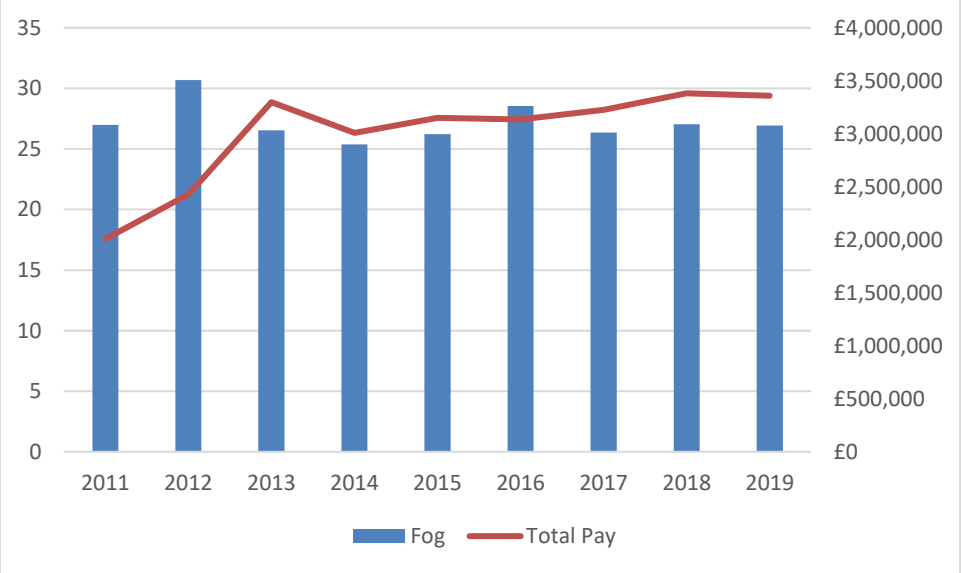
For this analysis, we combine the previous 2 samples used above. This yields a sample of 1292 firm-year observations. As the fog index is the most common readability measure in the literature, we juxtapose the fog score and the CEO pay variable to determine whether executive pay and the readability of annual reports move together.

6.4.2. Do annual report readability and executive pay move together?

Chart 6.8 shows that CEO total pay and readability seem to move together. As annual reports become more complex in 2012, CEOs experience a steep increase in their pay. As voting dissent was minimal, it seems that the opacity of the annual reports hinders shareholders assessment of CEO pay. Subsequently, when readability improved between

2013 and 2014, the chart shows a decrease in CEO total pay. This could be the result of the introduction of the Business Enterprise and Regulatory Reform Act (2013) together with the Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013 emphasizing the need for more transparency and giving more power to shareholders to control the rising pay spree. However, the effect of the reforms seemed short-lived. After 2014, annual report complexity starts to increase again just like CEO pay before decreasing in 2019 during the COVID-19 pandemic.

Chart 6.8: Evolution of readability and CEO pay



The extant literature has tried to relate the readability of the annual report and the readability of its components. In the US, Li (2008) has analyzed the readability of the annual report in comparison to the readability of the management discussion and analysis (MD&A) report and the readability of the notes to the financial statements. The findings suggest that the readability (measured by Fog score and length) of the MD&A follows that of the annual report. The existing scholarship is, however, silent on the relationship between the annual report and the remuneration report. Intuitively, I believe that an increase in the length and complexity (Fog) of the remuneration report will result in an

increase in the length and complexity (Fog) of the annual report, but the reverse is not always true. Thus, it is difficult to confidently infer that the trend observed with the annual report readability will be the same for the remuneration report.

6.5. Chapter summary

In this chapter, we investigated the evolution of two tenets of this thesis, namely executive pay (i.e., CEO pay) and the readability of annual reports. Our analysis suggests that CEOs keep receiving huge pay packages despite calls for change and public criticism. On average, CEO pay has been above the 2011 level throughout our sample period implying that the regulations introduced did not produce a complete turnaround as expected (decrease in CEO pay). On the other hand, annual reports which constitute the main communication medium between firms and shareholders continue to get longer, bulkier and difficult to read. It seems that firms are trying to provide more information to shareholders, in accordance with the regulations but the increased disclosure does not seem to have an effect as the annual reports are complex to read and understand. Regulators have attempted to control both executive pay and the transparency in firm disclosures but the current situation leaves much to be desired. In this analysis, we could not investigate fully the evolution of each element of CEO pay due to data availability. As the use of LTIPs has become common place, it would have been more informative to investigate the evolution of each element of pay vis-à-vis the readability of annual reports.

CHAPTER 7:

REMUNERATION REPORT READABILITY AND CEO PAY

7.1.Introduction

Reflecting on Enron's stunning collapse, Michigan Democrat John Dingell said: *"One way to hide a log is to put it in the woods. What we're looking at here is an example of superbly complex financial reports. They didn't have to lie. All they had to do was to obfuscate it with sheer complexity--although they probably lied too."* (Maas and Chretien, 2012).

The complexity of the narrative disclosures of the annual reports has been of interest for academics, policy makers and practitioners due to their importance in revealing and explaining the firm's financial and non-financial performance to the firm's stakeholders (Bushee et al., 2018; Lee, 2012; Miller, 2010; Rennekamp, 2012; Tan et al.,

2014). Thus, to mitigate the information asymmetry, enable informed decision-making and enhance stakeholders' opinion of the firm the readability, presentation and delivery of these narratives appear critical. Another concerning issue for shareholders has been that of the firm's executive's compensation, which brought about the introduction of the 'say on pay' laws.

In this chapter, we look at the relationship between the readability of the remuneration report and CEO compensation. This study empirically investigates whether the readability of firms' remuneration reports is associated with management incentives to manage impression using a sample of FTSE350 companies from 2011 to 2019. This paper analyses the effect of excess executives' pay on the readability of remuneration reports and found that in cases where CEOs are overpaid, a more readable remuneration report is produced. These findings align with the legitimacy theory.

The only close related studies are Laksmana et al. (2012) and Hooghiemstra et al. (2017). While the former uses a US sample between 2007 and 2008, the latter uses a UK sample between 2003 and 2009. To the best of our knowledge, no studies have investigated the relationship between the readability of the remuneration report and CEO compensation in the UK between 2011 and 2019. Thus, we contribute to the extant literature by investigating the association between excessive compensation and readability in a UK sample over a recent time period focusing on a period whereby the reporting environment is more open and transparent in terms of remuneration information.

The remainder of the paper is organized as follows. Section 7.2 present the background and empirical review. Section 7.3 presents the hypotheses set out to be tested. Sections 7.4 and 7.5 detail the research methodology and present the variables considered in this

study. In section 7.6 through to 7.8, the data are described, and the results analysed. Section 7.9 concludes this chapter.

7.2.Background and empirical review

7.2.1.Institutional background

Corporate UK has long been confronted with the issue of executive remuneration. For at least the last two decades, regulations have been introduced to curb executive compensation that sometimes rose faster than firm performance and the average worker pay (Hildyard, 2019). As a result, the practice of "reward for failure" has been pointed by investors and the public pushing regulators to take actions in the form of the Greenbury Report (Petrin, 2015). The Greenbury Report stipulated that pay packages should be enough to attract, retain and motivate executives of the required quality without being excessive. In line with the spirit of the regulation, remuneration boards were tasked to design pay packages that align the interests of directors and shareholders. Moreover, the Greenbury Report proposed the introduction of a voluntary shareholder say on remuneration policies and an advisory vote on executives' LTIPs. Many of suggested recommendations included in the Greenbury Report were added to the UKCGC, yet the then best practice approach design to control executive pay failed. The disclosures in the remuneration reports were not enough to make an informed judgement on the fairness of the rewards vis-à-vis the performance. In line with the "soft" regulations, the majority of firms failed to subject their remuneration reports to a shareholder vote which prompted governmental actions in the form of the DRR Regulations.

The DRR Regulations require firms to provide details on the directors' remuneration policy and the pay packages received in respect of the most recent period. In addition, the

then non-compulsory shareholder vote was replaced by an obligation on the board to subject executive compensation to a periodic vote. As shown in figures 6.1 and 6.2, it appears that the DRR Regulations did not have the expected effect as executive pay kept rising. The call for increased disclosure on executive compensation matters seemed to explain on the other hand the increases in CEO pay packages. Ferri and Maber (2013) report that under the DRR regime, firms reacted to high voting dissent by removing questionable pay provisions and underperforming firms adjusted CEO pay packages. Gregory-Smith et al. (2014) report a positive relationship between executive compensation and shareholder voting dissent. Thus, it appears that although the DRR regulations did not control the rising executive compensation, they have at least reduced the aberrant practices of certain firms.

In 2013, the UK introduced a new set of reforms with the aims of restoring a tighter relationship between pay and performance, avoiding rewards for failure and giving more power to shareholders. The 2013 Reforms rely on the dual voting rights, a binding vote on the remuneration policy and a non-binding vote on the implementation of the remuneration policy. Moreover, the 2013 Reforms require the inclusion of an annual statement summarizing the financial year, a single total figure of remuneration for each director and the directors' remuneration policy. The common theme in the remuneration related regulations is that the framework provides what should be disclosed without saying how it should be disclosed. Hooghiemstra et al. (2017) show that the wording of the remuneration report is the sole responsibility of the NEDs. This suggests that preparers of the remuneration report are given the discretion over the presentation, wording and readability of the report. As such, the NEDs can make an excessive and

disproportionate remuneration package hard to decipher by affecting the readability of the remuneration report.

7.2.2.Theoretical background

According to the agency view, executive pay should reconcile the interests of the executives and those of shareholders. The interests of the executives and the shareholders can converge if there is enough incentive alignment in the form of compensation policies (Shapiro, 2005). Eisenhardt (1989), Shapiro (2005) and Van Puyvelde et al. (2012) suggest that the remuneration board on behalf of shareholders can align the interests of the executives and shareholders by designing a compensation contract that is more outcome-based (e.g. bonuses, equity ownership, long term incentive plans) than behaviour-based (e.g. salary). Such contracts are effective in mitigating executive's self-interest pursuit as the preferences are aligned and the rewards for both parties are contingent on the same decisions. However, studies have shown that executives receive huge pay packages that are hard to explain looking at the related performance (van Essen et al., 2015). Hildyard (2019) shows that while the median FTSE350 CEO pay increased by 82% between 2003 and 2014, the median FTSE-350 company generated not more than 1% return on invested capital per year. This view is further explained by the presence of some executive influence on the remuneration boards. This influence, according to the managerial power theory, stems from social and psychological sources like collegiality, team spirit, conflict avoidance mentality, friendship and loyalty (Bebchuk and Fried, 2004).These confer some power to the CEOs in the design of their own remuneration. As a result, it is not unreasonable to think that due to their power, CEOs could receive excessive pay packages. In cases where CEOs are granted those unjustified pay packages

by sympathetic boards, the boards would want to make it less obvious in the remuneration report. This is because boards are supposed to act in a fiduciary relationship and would not want to be questioned or receive negative publicity that could harm their future employment (Bebchuk and Fried, 2004). Therefore, one way for the remuneration boards to satisfy a powerful CEO without alarming the public is to make use of their discretion in reporting compensation matters (Hooghiemstra et al., 2017; Laksmana et al., 2012). On the other hand, the legitimacy theory simply suggests that managers use annual report content to ensure stakeholders approval. Firms can maintain or repair their legitimacy by producing readable annual reports to mitigate the information asymmetry and narrow the legitimacy gap. Therefore, the legitimacy theory not only focus on the information revelation but also on revealing information that the stakeholders can understand before legitimizing the actions of companies. We could thus conjecture that to comply with societal expectations, firms could produce remuneration reports that are easy to read to legitimize their compensation practices.

7.2.3.Related empirical review on remuneration report readability and management obfuscation of excess pay

In this section, we discuss mainly related studies on management obfuscation and the readability of the remuneration report.

Laksmana et al. (2012) examine the relationship between the readability of the remuneration report and management obfuscation incentives. The analysis focuses on a US sample of 329 firms in 2007 and 310 firms in 2008. Using a principal component analysis (PCA hereafter) , they obtain a readability factor from the combination of the Fog Index, the Flesch Reading Ease index, the Flesch Grade Level and the Smog index.

They report that although remuneration reports are complex to read in general, they are harder to read when CEOs are paid excessively. However, they found that the introduction of the say-on-pay regulations has improved the readability of the remuneration report. In the UK, Hooghiemstra et al. (2017) investigate the relationship between the annual report readability and say-on-pay votes. Using a sample of 247 FTSE 350 and SmallCap firms between 2003 and 2009, they specifically questioned the influence of readability on shareholders' votes when CEOs receive unjustified pay packages. Using a PCA that combines the Fog index and the wordcount, they report that in cases of excessive CEO pay packages, a less readable remuneration report is associated with reduced say-on-pay voting dissent. As emphasized above, although these studies investigate the association between the readability of the remuneration report and executive pay, they both focus on the DRR Regime. The recent regulations including the 2013 Reforms and the 2014 version of the UKCGC generally focus on the remuneration disclosures and fail to indicate how the disclosure should be presented. Unlike the US, where a handbook of plain English was issued, the UK Regulations do not stipulate how the remuneration disclosure should be presented and worded. This suggests that preparers of the remuneration report are given the discretion over the presentation, wording and readability of the report. As such, the NEDs can make an excessive and disproportionate remuneration package hard to decipher by affecting the readability of the remuneration report. This focus of this chapter thus extend these previous related studies by examining the association between the readability of the remuneration report and executive pay under a different institutional context.

7.3.Hypotheses development

The relevance of this study becomes clear amid the introduction of the 2013 Reforms. It evaluates the impact of the new direction or spirit that the UK Government is willing to instil to tighten the pay-performance sensitivity, empower shareholders and facilitate the communication with shareholders through the provision of readable disclosures. Regulators have expressed their concern over the convoluted nature of the language used in firms' disclosures (Bushee et al., 2018; Loughran and McDonald, 2014). As the use of complex language increases the opaqueness of the disclosure, managers can use complex language to obfuscate the real nature of the firms' performance (Li, 2008) or hide excessively and inappropriate high remuneration packages awarded to executives and thus, shareholders may find it hard to decipher all relevant information about the remuneration reward process so as to judge the appropriateness of the compensation and ascertain the pay-performance relationship on one hand (Li, 2008). On the other hand, the use of complex language could simply translate the complexity of the information provided (Bloomfield, 2008; Bushee et al., 2018). Research has shown that shareholders are not concerned about the exorbitant compensation awarded to executives as long as the economic performance justifies such pay (Ferri and Maber, 2013; Hooghiemstra et al., 2017). Therefore, it is not unreasonable to believe that to avoid shareholders' outrage, overpaid executives, through their managerial power, may take advantage of the information asymmetries to manage outsiders' impressions and obfuscate an unjustified remuneration package. This could be done by manipulating the readability of the annual remuneration report in accordance with the incomplete revelation hypothesis. From the above discussion we derive the following hypothesis, stated in the alternative form:

H1a:The remuneration report readability is negatively associated with the excess CEO compensation

Legitimacy theory relies on the assumption that to ensure operations are successful, managers must make their organisations appear to be in conformance with community expectations (Deegan, 2019). Shareholders mostly rely on the remuneration reports for all compensation-related details when they are unsure about the acceptability of the CEO package. Because CEO pay packages tend to be complex processing the information contained in the remuneration reports may require a substantial amount of time and effort from shareholders (Buck et al., 2003). Although, heuristics could alleviate the complexity faced by shareholders it remains a cumbersome task which ultimately affects say-on-pay voting decisions. Thus, to avoid a huge voting dissent percentage, managers could legitimize their actions to influence public perception and therefore resulting in remuneration reports that are easy to read. Considering the above discussion, the following hypothesis is stated in alternative form:

H1b:The remuneration report readability is positively associated with the excess CEO compensation

7.4.Research methodology

This section presents the research tools used to examine the hypotheses. We explore the philosophical pillar, the research strategy, the data collection and sample selection as well as the analytical strategy.

7.4.1.Research philosophy and approach

This study adopts a positivism research philosophy to investigate the relationships set out in the hypotheses. Positivism is anchored in the belief that the truth can only be obtained through observation, and measurement (Business Research Methodology, 2021). Studies that adopt a positivist stance limit the involvement of the researcher to data collection and interpretation in an objective manner. Positivism implies the use of a deductive approach to test the hypotheses and draw conclusions. Figure 7.1 summarises the ontology, epistemology, axiology and typical research methods associated with the positivism research philosophy. According to Bell et al. (2022) the positivist approach relies on the following five principles:

1. Only phenomena and hence knowledge confirmed by the senses can genuinely be warranted as knowledge
2. The purpose of theory is to generate hypotheses that can be tested and that will thereby allow explanations of laws to be assessed
3. Knowledge is arrived at through the gathering of facts that provide the basis for laws
4. Science must be conducted in a way that is value free
5. There is a clear distinction between scientific statements and normative statements and a belief that the former are the true domain of the scientist.

Figure 7.1: Ontology, epistemology, axiology and typical research methods associated with positivism research philosophy

Ontology	Epistemology	Axiology	Typical methods
Real, external, independent	Scientific method Observable and measurable facts	Value-free research	Typically deductive, highly structured, large samples, measurement, typically quantitative method of analysis, but a range of data can be analysed
One true reality (universalism)	Law-like generalizations Numbers	Researcher is detached, neutral and independent of what is researched	
Granular (things)			
Ordered	Causal explanation and prediction as contribution	Researcher maintains objective stance	

Source: Business Research Methodology (2021)

This study could have also been conducted using the interpretivism research philosophy. This epistemology requires a research strategy that accounts for the differences between people and their intuitions unlike the natural sciences procedures. Thus, using this research philosophy, compensation data would have been collected from questionnaires addressed to executives and the remuneration boards and readability scores would have been obtained from the preparers of the remuneration reports and also the intended audience (i.e., shareholders). Collecting the data from the subjects brings the subjective and personal perspective of the subjects which could enhance the insight of the study. However, such data could be biased. For example, while remuneration boards could deem a remuneration report readable and easy to understand, shareholders could believe that the report is complex. Moreover, this approach would be time consuming. Thus, in light

of the pros and cons of both research philosophies, we deem the positivist research appropriate for the purpose of this study.

7.4.2.Research strategy

The research strategy defines the direction and scope of the study. It involves determining certain aspects of the study such as the research design and the types of data. In line with the research philosophy selected, this study would rely on a quantitative approach. The research design provides the framework for the collection of evidence needed to address a research question (Bell et al., 2022). Bell et al. (2022) identify five research designs which are the experimental design, the cross-sectional design, the longitudinal design and the case study design. Although this design is rarely used in business and management studies, the experimental design provides a benchmark evaluation for quantitative studies as it mitigates the internal validity issues associated with other research designs and facilitates the determination of causality. The cross-sectional design involves the collection of data on companies at a single point in time to detect patterns of association. This design ensures replicability and external validity (when random sampling is used) but suffers from internal validity issues (Bell et al., 2022). The case study design involves the study of a single case and suffers from generalisability issues. The longitudinal research design involves a vertical and horizontal analysis of associations through time. As this study focuses on firms over time, the longitudinal research design seems appropriate. Internal validity is strong in a longitudinal research design as changes in variables over time are observed and the results may be generalized (Bell et al., 2022). This research design also offers a strong reliability as the research is replicable. Data used

to conduct this study are taken from data providers like Bloomberg that are widely available, thus, ensuring replicability.

For this study, secondary data (compensation and firms data) will be obtained from the Bloomberg database. The use of secondary data is cost-effective and less time-consuming compared to the use of primary data. Moreover, the majority of the extant literature on executive remuneration uses secondary data. As the UK regulations aim to increase disclosure, the data needed in this research (i.e., compensation) are more accessible. The data on readability is primary data as the data is obtained from the processing of the remuneration reports using the CFIE-FRSE app.

7.4.3.Data collection and Sample selection

Our sample period covers nine years from 2011 to 2019 for two main reasons. First of all, previous studies such as Laksmana et al. (2012) and Hooghiemstra et al. (2017) have already focused on the period before 2011. Secondly, talks and consultations about the introduction or revisions of remuneration reporting regulations, which led to the introduction of a set of regulations including the 2013 Reforms, have started in 2011 (Department for Business Innovation & Skills, 2011). Thus, it plausible to believe that some firms would have started to take actions regarding remuneration reporting. 2019 is the end of the sample period as it marks the beginning of the research project.

Our initial sample comprises the FTSE 350 companies listed as of March 2021. The FTSE 350 Index which lists companies based on their market capitalisation represents an appropriate source of data due to its size (in line with the longitudinal research design chosen) and the fact that it is a requirement for companies listed on the index to provide

a remuneration report and executive pay details. In line with prior research, firms in the financial and utility sectors are excluded due to their differences in financial structures and corporate governance rules. Yermack (1996) argues that regulations in these industries constrain the roles of the board of directors compared to their counterparts in other sectors. Moreover, companies with less than a three-year successive presence on the index are excluded. This is in response to issues about the survivorship bias. This bias refers to the possibility that results obtained would be distorted by companies entering and exiting the panel over time (Yermack, 1996). Thus, we believe that a minimum of three years presence consecutively is appropriate. Some previous studies have used a four-year presence like Yermack (1996) while some have used a two-year presence like Laksmana et al. (2012). Our final sample consists therefore of 198 firms and 941 firm year observations as shown in table 7.1 and 7.2.

Table 7.1: Sample selection criteria

Description	Number of firms
Initial sample (FTSE 350 as of end of March 2021)	350
Less:	
Financial and utility firms	112
Less than three years presence on FTSE 350	14
Missing compensation and financial data	16
Missing readability data	10
Final number of Firms	**198**

Table 7.2 shows the industry distribution of sample firms based on the Bloomberg Industry Classification Benchmark. Industrial and consumer services companies account for nearly 60% of the sample size. The least represented sectors are the technology and oil & gas sectors with 5.05% and 6.06% respectively. Compensation and financial data

were obtained from commercial databases like Bloomberg. The CFIE application was used to process the annual reports, extract the remuneration reports and calculate the various readability metrics that are going to be discussed below.

Table 7.2:Industry distribution by number of firms

Industry Sector	Number of firms	Firm-year observations	Weight %
Basic Materials	15	69	7.58%
Consumer goods	28	150	14.14%
Consumer services	57	276	28.79%
Health care	16	81	8.08%
Industrials	60	291	30.30%
Oil & Gas	12	53	6.06%
Technology	10	21	5.05%
Total	**198**	**941**	**100.00%**

7.4.4.Analytical strategy

This section specifies the analytical strategy carried out in this study. Researchers often choose between parametric and non-parametric methods depending on the characteristics of the data at hand. In line with the research design a panel data approach will be used. Panel data consist of cross-sectional and time series data. Wooldridge (2010) contends that panel data can alleviate the unobserved heterogeneity concerns. Hiestand (2011) reports that panel data are more informative, provides more variability, less collinearity and more degrees of freedom. Panel data could be classified as balanced or unbalanced. Balanced panel data exist when each company has the same number of observations during the sample period unlike unbalanced panel data. Since our sample consists of firms that entered or exited the FTSE 350 Index over the sample period, all companies do not have the same number of observations. Thus, this study uses unbalanced panel data. Three models could be used in this study namely the pooled ordinary least square (OLS), the

fixed and the random effects models. Pooled OLS, which is the simplest regression model for panel data, gives constant coefficients (intercepts and slopes). One of the assumptions required in order that OLS is optimal is that the error term is independently and identically distributed which may be inappropriate. A fixed effect model is an estimation technique that controls for time-invariant unobserved individual characteristics that can be correlated with the observed independent variables. The model consists in subtracting the time mean from each variable in the model and then estimating the resulting transformed model by OLS. This procedure, known as "within" transformation, allows the researcher to drop the unobserved variables and consistently estimate β. The random effects regression allows for between and within cross-sectional variation. It assumes that there is no correlation between the exogenous variables and the error term. Wooldridge (2010) argues that pooled OLS is employed when you select a different sample for each period of the panel data. Thus, pooled OLS appears inadequate for the purpose of this research. To select between the fixed effect and the random effect model, the Hausman test is used. It selects between the fixed effects and the random effects models by testing the correlation between the exogenous variables and the error term. Ajina et al. (2016) contend that the Hausman test compares the variance—covariance matrix of the fixed effects estimator and the random effects estimator. When there is no correlation between the exogenous variables and the error term, the random effects model is chosen and otherwise, the fixed effects model is used.

7.5.Variable measurement and empirical model

This section discusses the choice of variables (dependent, independent and control) used in this study to test the hypotheses set.

7.5.1.Measurement of readability variable

The dependent variable for this study would be the readability score of the remuneration report obtained from the CFIE-FRSE application. From the application, readability metrics such as the report length (LENGTH2), the wordcount (LENGTH1), the Flesh Reading Ease score (FRES) and the Fog score (FOG) of the remuneration report are obtained. The Fog Index is the most commonly applied readability measure in the literature.

The index measures readability by combining the average length of the sentences with the number of complex or big words. Thus, the Fog Index is mathematically obtained as follows:

Fog Index (FOG)= 0.4 (average number of words per sentence + percentage of complex words)

The Fog Index computation returns a grade level estimating the number of formal education years required to understand the text instantly. Hence, lower (higher) values of the Fog Index translate into more (less) readable documents. Li (2008) and Ajina, et al. (2016) provide some interpretation ranges as follows : unreadable if Fog Index >18, difficult if 18>Fog Index>14, ideal if 14>Fog Index>12, acceptable if 12>Fog Index>10 and childish if 10>Fog Index>8.

Just like the Fog Index of readability, the Flesch Reading Ease consists of the average sentence length and the percentage of polysyllabic words (three or more syllables). The mathematical representation is as follows:

Flesch Reading Ease score (FRES)= 206.835 – (1.015*words per sentence) – (84.6*syllables per word)

The score obtained is related to reading ease approximately as follows: 90–100 (5th grade); 80–90 (6th grade); 70–80 (7th grade); 60–70 (8th and 9th grade); 50–60 (10th–12th grade); 30–50 (college years); and 0–30 (college graduate) (Laksmana, et al., 2012). Unlike the Fog Index of readability and the majority of readability indices, the higher the reading score, the easier a piece of text is to read.

7.5.2.Measurement of excess pay variable

Our variable of interest in this study is excess CEO pay. As this study investigates the impact of excess CEO pay on the readability of the remuneration report, we first regress CEO pay (scaled by 1,000,000) on its economic determinants to disentangle the justified portion of CEO pay and the unexplained portion of CEO pay. The economic determinants of pay considered include firm specific characteristics, board structure and governance variables (all discussed below). The residuals from the regression which is the difference between the expected compensation and the actual compensation, will constitute excess pay. The excess pay is then separated into two variables, when the excess pay is positive (OVERPAID) and when excess pay is negative or nil (UNDERPAID).

7.5.2.1.Firm-specific variables

In line with prior studies, we expect a positive relationship between firm size and complexity, growth opportunities, firm performance and CEO pay (Core et al., 1999; Laksmana et al., 2012). We proxy for firm size and complexity with the natural logarithm of sales at the end of each fiscal year (FSIZE2). Growth opportunities are measured by the market-to-book ratio (MTB) computed as the market value of the firm divided by its

book value measured at the end of fiscal year. Firm performance is measured using the return on assets at the end of the fiscal year (ROA). Larger firms tend to have more complex operations requiring the expertise of talented and qualified executives who demand huge pay packages. In the same vein, firms with high growth potential tend to be more complex resulting in executives demanding huge pay packages. In accordance with the agency theory, firm performance should be positively related with CEO pay.

7.5.2.2.Board structure and governance variables

Yermack (1996) argues that the agency problem is exacerbated when the CEO is also the chairman. Thus, we control for CEO duality (DUAL) using a dummy variable that equals 1 if CEO is chairman and 0 otherwise. When the CEO holds the chairman position, he may influence the remuneration committee into awarding him some unjustified pay packages. On one hand, Yermack (1996) and Core et al. (1999) show that larger boards are less effective. This results from the lack of communication and coordination which negatively affects the decision-making process of the board. On the other hand, it is reasonable to believe that smaller are more prone to CEO influence as there are only a few people to control. Thus, we include board size (BSIZE) defined as the natural logarithm of 1 + the total number of directors on the board. We also include a board independence variable (BIND) defined as the proportion of outside directors as the managerial power theory suggests that non-independent directors should be more loyal to the CEO. It is important that the board be free of any CEO influence so they can appropriately design the pay packages in the best interest of shareholders.

7.5.3.Measurement of control variables

In addition to the explanatory variable, a number of control variables are added to control for the governance and non-governance features that may influence the readability of the remuneration report.

7.5.3.1.Governance variables

We consider board size following Nadeem (2021). We measure board size as the natural logarithm of 1 + the number of members measured at the end of each fiscal year. The evidence on the board size remains equivocal. We include an auditor attributes dummy variable (BIG4) which equals 1 if the auditor is a Big 4 accounting firm and 0 otherwise. Balsam et al. (2003) and Nadeem (2021) show that big 4 auditors are associated with higher financial reporting quality. We also include CEO duality and board independence as explained in section 7.5.2.2.

7.5.3.2.Non-governance variables

We capture firm size (FSIZE1) as a control variable as larger and complex firms generally have longer reports (Li, 2008). Firm size is measured as the natural logarithm of total assets at the end of each fiscal year. Firm complexity (COMPLEX) is measured as the sum of receivables and inventory scaled by total assets and we also include capital intensity (CAPINT) measured as the net property, plant, and equipment scaled by total assets and R&D intensity (RDINT) measured as total R&D scaled by total assets following Nadeem (2021). Complex firms tend to have more to say resulting in more complex reports. We also add the market-to-book ratio (MTB), the return on assets (ROA)

and the current ratio (CR) defined as the ratio of current assets to current liabilities to represent growth opportunities and firm performance as specified above. Laksmana et al. (2012) argue that there is a negative association between firm age and the information asymmetry. Older firms tend to be more known, resulting in less information asymmetry and a higher probability of a readable remuneration report being presented. Thus, we include firm age (FIRMAGE) as a control variable defined as the natural logarithm of 1 + the difference between the fiscal year and the foundation year. We control for leverage (LEV) as research suggests that highly levered firms produce complex reports. Boards can use their discretion to produce complex reports and avoid violating their debt covenants. Leverage is measured as total liabilities divided by total assets.

7.5.4.Empirical model

Following the discussion above, this study uses two models to test the hypotheses specified in section 7.3. Firstly, excess pay is determined by regressing CEO pay on its economic determinants as follows:

$$\mathbf{CEOPAY_{it} = c + \beta_1 FSIZE2_{it} + \beta_2 MTB_{it} + \beta_3 ROA_{it} + \beta_4 BSIZE_{it} + \beta_5 BIND_{it} + \beta_6 DUAL_{it} + \varepsilon_{it}} \quad \textbf{(Eq 7.1)}$$

The residuals from Eq 7.1 are predicted and constitute excess pay. Excess pay is then separated into OVERPAID and UNDERPAID. A CEO is overpaid if the excess pay (residuals) is positive and underpaid if the excess pay is 0 or negative. These two variables are then used to test the hypotheses using the following model:

$$\mathbf{READ_{it} = c + \beta_1 OVERPAID_{it} + \beta_2 UNDERPAID_{it} + \sum \beta_k CONTROLS_{kit} + \varepsilon_{it}} \quad \textbf{(Eq 7.2)}$$

Where READ will be the readability measures defined in section 7.5.1. CONTROLS is a vector of control variables mentioned in section 7.5.3. All variables are described in Appendix 2. By including both OVERPAID and UNDERPAID variables in the regression models the study examines the impacts of firms with CEO pay above or below the expected pay on the readability of the remuneration report.

7.6.Descriptive statistics

We present in this section the descriptive statistics of the variables used in this study.

7.6.1.Initial descriptive statistics

Blaine (2018) argues that in social science studies nonnormally distributed data are the rule rather than the exception and suggests winsorizing the data. Winsorizing is a technique that alleviates the influence of outliers on the mean and variance and thus increases the reliability of the estimators. Following previous studies, we winsorize all continuous variables at the top and bottom 1%. This translates into keeping 98% of the data unchanged. Table 7.3 shows the descriptive statistics for the variables used in this chapter.

Table 7.3: Initial Descriptive Statistics

Variables (N=941)	Mean	St.Dev.	Min	Q1	Median	Q3	Max
FRES	42.666	4.502	34.962	39.485	42.913	46.297	49.448
FOG	21.214	1.207	19.568	20.209	21.031	22.152	23.326
LENGTH1	9.170	0.342	8.557	8.938	9.213	9.458	9.621
LENGTH2	2.750	0.355	2.079	2.485	2.833	3.045	3.219
CEOPAY	2.270	1.510	0.720	1.020	1.700	3.200	5.320
FSIZE1	7.702	1.237	5.982	6.671	7.568	8.578	9.887
FSIZE2	7.477	1.203	5.749	6.525	7.321	8.421	9.493
MTB	3.248	2.125	0.841	1.496	2.702	4.452	7.573
ROA	6.444	5.083	-1.357	2.722	5.782	10.119	15.151
BSIZE	2.281	0.162	2.079	2.079	2.303	2.398	2.565
BIND	63.392	11.112	44.444	55.556	63.636	72.727	78.571
COMPLEX	0.363	0.171	0.121	0.218	0.349	0.480	0.663
RDINT	0.011	0.020	0.000	0.000	0.000	0.010	0.062
CAPINT	1.413	0.729	0.536	0.816	1.226	1.874	2.789
CR	1.371	0.605	0.621	0.859	1.267	1.760	2.494
LEV	22.254	14.325	0.544	10.611	22.353	32.202	45.582
FIRMAGE	3.983	0.784	2.833	3.258	3.970	4.710	5.100
BIG4	0.991	0.092	0.000	1.000	1.000	1.000	1.000
DUAL	0.014	0.117	0.000	0.000	0.000	0.000	1.000

All variables are defined in Appendix 2

The Fog score (FOG) for the average firm in our sample is higher than 18 indicating that an average remuneration report is unreadable. Similarly, the mean Flesch score (FRES) of 42.666 suggests that the remuneration reports are on average difficult to read and mostly understood by at least college graduates. These results are in line with Hooghiemstra et al. (2017) who report a Fog average higher than 17. The median ROA suggests that more than half of the sample firms are profitable which is in line with Hooghiemstra et al. (2017). On average, firms report that 63.392% of their board members (BIND) are deemed independent which could alleviate CEO power. In the same vein, only 1.4% of the sample firms have a CEO who is also the chair (DUAL). We also report that almost all firms in our sample are audited by Big4 accounting firms.

7.6.2.CEO pay variables

Our main explanatory variable is the excess pay. Using the ordinary least squares method, we estimate the residuals by industry for each sample year from a model in which we regress actual CEO pay on its economic determinants mentioned in section 7.5.2 as shown in table 7.4. The residuals are then separated in OVERPAID and UNDERPAID. A CEO is overpaid (underpaid) if the actual pay is above (below or equal to) the expected pay based on the economic determinants.

In line with our predictions, Table 7.4 suggests that CEOs of bigger firms (FSIZE2), firms with higher growth potential (MTB), high performing firms (ROA) receive higher compensation packages. However, the results also show that board size (BSIZE) is positively and significantly associated with CEO pay indicating that larger boards seem to be ineffective in constraining CEO pay. Table 7.6 reports the descriptive statistics of the OVERPAID and UNDERPAID variables.

Table 7.4: Regression results-CEO pay on economic determinants

VARIABLES	(1) CEOPAY
FSIZE2	0.568***
	(0.042)
MTB	0.093***
	(0.022)
ROA	0.062***
	(0.009)
BSIZE	1.331***
	(0.293)
BIND	0.005
	(0.004)
DUAL	0.069
	(0.333)
Constant	-6.667***
	(0.615)
Industry effects	YES
Year effects	YES
Observations	941
R-squared	0.408

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

7.7.Data diagnostics and model selection

This section outlines the various diagnostics carried out on the data to ensure the reliability of the results. We examine whether normality, heteroskedasticity and multicollinearity pose a threat to the reliability of our results.

7.7.1.Normality

There are several ways to check the data normality including some graphical representations (histograms, scatterplot or Q-Q plots) or some numerical representations (Shapiro-Wilk, Skewness or Kurtosis). We test the normality of our data (excluding indicator variables) using the Shapiro-Wilk test. The Shapiro-Wilk test compares the

sample scores to a normally distributed set of scores with identical mean and standard deviation. The null hypothesis for this test is that the variables are normally distributed. Thus, p-values above (below) 0.05 accept (reject) the null hypothesis and indicate a normal (nonnormal) distribution.

Table 7.5: Shapiro-Wilk test

Variables	Obs	W	V	z	Prob>z
FRES	941	0.987	7.711	5.046	0.000
FOG	941	0.971	17.273	7.038	0.000
LENGTH1	941	0.965	20.938	7.513	0.000
LENGTH2	941	0.968	19.279	7.310	0.000
FSIZE1	941	0.978	12.922	6.321	0.000
FSIZE2	941	0.976	14.557	6.616	0.000
MTB	941	0.920	47.864	9.556	0.000
ROA	941	0.986	8.249	5.212	0.000
BSIZE	941	0.995	3.111	2.803	0.003
BIND	941	0.973	15.859	6.827	0.000
COMPLEX	941	0.979	12.619	6.263	0.000
RDINT	941	0.764	140.654	12.219	0.000
CAPINT	941	0.936	38.154	8.996	0.000
CR	941	0.950	29.969	8.399	0.000
LEV	941	0.985	9.200	5.482	0.000
FIRMAGE	941	0.962	22.444	7.685	0.000
CEOPAY	941	0.887	67.187	10.394	0.000

Table 7.6: OVERPAID and UNDERPAID descriptive statistics

Variables	N	Mean	Median	Min	Max	Std. Dev.	Q1	Q3
OVERPAID	383	1.100	0.822	0.001	4.727	0.947	0.309	1.732
UNDERPAID	558	-0.755	-0.701	-2.884	-0.003	0.5113	-1.072	-0.367

All variables are defined in Appendix 2

Table 7.5 shows that the data are not normally distributed. Blaine (2018) argues that data used in social sciences are mostly nonnormally distributed and recommend winsorizing the data as done in section 7.6.1. However, the Shapiro-Wilk test suggests that the data are still nonnormally distributed. There are a number of ways to correct the normality issue including trimming (removing outliers) or transforming the data using the logarithm transformation. We believe that removing the outliers is a bad idea as they do not stem from a measurement error and are observations from the population this study investigates. The logarithm transformation did not improve the results.

7.7.2.Selection of panel data model

This study uses a panel dataset to investigate the hypotheses specified in section 7.3. Thus, there are two models available including the fixed effects model and the random effects model (discussed in section 7.4.4). The Hausmann test is used following previous studies (Ajina et al., 2016) to choose between the fixed effects and random effects models. Tables 7.7 and 7.8 present the results from both models and table 7.9 reports the results from the Hausman test.

Table 7.7: Fixed effects regression results

VARIABLES	(1) FOG	(2) FRES	(3) LENGTH1	(4) LENGTH2
OVERPAID	-0.052	0.028	-0.011	-0.065
	(0.049)	(0.018)	(0.015)	(0.016)
UNDERPAID	0.041	-0.044	-0.013	-0.015
	(0.077)	(0.029)	(0.024)	(0.026)
FSIZE1	-0.140	0.321	0.226***	0.235***
	(0.133)	(0.499)	(0.041)	(0.044)
MTB	-0.053**	0.128	0.018**	0.020**
	(0.026)	(0.098)	(0.008)	(0.009)
ROA	0.010	0.021	-0.010***	-0.008**
	(0.011)	(0.039)	(0.003)	(0.004)
BSIZE	0.418	-1.474	0.0551	0.131
	(0.368)	(1.383)	(0.114)	(0.122)
BIND	0.010**	-0.083***	0.007***	0.007***
	(0.005)	(0.018)	(0.001)	(0.002)
COMPLEX	0.047	-3.109	-0.277	-0.209
	(0.622)	(2.338)	(0.193)	(0.207)
RDINT	-0.453	63.180**	-2.265	-3.900
	(7.549)	(28.380)	(2.341)	(2.509)
CAPINT	0.227	-1.478***	-0.037	0.010
	(0.141)	(0.530)	(0.044)	(0.047)
CR	-0.051	0.352	0.114***	0.090**
	(0.125)	(0.471)	(0.039)	(0.042)
LEV	0.006	-0.008	0.006	0.001
	(0.005)	(0.019)	(0.002)	(0.001)
FIRMAGE	0.887***	-3.060***	0.176**	0.131
	(0.264)	(0.993)	(0.082)	(0.088)
BIG4	-0.502	2.139	0.265**	0.147
	(0.374)	(1.408)	(0.116)	(0.124)
DUAL	-0.203	0.539	-0.003	0.008
	(0.361)	(1.359)	(0.112)	(0.120)
Constant	17.390***	60.210***	5.910***	-0.532
	(1.589)	(5.972)	(0.493)	(0.528)
Observations	941	941	941	941
R-squared	0.037	0.077	0.147	0.135

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
All variables are defined in Appendix 2

Table 7.8: Random effects regression results

VARIABLES	(1) FOG	(2) FRES	(3) LENGTH1	(4) LENGTH2
OVERPAID	-0.045	0.034*	-0.037	-0.027
	(0.046)	(0.018)	(0.014)	(0.015)
UNDERPAID	-0.061	-0.025	-0.022	-0.023
	(0.072)	(0.027)	(0.022)	(0.023)
FSIZE1	0.002	-0.0612	0.0867***	0.044**
	(0.066)	(0.240)	(0.017)	(0.018)
MTB	-0.043*	0.109	0.018***	0.019**
	(0.023)	(0.087)	(0.007)	(0.007)
ROA	0.004	0.035	-0.007***	-0.008***
	(0.009)	(0.035)	(0.003)	(0.003)
BSIZE	0.409	-1.463	0.172*	0.326***
	(0.322)	(1.203)	(0.093)	(0.099)
BIND	0.007*	-0.062***	0.006***	0.006***
	(0.004)	(0.015)	(0.001)	(0.001)
COMPLEX	0.633	-3.194**	-0.093	0.046
	(0.429)	(1.584)	(0.115)	(0.121)
RDINT	-0.340	7.648	0.757	0.488
	(3.184)	(11.600)	(0.782)	(0.817)
CAPINT	0.241**	-1.384***	-0.019	0.029
	(0.097)	(0.358)	(0.026)	(0.028)
CR	0.041	-0.060	0.064**	0.037
	(0.099)	(0.371)	(0.028)	(0.029)
LEV	0.003	-0.004	-0.001	-0.001
	(0.004)	(0.015)	(0.001)	(0.001)
FIRMAGE	-0.011	-0.121	0.027	0.031
	(0.086)	(0.313)	(0.021)	(0.022)
BIG4	-0.471	1.389	0.273**	0.171
	(0.358)	(1.343)	(0.108)	(0.116)
DUAL	-0.180	0.521	-0.088	-0.099
	(0.311)	(1.159)	(0.089)	(0.096)
Constant	19.82***	51.710***	7.287***	0.852***
	(0.904)	(3.346)	(0.249)	(0.263)
Observations	941	941	941	941
R-squared	0.046	0.065	0.169	0.131

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
All variables are defined in Appendix 2

Table 7.9: Results of the Hausman test

Model	Dependent variable	Chi^2	$p>chi^2$
M1	FOG	20.820	0.077
M2	FRES	25.320	0.021
M3	LENGTH1	52.100	0.000
M4	LENGTH2	68.080	0.000

All variables are defined in Appendix 2

The Hausman test ascertains whether the unique errors are correlated with the regressors. The null hypothesis is that the random effects model is more appropriate. The results from the Hausman test suggest that apart from the regression model with FOG as the dependent variable, the fixed effects models is preferable to the random effects models.

7.7.3.Heteroskedasticity

Heteroskedasticity happens when the standard errors of a variable are non-constant. To ensure the reliability of the results, the residuals must have a constant variance. Stata proposes a graphical way (a visual inspection of residuals against fitted values) and a numerical way (Breusch-pagan/Cook-Weisberg test) to evaluate the presence of heteroskedasticity. This study uses the Breusch-pagan/Cook-Weisberg test to test the heteroskedasticity hypothesis. The null hypothesis is that the variance of the residuals is constant. Table 7.10 reports the results from the Breusch-Pagan / Cook-Weisberg test for heteroskedasticity and shows that there is no issues with heteroskedasticity as all p-values are above 0.05.

Table 7.10: Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Model	Dependent variable	Chi2	p>chi2
M1	FOG	2.81	0.094
M2	FRES	0.500	0.477
M3	LENGTH1	0.81	0.369
M4	LENGTH2	0.02	0.888

All variables are defined in Appendix 2

7.7.4.Multicollinearity

Multicollinearity exists when two or more predictor variables are highly correlated . It is essential that the multicollinearity of variables is non- existent or at a very low level as the presence of multicollinearity undermines the statistical significance the explanatory variable as the standard errors of the regression coefficients are large. Allen (1997) reports that low levels of collinearity do not invalidate the regression results. This study assesses the multicollinearity hypothesis using the variance -inflation factors (VIF) tests. The VIF tests predict strong linear relationships between predictors like a correlation matrix. As a rule of thumb, a VIF value between 1 and 5 suggests the presence of moderately correlated predictors without endangering the reliability of the results . A VIF value above 5 indicates a very high correlation which means that the coefficient estimates are unreliable. As shown in Table 7.11, multicollinearity does not seem to be an issue as the average VIF is well below 5. As the 4 models tested used the same independent variables, it is understandable to obtain the same VIF values.

Table 7.11: Variance-Inflation Factors (VIF) test for multicollinearity

Model	Dependent variable	Mean VIF
M1	FOG	2.19
M2	FRES	2.19
M3	LENGTH1	2.19
M4	LENGTH2	2.19

All variables are defined in Appendix 2

7.8.Analysis and discussion

This section presents the interpretation of the inferential statistics and discusses the findings.

7.8.1.Initial analysis

By including both OVERPAID and UNDERPAID variables in the regression models the study examines the impacts of firms with CEO pay above or below the expected pay on the readability of the remuneration report.

Table 7.12 presents the appropriate models to be used based on the Hausman test .Against our predictions, the coefficients of OVERPAID are all non-significant. Furthermore, the coefficients of FOG, LENGTH1 and LENGTH2 are negative while the coefficient of FRES is positive. These suggest that firms that overpay their CEOs tend to produce remuneration reports that are easy to read and brief. These results contradict those of Hooghiemstra et al. (2017) and Laksmana et al. (2012) who report a positive association between CEO overpayment and the readability of the remuneration report in line with the obfuscation theory. Our results align with the legitimacy theory. Bigger firms (FSIZE1) and firms with bigger growth potential (MTB) produce longer and less readable

remuneration reports. This suggests that the increasing number of details presented in the remuneration report could confuse the readers.

Table 7.12: Regression results based on Hausman test

VARIABLES	(1) FOG	(2) FRES	(3) LENGTH1	(4) LENGTH2
OVERPAID	-0.045	0.027	-0.011	-0.064
	(0.047)	(0.018)	(0.015)	(0.016)
UNDERPAID	-0.061	-0.044	-0.013	-0.015
	(0.072)	(0.029)	(0.024)	(0.025)
FSIZE1	0.002	0.321	0.226***	0.235***
	(0.066)	(0.499)	(0.041)	(0.044)
MTB	-0.044*	0.128	0.018**	0.020**
	(0.023)	(0.098)	(0.008)	(0.008)
ROA	0.004	0.021	-0.009***	-0.008**
	(0.009)	(0.039)	(0.003)	(0.003)
BSIZE	0.409	-1.474	0.055	0.131
	(0.322)	(1.383)	(0.114)	(0.122)
BIND	0.007*	-0.083***	0.007***	0.006***
	(0.004)	(0.018)	(0.001)	(0.001)
COMPLEX	0.633	-3.109	-0.277	-0.209
	(0.429)	(2.338)	(0.193)	(0.207)
RDINT	-0.340	63.180**	-2.265	-3.900
	(3.184)	(28.380)	(2.341)	(2.509)
CAPINT	0.241**	-1.478***	-0.037	0.009
	(0.097)	(0.530)	(0.043)	(0.046)
CR	0.041	0.352	0.114***	0.090**
	(0.099)	(0.471)	(0.038)	(0.041)
LEV	0.003	-0.008	0.001	0.001
	(0.004)	(0.018)	(0.002)	(0.001)
FIRMAGE	-0.011	-3.060***	0.176**	0.131
	(0.086)	(0.993)	(0.082)	(0.087)
BIG4	-0.471	2.139	0.265**	0.147
	(0.358)	(1.408)	(0.116)	(0.124)
DUAL	-0.180	0.539	-0.002	0.007
	(0.311)	(1.359)	(0.112)	(0.120)
Constant	19.820***	60.21***	5.910***	-0.532
	(0.904)	(5.972)	(0.493)	(0.528)
Observations	941	941	941	941
R-squared	0.046	0.077	0.147	0.135

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
All variables are defined in Appendix 2

The coefficients of BIND are all significant and positive for FOG, LENGTH1 and LENGTH2 and negative for FRES. These suggest that firms with more independent directors complex and lengthier remuneration reports.

7.8.2.Additional analysis

Since the main interest is on firms that overpay their CEOs, we rerun the regressions using only the OVERPAID sample. Table 7.13 presents the fixed effects (Panel A) and the random effects (Panel B) regression results.

Table 7.13: Fixed and random effects regression using OVERPAID sample

(Panel A:Fixed effects)	(1)	(2)	(3)	(4)
VARIABLES	FOG	FRES	LENGTH1	LENGTH2
OVERPAID	-0.015**	0.067**	-0.028	-0.022
	(0.071)	(0.026)	(0.019)	(0.021)
FSIZE1	0.250	-0.569	0.164**	0.290***
	(0.281)	(1.019)	(0.078)	(0.082)
MTB	-0.051	0.185	0.001	0.018
	(0.053)	(0.194)	(0.014)	(0.015)
ROA	0.003	-0.009	-0.013**	-0.016***
	(0.019)	(0.069)	(0.005)	(0.005)
BSIZE	0.303	-1.946	0.083	-0.004
	(0.710)	(2.574)	(0.197)	(0.207)
BIND	0.007	-0.048	-0.001	-0.002
	(0.010)	(0.036)	(0.002)	(0.002)
COMPLEX	0.672	-3.565	-0.236	-0.394
	(1.314)	(4.760)	(0.364)	(0.383)
RDINT	11.050	-15.70	6.360	0.364
	(20.250)	(73.38)	(5.618)	(5.902)
CAPINT	0.118	-0.736	-0.105	-0.087
	(0.241)	(0.872)	(0.066)	(0.070)
CR	-0.065	-0.237	0.130*	0.133*
	(0.238)	(0.862)	(0.066)	(0.069)
LEV	-0.012	0.00333	-0.002	-0.002
	(0.009)	(0.0343)	(0.002)	(0.002)
FIRMAGE	1.879	-11.49**	1.399***	1.293***
	(1.273)	(4.611)	(0.353)	(0.371)
BIG4	-0.699	9.097***	0.375*	0.128
	(0.704)	(2.551)	(0.195)	(0.205)
DUAL	-0.372	2.995	-0.014	-0.178
	(0.832)	(3.015)	(0.231)	(0.243)
Constant	11.520**	92.680***	2.049	-4.405***
	(4.929)	(17.860)	(1.367)	(1.436)
Observations	383	383	383	383
R-squared	0.083	0.166	0.209	0.206

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
All variables are defined in Appendix 2

(Panel B: Random effects)	(1)	(2)	(3)	(4)
VARIABLES	FOG	FRES	LENGTH1	LENGTH2
OVERPAID	-0.011*	0.061***	-0.022	-0.021
	(0.059)	(0.021)	(0.016)	(0.017)
FSIZE1	-0.017	-0.241	0.115***	0.097***
	(0.091)	(0.342)	(0.024)	(0.025)
MTB	-0.052	0.164	0.012	0.022*
	(0.039)	(0.144)	(0.010)	(0.011)
ROA	-0.004	0.024	-0.008**	-0.011***
	(0.015)	(0.056)	(0.004)	(0.004)
BSIZE	0.443	-1.321	0.033	0.105
	(0.531)	(1.966)	(0.148)	(0.154)
BIND	0.006	-0.048**	0.003**	0.003*
	(0.006)	(0.024)	(0.001)	(0.001)
COMPLEX	1.049	-1.147	-0.228	-0.130
	(0.662)	(2.481)	(0.181)	(0.188)
RDINT	3.177	-15.280	2.161*	2.085*
	(4.182)	(15.840)	(1.133)	(1.171)
CAPINT	0.209	-1.002**	-0.061*	-0.013
	(0.135)	(0.506)	(0.037)	(0.038)
CR	-0.090	-0.109	0.073*	0.058
	(0.151)	(0.562)	(0.041)	(0.043)
LEV	-0.003	0.004	-0.001	-0.001
	(0.005)	(0.022)	(0.001)	(0.001)
FIRMAGE	-0.026	-0.312	0.001	0.016
	(0.112)	(0.425)	(0.030)	(0.031)
BIG4	-0.656	4.719**	0.391**	0.148
	(0.603)	(2.222)	(0.168)	(0.177)
DUAL	-0.663	2.899	-0.095	-0.146
	(0.536)	(1.996)	(0.148)	(0.155)
Constant	20.540***	47.75***	7.679***	1.333***
	(1.401)	(5.216)	(0.387)	(0.404)
Observations	383	383	383	383
R-squared	0.0560	0.0871	0.1946	0.1706

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
All variables are defined in Appendix 2

We once again use the Hausman test to select the appropriate model to analyse, the results of which are reported in table 7.14. Based on table 7.14, we conclude that the random

effects model is more appropriate for model 1 and the fixed effects model is more appropriate for models 2,3 and 4.

Table 7.14: Hausman test results using OVERPAID sample

Model	Dependent variable	Chi^2	$p>chi^2$
M1	FOG	14.84	0.3174
M2	FRES	22.74	0.0449
M3	LENGTH1	33.12	0.0016
M4	LENGTH2	38.73	0.0002

All variables are defined in Appendix 2

We present the selected results in table 7.15. The coefficients of OVERPAID are significant when the FOG and FRES are considered as the dependent variable. The coefficient of OVERPAID using FOG is negative while the coefficient of OVERPAID using FRES is positive as expected since higher (lower) values of FOG (FRES) signify a complex remuneration report. These results support the findings in table 7.12 that firms that overpay their CEOs do not obfuscate but rather disclose matters openly in the remuneration reports. This finding is in line with the legitimacy theory. The coefficients of OVERPAID using LENGTH1 and LENGTH2 are non-significant and negative. We conclude that firms that overpaid their CEOs produce briefer remuneration reports.

The coefficients of FSIZE1 are significant and positive using LENGTH1 and LENGTH2 as expected. This suggests that bigger firms tend to produce longer and bulkier remuneration reports. The results fail to provide conclusive evidence in relation to firm size and readability just like Laksmana et al. (2012). Using a two-year sample, they report a positive relationship in 2007 and a negative relationship in 2008. The coefficients on MTB are all non-significant and suggest that firms with higher growth opportunities tend

to report remuneration matters in a lengthier but readable manner which is in line with Laksmana et al. (2012) and Hooghiemstra et al. (2017).

All coefficients of ROA are negative and only two (for LENGTH1 and LENGTH2) are significant. The signs (except for FRES) are in line with previous studies that investigated readability.

Table 7.15: Regression results using OVERPAID sample

VARIABLES	(1) FOG	(2) FRES	(3) LENGTH1	(4) LENGTH2
OVERPAID	-0.011*	0.067**	-0.028	-0.022
	(0.059)	(0.026)	(0.019)	(0.021)
FSIZE1	-0.017	-0.569	0.164**	0.290***
	(0.091)	(1.019)	(0.078)	(0.082)
MTB	-0.052	0.185	0.001	0.018
	(0.039)	(0.194)	(0.014)	(0.015)
ROA	-0.004	-0.009	-0.013**	-0.016***
	(0.015)	(0.069)	(0.005)	(0.005)
BSIZE	0.443	-1.946	0.083	-0.004
	(0.531)	(2.574)	(0.197)	(0.207)
BIND	0.006	-0.048	-0.001	-0.002
	(0.006)	(0.036)	(0.002)	(0.002)
COMPLEX	1.049	-3.565	-0.236	-0.394
	(0.662)	(4.760)	(0.364)	(0.383)
RDINT	3.177	-15.70	6.360	0.364
	(4.182)	(73.38)	(5.618)	(5.902)
CAPINT	0.209	-0.736	-0.105	-0.087
	(0.135)	(0.872)	(0.066)	(0.070)
CR	-0.090	-0.237	0.130*	0.133*
	(0.151)	(0.862)	(0.066)	(0.069)
LEV	-0.003	0.00333	-0.002	-0.002
	(0.005)	(0.0343)	(0.002)	(0.002)
FIRMAGE	-0.026	-11.49**	1.399***	1.293***
	(0.112)	(4.611)	(0.353)	(0.371)
BIG4	-0.656	9.097***	0.375*	0.128
	(0.603)	(2.551)	(0.195)	(0.205)
DUAL	-0.663	2.995	-0.014	-0.178
	(0.536)	(3.015)	(0.231)	(0.243)
Constant	20.540***	92.680***	2.049	-4.405***
	(1.401)	(17.860)	(1.367)	(1.436)
Observations	383	383	383	383
R-squared	0.0560	0.166	0.209	0.206

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
All variables are defined in Appendix 2

Lim et al. (2018) and Ajina et al. (2016) report a negative and significant relationship between the readability of the annual report and firm performance. Hooghiemstra et al.

(2017) who investigated the readability of the remuneration report found a negative and significant relationship. These results corroborate the findings of Bloomfield (2008) who shows that bad news are more difficult to explain and require more words (ontology).

Board characteristics (BSIZE and BIND) do not have significant coefficients. On one side, firms with bigger boards have complex remuneration reports. On the other hand, the results are contradictory in relation to the size of the remuneration report. Board independence tends to result in poor remuneration report readability which goes against our expectation. This finding could be improved by the use of the remuneration board characteristics.

Looking at the CR variable, the results are contradictory with regards to FOG and FRES. However, the positive and significant coefficients for LENGTH1 and LENGTH2 suggest that firms with better liquidity position produce longer remuneration reports. An opposite relationship was expected; however, the significant and positive coefficients point to the legitimacy theory as opposed to the obfuscation theory.

The coefficients of FIRMAGE are significant for FRES, LENGTH1 and LENGTH2. The signs for FOG and FRES are contracting each other as opposite signs are expected. However, the positive signs for LENGTH1 and LENGTH2 suggest that older firms have less information asymmetry and produce more information in their remuneration reports, in line with Laksmana et al. (2012) and Hooghiemstra et al. (2017).

The coefficients of BIG4 are significant and positive for FRES and LENGTH1. This suggests that firms that employ the big 4 auditors tend to produce more readable and longer remuneration reports again putting forward the legitimacy theory.

Out of interest, we present the fixed effects and random effects regressions using the UNDERPAID sample. Table 7.16 presents the fixed effects (Panel A) and the random effects (Panel B) regression results.

Table 7.16: Fixed and random effects regression using UNDERPAID sample

(Panel A: Fixed effects)	(1)	(2)	(3)	(4)
VARIABLES	FOG	FRES	LENGTH1	LENGTH2
UNDERPAID	-0.046	-0.063	-0.053	-0.073**
	(0.101)	(0.391)	(0.032)	(0.035)
FSIZE1	-0.378*	0.553	0.289***	0.265***
	(0.204)	(0.789)	(0.066)	(0.070)
MTB	-0.038	0.015	0.037***	0.031**
	(0.037)	(0.146)	(0.012)	(0.013)
ROA	0.006	0.062	0.001	0.001
	(0.015)	(0.060)	(0.00498)	(0.005)
BSIZE	0.847*	-2.466	0.105	0.271*
	(0.477)	(1.840)	(0.153)	(0.164)
BIND	0.006	-0.068***	0.007***	0.007***
	(0.006)	(0.026)	(0.002)	(0.002)
COMPLEX	-0.794	-2.584	-0.346	-0.312
	(0.823)	(3.175)	(0.263)	(0.282)
RDINT	-6.110	104.2**	-4.555	-5.264
	(10.72)	(41.38)	(3.434)	(3.679)
CAPINT	0.328	-1.868**	0.006	0.063
	(0.216)	(0.833)	(0.069)	(0.074)
CR	-0.091	0.548	0.113**	0.128**
	(0.173)	(0.668)	(0.055)	(0.059)
LEV	0.009	-0.006	-0.001	0.001
	(0.007)	(0.027)	(0.002)	(0.002)
FIRMAGE	0.860***	-2.958***	0.087	0.038
	(0.285)	(1.099)	(0.091)	(0.097)
BIG4	-0.342	0.580	0.241	0.244
	(0.474)	(1.831)	(0.152)	(0.163)
DUAL	0.034	0.089	-0.030	-0.005
	(0.494)	(1.907)	(0.158)	(0.170)
Constant	18.53***	60.78***	5.517***	-1.019
	(2.144)	(8.276)	(0.687)	(0.736)
Observations	558	558	558	558
R-squared	0.048	0.079	0.169	0.166

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
All variables are defined in Appendix 2

(Panel B: Random effects)	(1)	(2)	(3)	(4)
VARIABLES	FOG	FRES	LENGTH1	LENGTH2
UNDERPAID	-0.0803	0.107	-0.0444	-0.0580*
	(0.0912)	(0.347)	(0.0279)	(0.0300)
FSIZE1	0.0520	-0.189	0.0786***	0.0195
	(0.0798)	(0.294)	(0.0211)	(0.0225)
MTB	-0.0216	0.00687	0.0215**	0.0159*
	(0.0303)	(0.114)	(0.00886)	(0.00949)
ROA	0.00603	0.0431	-0.00343	-0.00405
	(0.0123)	(0.0464)	(0.00359)	(0.00385)
BSIZE	0.636	-1.973	0.265**	0.449***
	(0.399)	(1.510)	(0.117)	(0.126)
BIND	0.00252	-0.0425**	0.00678***	0.00682***
	(0.00526)	(0.0198)	(0.00151)	(0.00162)
COMPLEX	0.374	-2.849	-0.00589	0.156
	(0.515)	(1.920)	(0.142)	(0.151)
RDINT	-1.904	18.25	-0.323	-0.921
	(3.784)	(13.88)	(0.978)	(1.040)
CAPINT	0.230*	-1.413***	0.00720	0.0568
	(0.127)	(0.474)	(0.0348)	(0.0372)
CR	0.126	-0.294	0.0401	0.00632
	(0.126)	(0.474)	(0.0358)	(0.0383)
LEV	0.00545	-0.00778	-0.000761	-0.00126
	(0.00501)	(0.0188)	(0.00142)	(0.00151)
FIRMAGE	-0.0540	0.115	0.0341	0.0259
	(0.0963)	(0.352)	(0.0245)	(0.0260)
BIG4	-0.185	0.287	0.233	0.233
	(0.463)	(1.773)	(0.146)	(0.157)
DUAL	-0.00867	0.0808	-0.144	-0.140
	(0.383)	(1.445)	(0.112)	(0.120)
Constant	18.89***	53.52***	7.036***	0.625*
	(1.123)	(4.200)	(0.317)	(0.339)
Observations	558	558	558	558
R-squared	0.0839	0.0762	0.1792	0.1404

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
All variables are defined in Appendix 2

The coefficients of UNDERPAID are not significant using FOG, FRES and LENGTH1 and significant using LENGTH2.This suggests that underpayment does not influence the

readability of the remuneration report. However, firms that underpay their CEOs produce shorter remuneration reports. The results align with the legitimacy theory as shown with the OVERPAID sample. The remuneration-related regulations seem to have positively impacted the transparency of the remuneration reports.

To summarize, our findings suggest that the presence of excessive pay does not result in management obfuscation in the remuneration report.

7.9.Chapter summary

In this chapter we investigated the impact of excess CEO pay on the readability of the remuneration report. For this purpose, two main theories were proposed namely the obfuscation theory and the legitimacy theory. The legitimacy theory suggests that in the presence of excess CEO pay, firms still produce readable remuneration reports. The obfuscation theory, on the other hand suggests that in the presence of excess pay, firms will obfuscate the unjustified pay by producing complex remuneration reports. Previous studies have examined the relationship between excess CEO pay and the readability of the remuneration report and support the obfuscation theory (Hooghiemstra et al., 2017; Laksmana et al., 2012). However, these studies all focused on the period before the introduction of the 2013 Reforms. Using a sample of FTSE 350 companies between 2011 and 2019, the results of this study indicate that in cases where CEOs are overpaid, a more readable remuneration report is produced. These findings align with the legitimacy theory.

The contribution of this study is twofold. Firstly, this study contributes to the extant literature by providing an insight into the effect of excess CEO pay on readability in the

context of increased pay-related regulations in the UK (the introduction of the 2013 Reforms). Secondly, we also contribute to the literature on textual analysis of corporate disclosures through the use of the novel CFIE-FRSE app to measure readability.

This research is not without limitations. Due to data unavailability, this study fails to include important governance variables like CEO tenure, CEO ownership, institutional ownership and remuneration committee characteristics. Also, the study could have been improved if data on the different elements of CEO pay were available.

CHAPTER 8:

REMUNERATION REPORT READABILITY AND EARNINGS MANAGEMENT

8.1.Introduction

"*For more than forty years, I've studied the documents that public companies file. Too often, I've been unable to decipher just what is being said […]I suspect that a less-than-scrupulous issuer doesn't want us to understand a subject it feels legally obligated to touch upon.*" ~ Warren Buffett, a preface of "*A Handbook of Plain English Handbook*".

The remuneration report constitutes an important part of the corporate reporting as it discusses the pay package granted to management. Following recent calls from the public about the disconnect between executive pay and firm performance, regulations have been introduced to tighten the link between executive pay and firm performance and reduce

excessive pay (Ferri and Maber, 2013). The extant literature contends that firm performance is a determinant of executive pay (Laksmana et al., 2012). The High Pay Centre (2012a) shows that annual bonuses received by executives are determined by firm indicators like earnings per share or total shareholder return. The agency theory contends that the opportunistic nature of managers constitutes an incentive to maximise their benefits. Moreover, the managerial power theory suggests that powerful CEOs are able to receive abusive pay packages through their influence. Thus, to legitimize abusive pay, executives could make the firm performance indicators look better by managing earnings. Healy and Wahlen (1999) and Ibrahim et al. (2011) concur that managers manipulate earnings by using their discretion in order to maximize their personal gain. As a tenet of the managerial power theory, executives would use their power over directors to make pay arrangements opaque and hide the insensitivity of pay to performance and reduce outrage As such, as the level of earnings management increases, it is not unreasonable to think that executives could be tempted to hide their actions by modulating the readability of the remuneration report.

In this chapter, we look at the relationship between the readability of the remuneration report and the level of earnings management. This study empirically investigates whether the complexity of the remuneration report in the annual report relate to earnings management using a sample of FTSE350 companies from 2011 to 2019. This study examines the impact of earnings management on the readability of the remuneration report and found that earnings management is hidden in remunerations reports that are difficult to read.

The only closely related studies are Ajina et al. (2016) and Lo et al. (2017) who investigate the link between the readability of annual reports and earnings management. While the

former uses a French sample between 2010 and 2013, the latter uses a US sample between 2000 and 2012. To the best of our knowledge, no studies have investigated the relationship between the readability of the remuneration report and earnings management in the UK between 2011 and 2019.

We contribute to the extant literature firstly by providing an insight into the effect of earnings management on the readability of the remuneration report in the context of increased pay-related regulations in the UK. This chapter provides novel knowledge by investigating the association between earnings management and remuneration report readability, which has not previously been investigated.

The remainder of the paper is organized as follows. Section 8.2 present the theoretical background. Section 8.3 presents the hypotheses set out to be tested. Sections 8.4 and 8.5 detail the research methodology and present the variables considered in this study. In section 8.6 through to 8.8, the data are described, and the results analysed. Section 8.9 concludes this chapter.

8.2.Theoretical background

The agency relationship points to the fact that the principal confers some decision-making authority and discretion to their agent to perform the work delegated to them (Eisenhardt, 1989; Jensen and Meckling, 1976). Seen as a contract, the principal-agent relationship has at its core the overlying problem of the separation between ownership and management. The problem of the separation of ownership and control was brought up by Bearle and Means (1932) and later repeated by Jensen and Meckling (1976) who defined the principal-agent relationship as a contract. This contract suggests the presence of a fiduciary relationship, in which, the agent is supposed to act in the best interests of the principal. For the supposed fiduciary relationship to work, the principal must employ the most qualified and motivated agent. However, this is often not the case due to the classic agency problem of asymmetric information (Shapiro, 2005). Thus, it is clear that the combination of the separation of ownership and control coupled with the information asymmetry will result in agency problems. For example, Jensen and Meckling (1976) suggest that if the principal and agent are utility maximisers, the proclivity for opportunistic (self-interest) behaviour from the agent increases. Thus, managers could take actions that maximize their interests to the detriment of the interests of shareholders.

The managerial power theory acknowledges the existence of executive power as a result. This influence, according to the managerial power theory, stems from social and psychological sources like collegiality, team spirit, conflict avoidance mentality, friendship and loyalty (Bebchuk and Fried, 2004). Thus, it is not unreasonable to believe that directors could take actions that serve powerful CEOs to the detriment of shareholders. Research has shown that firm performance is a determinant of CEO pay

and as such, powerful CEO with the help of sympathetic directors could modulate the accounting numbers to portray a good performance.

Earnings management, as shown by Healy and Wahlen (1999) and Al-Shattarat et al. (2018), could be either opportunistic or efficient (used to send signals). The opportunistic view of earnings management suggests that executives would modulate results in order to maximizing their utility function (Ajina et al., 2016). The signalling earnings management perspective suggests that firms utilise earnings management to signal their optimism about future performance and distinguish themselves from poor performers (Roychowdhury, 2006).

Ajina et al. (2016) report that management could introduce an interpretive bias into the annual reports to cover their failures and emphasize their successes. Merkl-Davies and Brennan (2008) argue that the complexity in financial disclosures is generally the result of management intention to either conceal (obfuscating bad news or emphasizing good news) or attribute bad news to others. They further posit that management impression could be done through seven methods namely the reading ease manipulation, the rhetorical manipulation (the use of persuasive language), the thematic manipulation (not reporting bad news or not reporting it to the same extent as good news), the visual and structural manipulation (presentation of information), the performance comparisons (make performance look better by comparing performance with weaker firms) and the choice of earnings number (choosing specific earnings numbers and omitting others voluntarily) and the performance attribution (praising themselves for good news and blaming others for bad news). However, this chapter focuses on the reading ease manipulation as the method of impression management. Thus, it is evident that preparers of the remuneration reports have many ways to conceal earnings management behaviours

and this study will investigate whether earnings management behaviour translates into complex remuneration reports.

8.3.Hypotheses development

Healy and Wahlen (1999) and Ibrahim et al. (2011) show that earnings management could be opportunistic. The extant literature provides a large body of evidence for opportunistic earnings management where managers manipulate earnings by using their discretion in order to maximize their personal gain. DeAngelo (1988) and Perry and Williams (1994) concur that managers of buyout companies tend to use income-decreasing earnings management to reduce the valuation of the firm and facilitate the buyout. Beneish (2001) and Healy and Wahlen (1999) concur that managers tend to manage earnings upwards before IPOs and SEOs to set a high starting offer price. Byzalov and Basu (2019) argue that firms use income-increasing earnings management to avoid missing on analyst forecasts. Iatridis and Kadorinis (2009) report that executives may be encouraged to use their discretion and engage in earnings management to avoid the detrimental effects of violating a debt covenant. Healy (1985) and Degeorge et al. (1999) show that executives have incentives to engage in earnings management to boost their remuneration.

However, there is also evidence that earnings management could be used to signal good future performance and distinguish themselves from poor performance (Al-Shattarat et al., 2018; Roychowdhury, 2006). Al-Shattarat et al. (2018) found that the manipulation of earnings through REM to meet earnings benchmarks translate into good future operating performance. The above lines suggest that executives have clear incentives to either misreport or highlight their performance.

Investors need to learn all relevant compensation-related information to assess the appropriateness of the executive reward system and the relationship between pay and performance (Laksmana et al., 2012). As the remuneration report clearly presents the way companies design and implement pay policies, it is paramount that this report is prepared with a high level of transparency. Moreover, since managerial power theorists argue that executives would camouflage their actions, it is plausible to believe that firms in which executives manage earnings to portray a better performance could have complex remuneration disclosures.

In addition to the incentive to misreport, executives also have many ways to misreport. Enomoto et al. (2015) suggest that management manage earnings through accruals or real activities. The UK corporate governance regime relies on the 'comply or explain' approach that gives firms the flexibility and freedom to adhere to rules set in the code (the spirit of the code) or provide explanations where deviations are deemed fit to ensure long-term prosperity. Moreover, the regulations introduced related to the remuneration report specifically focus on the content of the report without mentioning how the information should be disclosed (the reading ease). The discretion given to the preparers of the remuneration report exacerbates the likelihood of covering up deviant actions like opportunistic earnings management through modulating the readability of the remuneration report. Thus, from the above discussion we conjecture that the presence of earnings management will be hidden in a remuneration report that is difficult to read. Thus, we derive the following hypothesis, stated in the alternative form:

H1: *The readability of the remuneration report is negatively associated with the level of earnings management.*

8.4.Research methodology

This section discusses the research tools used to test the hypotheses. We explore the research philosophy, the research strategy, the data collection and sample selection as well as the analytical strategy.

8.4.1.Research philosophy and approach

This analysis adopts a positivism research philosophy to examine the associations specified in section 8.3. Positivism is anchored in the belief that the truth can only be achieved through observation and measurement (Business Research Methodology, 2021). Studies that adopt the positivism research philosophy limit the involvement of the researcher to data collection and interpretation in an objective manner. The chosen research philosophy relies on a deductive approach to test the hypotheses and draw conclusions. According to Bell et al. (2022) the positivism relies on the following principles:

- Only phenomena and hence knowledge confirmed by the senses can genuinely be warranted as knowledge
- The purpose of theory is to generate hypotheses that can be tested and that will thereby allow explanations of laws to be assessed
- Knowledge is arrived at through the gathering of facts that provide the basis for laws
- Science must be conducted in a way that is value free
- There is a clear distinction between scientific statements and normative statements and a belief that the former are the true domain of the scientist.

The interpretivism research philosophy could have been used for this study as an alternative. This epistemology requires a research strategy that considers the differences between people and their intuitions unlike the natural sciences procedures. Thus, in using this research philosophy, data on the level of earnings management would have been collected from questionnaires addressed to executives and the remuneration boards and readability scores would have been obtained from the preparers of the remuneration reports and also the intended audience (i.e., shareholders). Collecting the data from the subjects brings the subjective and personal perspective of the subjects which could enhance the insight of the study. However, such data could be biased especially in relation to earnings management. For example, while remuneration boards could deem a remuneration report readable and easy to understand, shareholders could believe that the report is complex and therefore not easy to comprehend. Moreover, this approach would be time consuming. Thus, in light of the pros and cons of both research philosophies, the positivism research philosophy is preferred for this study.

8.4.2.Research strategy

The research strategy specifies the direction and extent of the study. It involves determining certain aspects of the study such as the research design and the types of data. In line with the research philosophy selected, this study would adopt a quantitative approach.

The research design provides the framework for the collection of evidence needed to address a research question (Bell et al., 2022). Bell et al. (2022) identify five research designs which are: the experimental design, the cross-sectional design, the longitudinal design and the case study design. Although this design is rarely used in business and

management studies, the experimental design provides a benchmark evaluation for quantitative studies as it mitigates the internal validity issues associated with other research designs and facilitates the determination of causality. The cross-sectional design involves the collection of data on companies at a single point in time to detect patterns of association. This design ensures replicability and external validity (when random sampling is used) but suffers from internal validity issues (Bell et al., 2022). The case study design involves the study of a single case and suffers from generalisability issues. The longitudinal research design involves a vertical and horizontal analysis of associations through time. As this study focuses on firms over time, the longitudinal research design is deemed appropriate. Internal validity is strong in a longitudinal research design as changes in variables over time are observed and the results may be generalized (Bell et al., 2022). This research design also offers a strong reliability as the research design ensures replicability. Data used to conduct this study are taken from data providers like Bloomberg that are widely available, thus, ensuring replicability.

For this study, secondary data (firms data) will be obtained from the Bloomberg database. The use of secondary data is cost-effective and less time-consuming compared to the use of primary data. The data on readability is primary data as the data is obtained from the processing of the remuneration reports using the CFIE-FRSE app.

8.4.3.Data collection and sample selection

This study focuses on the period from 2011 to 2019 for two main reasons. First of all, talks and consultations about the introduction or revisions of remuneration reporting regulations, which led to the enactment of the 2013 Reforms, have started in 2011 (Department for Business Innovation & Skills, 2011). Thus, it plausible to believe that

some firms would have started to take actions regarding the reporting in the remuneration report. 2019 is the end of the sample period as it marks the beginning of the research project.

Our starting sample comprises the FTSE 350 companies listed as of March 2021. The FTSE 350 Index which lists companies based on their market capitalisation represents an appropriate source of data due to its size (in line with the longitudinal research design chosen) and the fact that it is a requirement for companies listed on the index to provide an annual report containing a remuneration report the financial statements that are used to derive firm performance and earnings management level. In line with prior research, firms in the financial and utility sectors are excluded due to their differences in financial structures and corporate governance rules. Yermack (1996) argues that regulations in these industries constrain the roles of the board of directors compared to their counterparts in other sectors. Moreover, companies with less than a three-year successive presence on the index are excluded. This is in response to issues about the survivorship bias. This bias refers to the possibility that results obtained would be distorted by companies entering and exiting the panel over time (Yermack, 1996). Thus, we believe that a minimum of three years presence consecutively is appropriate. Some previous studies have used a four-year presence like Yermack (1996) while some have used a two-year presence like Laksmana et al. (2012). Our final sample consists therefore of 198 firms and 941 firm year observations as shown in table 8.1 and 8.2.

Table 8.1: Sample selection criteria

Description	Number of firms
Initial sample (FTSE 350 as of end of March 2021)	350
Less:	
Financial and utility firms	112
Less than three years presence on FTSE 350	14
Missing financial data	16
Missing readability data	10
Final number of Firms	**198**

Table 8.2 shows the industry distribution of sample firms based on the Bloomberg Industry Classification Benchmark. Industrial and consumer services companies represent account for nearly 60% of the sample size. The least represented sectors are the technology and oil & gas sectors with 5.05% and 6.06% respectively. Financial data were obtained from commercial databases like Bloomberg. The CFIE application was used to process the annual reports, extract the remuneration reports and calculate the various readability metrics that are going to be discussed below.

Table 8.2:Industry distribution by number of firms

Industry Sector	Number of firms	Firm-year observations	Weight %
Basic Materials	15	69	7.58%
Consumer goods	28	150	14.14%
Consumer services	57	276	28.79%
Health care	16	81	8.08%
Industrials	60	291	30.30%
Oil & Gas	12	53	6.06%
Technology	10	21	5.05%
Total	**198**	**941**	**100.00%**

8.4.4.Analytical strategy

This section specifies the analytical strategy carried out in this study. Researchers often choose between parametric and non-parametric methods depending on the characteristics of the data at hand. In line with the research design a panel data approach will be used. Panel data consist of cross-sectional and time series data. Wooldridge (2010) contends that panel data can alleviate the unobserved heterogeneity concerns. Hiestand (2011) reports that panel data are more informative, provides more variability, less collinearity and more degrees of freedom. Panel data could be classified as balanced or unbalanced. Balanced panel data exist when each company has the same number of observations during the sample period unlike unbalanced panel data. Since our sample consists of firms that entered or exited the FTSE 350 Index over the sample period, all companies do not have the same number of observations. Thus, this study uses unbalanced panel data. Three models could be used in this study namely the pooled ordinary least square (OLS), the fixed and the random effects models. Pooled OLS, which is the simplest regression model for panel data, gives constant coefficients (intercepts and slopes). One of the assumptions required in order that OLS is optimal is that the error term is independently and identically distributed which may be inappropriate. A fixed effect model is an estimation technique that controls for time-invariant unobserved individual characteristics that can be correlated with the observed independent variables. The model consists in subtracting the time mean from each variable in the model and then estimating the resulting transformed model by OLS. This procedure, known as "within" transformation, allows the researcher to drop the unobserved variables and consistently estimate β. The random effects regression allows for between and within cross-sectional variation. It assumes that there is no correlation between the exogenous variables and the error term. Wooldridge (2010)

argues that pooled OLS is employed when you select a different sample for each period of the panel data. Thus, pooled OLS appears inadequate for the purpose of this research. To select between the fixed effect and the random effect model, the Hausman test is used. It selects between the fixed effects and the random effects models by testing the correlation between the exogenous variables and the error term. Ajina et al. (2016) contend that the Hausman test compares the variance—covariance matrix of the fixed effects estimator and the random effects estimator. When there is no correlation between the exogenous variables and the error term, the random effects model is chosen and otherwise, the fixed effects model is used.

8.5.Variable measurement and empirical model

This section discusses the choice of variables (dependent, independent and control) used in this study to test the hypothesis set.

8.5.1.Measurement of readability variable

The dependent variable for this study would be the readability score of the remuneration report obtained from the CFIE-FRSE application. From the application, readability metrics such as the report length (LENGTH2), the wordcount (LENGTH1), the Flesh Reading Ease score (FRES) and the Fog score (FOG) of the remuneration report are obtained. The Fog Index is the most commonly applied readability measure in the literature. The index measures readability by combining the average length of the sentences with the number of complex or big words. Thus, the Fog Index is mathematically obtained as follows:

Fog Index (FOG) = 0.4 (average number of words per sentence + percentage of complex words)

The Fog Index computation returns a grade level estimating the number of formal education years required to understand the text instantly. Hence, lower (higher) values of the Fog Index translate into more (less) readable documents. Li (2008) and Ajina, et al. (2016) provide some interpretation ranges as follows : unreadable if Fog Index >18, difficult if 18>Fog Index>14, ideal if 14>Fog Index>12, acceptable if 12>Fog Index>10 and childish if 10>Fog Index>8.

Just like the Fog Index of readability, the Flesch Reading Ease consists of the average sentence length and the percentage of polysyllabic words (three or more syllables). The mathematical representation is as follows:

Flesch Reading Ease score (FRES) = 206.835 – (1.015*words per sentence) – (84.6*syllables per word)

The score obtained is related to reading ease approximately as follows: 90–100 (5th grade); 80–90 (6th grade); 70–80 (7th grade); 60–70 (8th and 9th grade); 50–60 (10th–12th grade); 30–50 (college years); and 0–30 (college graduate) (Laksmana, et al., 2012). Unlike the Fog Index of readability and the majority of readability indices, the higher the reading score, the easier a piece of text is to read.

8.5.2.Measurement of earnings management variable

The accrual-based accounting system provides managers with some discretion to either augment the informativeness of earnings or achieve opportunistic goals. This analysis focuses on earnings management through accruals. The existing literature suggests many

earnings management proxies such as earnings persistence, the magnitude of accruals, the residuals from the accruals models, the earnings smoothness and distribution of earnings approach (discussed in chapter 4). While all proxies could be used in this study, with time being a constraint, earnings management would be represented by the magnitude of accruals (MAGACC). Dechow et al. (2010) show that extreme accruals reflect low earnings quality as they are less persistent. In addition, Dechow et al. (2003) report a high and positive correlation between total accruals and the residuals (used to detect earnings management). Moreover, Dechow et al. (2011) contend that discretionary accruals (obtained using the residuals from the accruals models) are generally less powerful than total accruals at capturing earnings management. We follow Dechow et al. (2010) and define MAGACC as:

$$MAGACC = Earnings_t - Operating\ Cash\ Flows_t$$

Where Earnings is the net income in the current fiscal year and Operating cash flows is current figure obtained the statement of cash flows. MAGACC is divided by 100 for presentation purposes.

8.5.3.Measurement of control variables

In addition to the explanatory variable, a number of control variables are added to control for the governance and non-governance features that may influence the readability of the remuneration report.

8.5.3.1. Governance variables

We consider board size following Nadeem (2021). On one hand, Yermack (1996) and Core et al. (1999) show that larger boards are less effective. This results from the lack of communication and coordination which negatively affects the decision-making process of the board. On the other hand, it is reasonable to believe that smaller are more prone to CEO influence as there are only a few people to control. Thus, we measure board size (BSIZE) as the natural logarithm of 1 + the number of members measured at the end of each fiscal year. The evidence on the board size remains equivocal. We include an auditor attributes dummy variable (BIG4) which equals 1 if the auditor is a Big 4 accounting firm and 0 otherwise. Balsam et al. (2003) and Nadeem (2021) show that big 4 auditors are associated with higher financial reporting quality. Yermack (1996) argues that the agency problem is exacerbated when the CEO is also the chairman. Thus, we control for CEO duality (DUAL) using a dummy variable that equals 1 if CEO is chairman and 0 otherwise. When the CEO holds the chairman position, he may influence the remuneration committee into awarding him some unjustified pay packages. We also include a board independence variable (BIND) defined as the proportion of outside directors as the managerial power theory suggests that non-independent directors should be more loyal to the CEO. It is important that the board be free of any CEO influence so they can appropriately design the pay packages in the best interest of shareholders. Nadeem (2021) and Srinidhi et al. (2011) show that gender diversity has an impact on the readability of annual reports and on earnings quality. Therefore, we control for gender diversity using the proportion of women on board (PWOB) and the percentage of female executives (PFEMEX).

8.5.3.2.Non-governance variables

We capture firm size (FSIZE1) as a control variable as larger and complex firms generally have longer reports (Li, 2008). Firm size is measured as the natural logarithm of total assets at the end of each fiscal year. Firm complexity (COMPLEX) is measured as the sum of receivables and inventory scaled by total assets and we also include capital intensity (CAPINT) measured as the net property, plant, and equipment scaled by total assets and R&D intensity (measured as total R&D scaled by total assets) following Nadeem (2021). Complex firms tend to have more to say resulting in more complex reports. We also add the market-to-book ratio (MTB), the return on assets (ROA) and the current ratio (CR) defined as the ratio of current assets to current liabilities to represent growth opportunities and firm performance as specified above. Laksmana et al. (2012) argue that there is a negative association between firm age and the information asymmetry. Older firms tend to be more known, resulting in less information asymmetry and a higher probability of a readable remuneration report being presented. Thus, we include firm age (FIRMAGE) as a control variable defined as the natural logarithm of 1 + the difference between the fiscal year and the foundation year. We control for leverage (LEV) as research suggests that highly levered firms produce complex reports. Boards can use their discretion to produce complex reports and avoid violating their debt covenants. Leverage is measured as total liabilities divided by total assets.

8.5.4.Empirical model

We run the following regression model to test the hypothesis set in section 8.3.

$$\mathbf{READ_{it} = c + \beta_1\ MAGACC_{it} + \sum \beta_k\ CONTROLS_{kit} + \varepsilon_{it}\ \ (Eq\ 8.1)}$$

Where READ will be the readability measures defined in section 8.5.1. CONTROLS is a vector of control variables mentioned in section 8.5.3. All variables are described in Appendix 2.

8.6.Descriptive statistics

We present in this section the descriptive statistics of the variables used in this study. Blaine (2018) argues that in social science studies nonnormally distributed data are the rule rather than the exception and suggests winsorizing the data. Winsorizing is a technique that alleviates the influence of outliers on the mean and variance and thus increases the reliability of the estimators. Following previous studies, we winsorize all continuous variables at the top and bottom 1%. This translates into keeping 98% of the data unchanged. Table 8.3 shows the descriptive statistics for the variables used in this chapter.

Table 8.3: Descriptive Statistics

Variables (N=941)	Mean	St.Dev.	Min	Q1	Median	Q3	Max
FRES	42.666	4.502	34.962	39.485	42.913	46.297	49.448
FOG	21.214	1.207	19.568	20.209	21.031	22.152	23.326
LENGTH1	9.170	0.342	8.557	8.938	9.213	9.458	9.621
LENGTH2	2.750	0.355	2.079	2.485	2.833	3.045	3.219
MAGACC	-2.080	8.910	-32.490	-2.950	-0.620	0.570	21.360
FSIZE1	7.702	1.237	5.982	6.671	7.568	8.578	9.887
FSIZE2	7.477	1.203	5.749	6.525	7.321	8.421	9.493
MTB	3.248	2.125	0.841	1.496	2.702	4.452	7.573
ROA	6.444	5.083	-1.357	2.722	5.782	10.119	15.151
BSIZE	2.281	0.162	2.079	2.079	2.303	2.398	2.565
BIND	63.392	11.112	44.444	55.556	63.636	72.727	78.571
COMPLEX	0.363	0.171	0.121	0.218	0.349	0.480	0.663
RDINT	0.011	0.020	0.000	0.000	0.000	0.010	0.062
CAPINT	1.413	0.729	0.536	0.816	1.226	1.874	2.789
CR	1.371	0.605	0.621	0.859	1.267	1.760	2.494
LEV	22.254	14.325	0.544	10.611	22.353	32.202	45.582
FIRMAGE	3.983	0.784	2.833	3.258	3.970	4.710	5.100
BIG4	0.991	0.092	0.000	1.000	1.000	1.000	1.000
PWOB	21.120	11.250	0.000	13.330	22.220	28.570	50.000
PFEMEX	10.420	14.280	0.000	0.000	0.000	18.180	50.000
DUAL	0.014	0.117	0.000	0.000	0.000	0.000	1.000

All variables are defined in Appendix 2

The Fog score (FOG) for the average firm in our sample is higher than 18 indicating that an average remuneration report is unreadable. Similarly, the mean Flesch score (FRES) of 42.666 suggests that the remuneration reports are on average difficult to read and mostly understood by at least college graduates. These results are in line with Hooghiemstra et al. (2017) who report a Fog average higher than 17. Laksmana et al. (2012) report that on average, the mean US remuneration report is complex to read with a Fog score of 21.82. The median ROA suggests that more than half of the sample firms are profitable which is in line with Hooghiemstra et al. (2017). On average, firms report that 63.392% of their board members (BIND) are deemed independent which could

alleviate CEO power. In the same vein, only 1.4% of the sample firms have a CEO who is also the chair (DUAL). We also report that almost all firms in our sample are audited by Big4 accounting firms. The median proportion of women on board is 22.22% indicating that more than half of firms in the sample employ women on the board. However, not more than half of the firms have female executives.

8.7.Data diagnostics and model selection

This section presents the various diagnostics carried out on the data to ensure the reliability of the results. We examine whether normality, heteroskedasticity and multicollinearity pose a threat to the reliability of our results.

8.7.1.Normality

There are several ways to check the data normality including some graphical representations (histograms, scatterplot or Q-Q plots) or some numerical representations (Shapiro-Wilk, Skewness or Kurtosis). We test the normality of our data (excluding all indicator variables) using the Shapiro-Wilk test. The Shapiro-Wilk test compares the sample scores to a normally distributed set of scores with identical mean and standard deviation. The null hypothesis for this test is that the variables are normally distributed. Thus, p-values above (below) 0.05 accept (reject) the null hypothesis and indicate a normal (nonnormal) distribution.

Table 8.4: Shapiro-Wilk test

Variables	Obs	W	V	z	Prob>z
FRES	941	0.987	7.711	5.046	0.000
FOG	941	0.971	17.273	7.038	0.000
LENGTH1	941	0.965	20.938	7.513	0.000
LENGTH2	941	0.968	19.279	7.310	0.000
FSIZE1	941	0.978	12.922	6.321	0.000
FSIZE2	941	0.976	14.557	6.616	0.000
MTB	941	0.920	47.864	9.556	0.000
ROA	941	0.986	8.249	5.212	0.000
BSIZE	941	0.995	3.111	2.803	0.003
BIND	941	0.973	15.859	6.827	0.000
COMPLEX	941	0.979	12.619	6.263	0.000
RDINT	941	0.764	140.654	12.219	0.000
CAPINT	941	0.936	38.154	8.996	0.000
PWOB	941	0.992	4.677	3.811	0.000
CR	941	0.950	29.969	8.399	0.000
LEV	941	0.985	9.200	5.482	0.000
FIRMAGE	941	0.962	22.444	7.685	0.000
MAGACC	941	0.820	107.345	11.551	0.000
PFEMEX	941	0.967	19.629	7.354	0.000

Table 8.4 shows that the data are not normally distributed. Blaine (2018) argues that data used in social sciences are mostly nonnormally distributed. Moreover, the small sample size probably affects the frequency distribution. There are a number of ways to correct

the normality issue including removing outliers or transforming the data using the logarithm transformation. We believe that removing the outliers is a bad idea as they do not stem from a measurement error and are observations from the population this study investigates. The logarithm transformation did not rectify the normality issue.

8.7.2.Selection of panel data model

This study uses a panel dataset to investigate the hypotheses specified in section 8.3. We present the results from the fixed effects (Panel A of table 8.5) and random effects (Panel B of table 8.5) regressions. Based on the Hausman test (table 8.6), we select the appropriate model for each readability variable.

Table 8.5: Fixed and random effects regressions results

(Panel A:Fixed effects)	(1)	(2)	(3)	(4)
VARIABLES	FOG	FRES	LENGTH1	LENGTH2
MAGACC	0.0102**	-0.0553***	-0.00180	-0.000555
	(0.00498)	(0.0187)	(0.00153)	(0.00162)
PWOB	-0.00622	-0.00484	0.00477***	0.00767***
	(0.00448)	(0.0168)	(0.00138)	(0.00146)
PFEMEX	0.00578	-0.0196	0.00166	0.00134
	(0.00358)	(0.0134)	(0.00110)	(0.00117)
FSIZE1	-0.128	0.578	0.181***	0.161***
	(0.139)	(0.520)	(0.0426)	(0.0452)
MTB	-0.0516**	0.127	0.0186**	0.0206**
	(0.0261)	(0.0979)	(0.00801)	(0.00850)
ROA	0.00750	0.0403	-0.00879***	-0.00794**
	(0.0107)	(0.0404)	(0.00330)	(0.00350)
BSIZE	0.406	-1.327	0.0601	0.150
	(0.362)	(1.359)	(0.111)	(0.118)
BIND	0.0124**	-0.0778***	0.00516***	0.00395**
	(0.00501)	(0.0188)	(0.00154)	(0.00163)
COMPLEX	0.203	-3.292	-0.342*	-0.315
	(0.619)	(2.325)	(0.190)	(0.202)
RDINT	2.049	50.94*	-2.842	-4.101*
	(7.640)	(28.68)	(2.348)	(2.489)
CAPINT	0.227	-1.535***	-0.0352	0.0109
	(0.140)	(0.524)	(0.0429)	(0.0454)
CR	-0.0896	0.496	0.118***	0.0969**
	(0.125)	(0.469)	(0.0384)	(0.0407)
LEV	0.00621	-0.00502	-0.00109	-0.000383
	(0.00505)	(0.0190)	(0.00155)	(0.00165)
FIRMAGE	0.932***	-2.785***	0.0772	-0.00757
	(0.272)	(1.021)	(0.0836)	(0.0886)
BIG4	-0.530	2.236	0.260**	0.143
	(0.373)	(1.400)	(0.115)	(0.121)
DUAL	-0.192	0.623	-0.0353	-0.0294
	(0.361)	(1.354)	(0.111)	(0.117)
Constant	17.09***	56.80***	6.690***	0.630
	(1.685)	(6.326)	(0.518)	(0.549)
Observations	941	941	941	941
R-squared	0.046	0.088	0.170	0.176

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
All variables are defined in Appendix 2

(Panel B: Random effects)	(1)	(2)	(3)	(4)
VARIABLES	FOG	FRES	LENGTH1	LENGTH2
MAGACC	0.0104**	-0.0583***	0.000155	0.00115
	(0.00441)	(0.0165)	(0.00127)	(0.00135)
PWOB	-0.00639*	-0.00359	0.00590***	0.00763***
	(0.00384)	(0.0143)	(0.00111)	(0.00118)
PFEMEX	0.00790**	-0.0245**	0.00150*	0.000943
	(0.00314)	(0.0117)	(0.000896)	(0.000951)
FSIZE1	-0.0241	0.146	0.0765***	0.0318*
	(0.0660)	(0.243)	(0.0166)	(0.0176)
MTB	-0.0409*	0.110	0.0157**	0.0162**
	(0.0230)	(0.0858)	(0.00660)	(0.00701)
ROA	0.000875	0.0529	-0.00755***	-0.00872***
	(0.00948)	(0.0354)	(0.00272)	(0.00289)
BSIZE	0.401	-1.285	0.175*	0.324***
	(0.316)	(1.180)	(0.0899)	(0.0955)
BIND	0.00895**	-0.0591***	0.00381***	0.00329***
	(0.00428)	(0.0159)	(0.00120)	(0.00128)
COMPLEX	0.723*	-3.400**	-0.0931	0.0320
	(0.425)	(1.575)	(0.112)	(0.119)
RDINT	-0.557	8.700	0.588	0.338
	(3.156)	(11.59)	(0.763)	(0.805)
CAPINT	0.243**	-1.394***	-0.0240	0.0218
	(0.0955)	(0.354)	(0.0252)	(0.0266)
CR	0.0116	0.0801	0.0665**	0.0413
	(0.0993)	(0.369)	(0.0272)	(0.0288)
LEV	0.00299	-0.00301	-0.000868	-0.000916
	(0.00397)	(0.0147)	(0.00108)	(0.00114)
FIRMAGE	0.0108	-0.186	0.0284	0.0316
	(0.0858)	(0.314)	(0.0202)	(0.0213)
BIG4	-0.506	1.520	0.280***	0.180
	(0.356)	(1.332)	(0.106)	(0.113)
DUAL	-0.178	0.596	-0.0984	-0.105
	(0.309)	(1.151)	(0.0877)	(0.0931)
Constant	19.94***	49.87***	7.391***	1.000***
	(0.903)	(3.347)	(0.244)	(0.259)
Observations	941	941	941	941
R-squared	0.067	0.078	0.202	0.162

Standard errors in parentheses

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

All variables are defined in Appendix 2

Table 8.6: Hausman Test results

Model	Dependent variable	Chi^2	$p>chi^2$
M1	FOG	23.470	0.102
M2	FRES	21.140	0.173
M3	LENGTH1	36.630	0.002
M4	LENGTH2	51.680	0.000

All variables are defined in Appendix 2

The Hausman test ascertains whether the unique errors are correlated with the regressors. The null hypothesis is that the random effects model is more appropriate. The p-value for FOG and FRES are above 0.05 while the p-value for LENGTH1 and LENGTH2 are below 0.05. We conclude that the random effects are appropriate for FOG and FRES and the fixed effects are appropriate for LENGTH1 and LENGTH2.

8.7.3.Heteroskedasticity

Heteroskedasticity happens when the standard errors of a variable are non-constant. To ensure the reliability of the results, the residuals must have a constant variance. Stata proposes a graphical way (a visual inspection of residuals against fitted values) and a numerical way (Breusch-pagan/Cook-Weisberg test) to evaluate the presence of heteroskedasticity. This study uses the Breusch-pagan/Cook-Weisberg test to assess the heteroskedasticity hypothesis. The null hypothesis is that the variance of the residuals is constant. Table 8.7 reports the results from the Breusch-Pagan / Cook-Weisberg test for heteroskedasticity and shows that there is no issues with heteroskedasticity as all p-values are above 0.05.

Table 8.7: Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Model	Dependent variable	Chi2	p>chi2
M1	FOG	2.560	0.109
M2	FRES	0.930	0.334
M3	LENGTH1	0.390	0.535
M4	LENGTH2	0.120	0.729

All variables are defined in Appendix 2

8.7.4.Multicollinearity

Multicollinearity exists when two or more predictor variables are highly correlated . It is essential that the multicollinearity of variables is non- existent or at a very low level as the presence of multicollinearity undermines the statistical significance the explanatory variable as the standard errors of the regression coefficients are large. Allen (1997) reports that low levels of collinearity do not invalidate the regression results. This study assesses the multicollinearity hypothesis using the variance -inflation factors (VIF) tests. The VIF tests predict strong linear relationships between predictors like a correlation matrix. As a rule of thumb, a VIF value between 1 and 5 suggests the presence of moderately correlated predictors without jeopardizing the reliability of the results . A VIF value above 5 indicates a very high correlation which means that the coefficient estimates are unreliable. As shown in Table 8.8, multicollinearity does not seem to be an issue as the average VIF is well below 5. As the 4 models tested used the same independent variables, it is understandable to obtain the same VIF values.

Table 8.8: Variance-Inflation Factors (VIF) test for multicollinearity

Model	Dependent variable	Mean VIF
M1	FOG	2.221
M2	FRES	2.221
M3	LENGTH1	2.221
M4	LENGTH2	2.221

All variables are defined in Appendix 2

8.8.Analysis and discussion

Table 8.9 presents the fixed and random effects regression results based on the Hausman test. MAGACC loads significantly positive for FOG and significantly negative for FRES. The coefficients of MAGACC are negative and non-significant for LENGTH1 and LENGTH2. The FOG and FRES results provide evidence that in the presence of extreme accruals which proxy for earnings management behaviour, the remuneration report appears difficult to read. This implies that firms where the level of earnings management is high try to cover up their actions by making the report complex to understand confirming our hypothesis. PWOB loads significantly negative for FOG and significantly positive for LENGTH1 and LENGTH2. This suggests that board gender diversity reduces management obfuscation in the remuneration report and results in bulkier and more detailed remuneration reports. This could be explained by the fact that women on boards promote multiple stakeholders' interests by enhancing firms' communication with the capital market (Nadeem, 2021). Concurrently, the coefficients of PFEMEX for FOG and FRES indicate that when females hold executive roles, the readability of the remuneration reports decreases. This is in line with the idea that males and females executives do not differ substantially when performing in the same role (García Lara et al., 2017). FSIZE1 loads significantly and positively on LENGTH1 and LENGTH2, indicating that bigger

firms produce longer reports. This is understandable as larger firms generally have to report on many aspects like divisional performance or future prospects compared to smaller firms. The coefficients on MTB indicate that firms with higher potential have longer and more readable remuneration reports. This could be explained by the fact that the readability of the remuneration report also reflects their optimism about the future and their superiority over their counterparts with lower potential. ROA loads negatively and significantly on LENGTH1 and LENGTH2 suggesting that poor performance results in shorter remuneration reports. We interpret this result as a sign of obfuscation. On the other hand, the coefficients on CR indicate that firms with better liquidity produce longer remuneration reports to show reduce the information asymmetry and highlight their superior performance. Complex firms (COMPLEX) produce complex remuneration reports. This could be the results of complex operations or uncertainty about the prospect of the firms activities.

Dechow et al. (2010) argue that extreme accruals are low quality and could indicate earnings management behaviour. We thus rerun the regression only with the 75th percentile. Table 8.10 presents the fixed effects (FE) and random effects (RE) results based on the Hausman test (untabulated). MAGACC loads positively and significantly on FOG and LENGTH2 and negatively and significantly on FRES. In line with Dechow et al. (2010)'s argument that extreme accruals are low quality, our results confirm that firms with extreme accruals have remuneration reports that are less readable and longer. The coefficients obtained in table 8.10 for FOG, FRES and LENGTH2 indicate that the proclivity of earnings management being covered in the remuneration report is more pronounced in firms with extreme accruals compared to those obtained in table 8.9.

Table 8.9: Regression results based on Hausman test

VARIABLES	(1) FOG	(2) FRES	(3) LENGTH1	(4) LENGTH2
MAGACC	0.010**	-0.058***	-0.002	-0.001
	(0.004)	(0.016)	(0.001)	(0.001)
PWOB	-0.006*	-0.003	0.004***	0.007***
	(0.003)	(0.014)	(0.001)	(0.001)
PFEMEX	0.007**	-0.024**	0.001	0.001
	(0.003)	(0.011)	(0.001)	(0.001)
FSIZE1	-0.024	0.146	0.181***	0.161***
	(0.066)	(0.243)	(0.042)	(0.045)
MTB	-0.041*	0.110	0.018**	0.021**
	(0.023)	(0.085)	(0.008)	(0.008)
ROA	0.001	0.052	-0.008***	-0.008**
	(0.009)	(0.035)	(0.003)	(0.003)
BSIZE	0.401	-1.285	0.060	0.150
	(0.316)	(1.180)	(0.111)	(0.118)
BIND	0.008**	-0.059***	0.005***	0.003**
	(0.004)	(0.015)	(0.001)	(0.001)
COMPLEX	0.723*	-3.400**	-0.342*	-0.315
	(0.425)	(1.575)	(0.190)	(0.202)
RDINT	-0.557	8.700	-2.842	-4.101*
	(3.156)	(11.59)	(2.348)	(2.489)
CAPINT	0.243**	-1.394***	-0.035	0.011
	(0.095)	(0.354)	(0.042)	(0.045)
CR	0.0126	0.080	0.118***	0.096**
	(0.099)	(0.369)	(0.038)	(0.041)
LEV	0.003	-0.003	-0.001	-0.001
	(0.003)	(0.014)	(0.001)	(0.002)
FIRMAGE	0.0108	-0.186	0.077	-0.007
	(0.085)	(0.314)	(0.083)	(0.088)
BIG4	-0.506	1.520	0.260**	0.143
	(0.356)	(1.332)	(0.115)	(0.121)
DUAL	-0.178	0.596	-0.035	-0.0294
	(0.309)	(1.151)	(0.111)	(0.117)
Constant	19.94***	49.87***	6.690***	0.630
	(0.903)	(3.347)	(0.518)	(0.549)
Observations	941	941	941	941
R-squared	0.067	0.078	0.170	0.176

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
All variables are defined in Appendix 2

PWOB loads positively on LENGTH1 and LENGTH2 which indicate that the higher the proportion of women on board, the longer the remuneration report. The coefficients obtained in table 8.9 and 8.10 do not differ significantly. The coefficients of CR on FOG and FRES indicate that firms whose performance is good have more readable remuneration reports.

Table 8.10: Q3 fixed and random effects regressions results

VARIABLES	(1) FOG(FE)	(2) FRES(FE)	(3) LENGTH1(RE)	(4) LENGTH2(RE)
MAGACC	0.031*	-0.119*	0.006	0.008*
	(0.018)	(0.071)	(0.005)	(0.004)
FSIZE1	0.544	-1.224	0.002	-0.037
	(0.498)	(1.972)	(0.040)	(0.043)
MTB	-0.041	0.174	-0.007	-0.001
	(0.049)	(0.197)	(0.011)	(0.012)
PFEMEX	0.006	-0.022	0.002	0.001
	(0.007)	(0.027)	(0.002)	(0.001)
PWOB	-0.009	-0.008	0.006***	0.007***
	(0.011)	(0.044)	(0.002)	(0.002)
ROA	0.010	0.033	-0.002	-0.008
	(0.028)	(0.113)	(0.007)	(0.007)
BSIZE	0.393	-3.739	0.289	0.460**
	(0.867)	(3.434)	(0.175)	(0.191)
BIND	0.019	-0.011	0.001	0.002
	(0.013)	(0.052)	(0.002)	(0.003)
COMPLEX	0.395	-6.371	0.0445	0.110
	(1.774)	(7.022)	(0.283)	(0.310)
RDINT	-5.774	82.22*	0.059	-0.066
	(11.01)	(43.57)	(1.454)	(1.602)
CAPINT	-0.012	-0.588	-0.033	0.031
	(0.320)	(1.268)	(0.049)	(0.053)
CR	-0.728*	4.026**	0.021	0.010
	(0.421)	(1.666)	(0.065)	(0.072)
LEV	-0.011	0.032	0.001	-0.001
	(0.012)	(0.045)	(0.002)	(0.002)
FIRMAGE	0.750*	-0.970	-0.018	0.011
	(0.434)	(1.717)	(0.042)	(0.046)
BIG4	-0.574	-1.428	0.254	0.319*
	(0.640)	(2.534)	(0.159)	(0.172)
DUAL	0.250	0.042	-0.267	-0.183
	(0.742)	(2.936)	(0.189)	(0.204)
Constant	13.19**	63.78***	8.173***	1.305**
	(5.164)	(20.44)	(0.540)	(0.590)
Observations	236	236	236	236
R-squared	0.151	0.166	0.116	0.125

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
All variables are defined in Appendix 2

Overall, our results provide evidence of management obfuscation in the remuneration reports in the presence of earnings management. This effect is more pronounced in firms with extreme accruals. Our results support the fact that lying is difficult as the preparers of the remuneration reports have to convince the readers of the truth and consistency of the reported facts. Even though, earnings management does not necessarily imply lying as the discretion is allowed, the practice requires efforts on the part of management to bias the remuneration reports. Our findings corroborate those of Ajina et al. (2016), Lo et al. (2017) and Li (2008) who report that managers obfuscate earnings management practices in complex firm disclosures.

Market participants rely on the information provided in the annual reports to inform their decisions. Thus, it is evident that the readability and understandability of the narrative disclosures plays an important role in decision making. The recent changes in corporate governance clearly translate the regulators' intention to improve the communication and transparency of the disclosures presented to stakeholders. However, our results show that the remuneration report just like the annual report is susceptible to be manipulated by malicious, intentional and opportunistic executives for their personal gains. Shareholders' inability to process the information presented to them has some repercussions for example on their votes (Hooghiemstra et al., 2017) and on the stock liquidity. Therefore, we suggest that the remuneration report in particular be presented in a readable and understandable way using the SEC Plain English. This might enhance shareholders' understanding of executive pay design and thus facilitate the assessment of the appropriateness of pay and the better functioning of say on pay.

8.9.Chapter summary

In this chapter we examined the impact of earnings management on the readability of the remuneration report. For this purpose, two main theories were proposed namely the obfuscation theory and the legitimacy theory. The legitimacy theory suggests that firms provide transparent communication with shareholders to signal superior performance. The obfuscation theory, on the other hand, suggests that earnings management behaviour would be covered in complex remuneration reports.

Using a sample of FTSE 350 companies between 2011 and 2019, the results of this study confirm the obfuscation hypothesis and indicate that earnings management is hidden in remunerations reports that are difficult to read.

The contribution of this study is twofold. Firstly, this study contributes to the extant literature by providing an insight into the effect of earnings management on the readability of the remuneration report in the context of increased regulations in the UK (the introduction of the 2013 Reforms). Secondly, we also contribute to the literature on textual analysis of corporate disclosures through the use of the novel CFIE-FRSE app to measure readability.

This research is not without limitations. Due to data unavailability, this study fails to include important governance variables like remuneration committee characteristics which could have improved the analysis (Hooghiemstra et al., 2017).

CHAPTER 9:

CONCLUSION

9.1.Introduction

This chapter summarises this thesis and highlight the key points of this study. Firstly, this chapter revisits the research questions related to CEO excessive pay, earnings management and the readability of corporate disclosures. Secondly, this chapter summarised the research methodology used as well as the main findings. We, then, discuss succinctly the major contribution of this thesis as well as the practical implications. We conclude this chapter by highlighting the caveats and the possible avenues to extend this study.

9.2.The research problem and research questions

Agency theorists argue that the agency problem stems from the separation of ownership and control in which the owners appoint the managers to control the firm and make decisions in their best interest (Jensen and Meckling, 1976). The separation of ownership and control creates information asymmetry between ownership and management. Thus, to bridge the gap between owners and management, truthful and transparent corporate reporting becomes essential.

The remuneration report constitutes an integral part of corporate reporting as it provides an account of the remuneration awarded to management. The need for a transparent and truthful remuneration report becomes evident as studies have shown that executive pay does not always reflect firm performance (Buck et al., 2003; Hooghiemstra et al., 2017; Laksmana et al., 2012). Thus, when shareholders perceive CEO compensation as unjustified it is reasonable to believe that the first point of call would be the remuneration report which contains comprehensive information about executive pay packages. In doing so, they can access the relevant information related to the design and implementation of executive pay and then assess its appropriateness (Laksmana et al., 2012).

The accrual accounting system grants managers some discretion over the choice of accounting methods. This discretion is used to maximize their personal gain (Healy and Wahlen, 1999; Ibrahim et al., 2011), avoid debt covenant violation (Beneish, 2001; Jha, 2013) or boost their remuneration (Fields et al., 2001). To achieve these objectives, managers manipulate earnings using accruals or real activities (Degeorge et al., 1999; Healy, 1985).

The level of excessive pay and earnings management renders the readability of the remuneration report paramount as shareholders' impression could be affected by the

reading ease of the report. On one hand, Tan et al. (2014) document that readable reports get easily understood by shareholders. On the other hand, Li (2008) reports that complex reports are too costly to examine by shareholders. Thus, to cover their aberrant actions, it is plausible that the preparers of the remuneration report would modulate its readability.

The proclivity of excessive pay and earnings manipulation renders the reading ease of the remuneration report paramount as shareholders' impression could be influenced. On one hand, Tan et al. (2014) document that readable reports get easily understood by shareholders. On the other hand, Li (2008) reports that complex reports are too costly to be understood by shareholders. Thus, to cover their aberrant actions, it is plausible that the preparers of the remuneration report would modulate its complexity. The focus of this thesis translates into the following three research questions:

1. What is the trend in annual report readability and CEO pay?
2. Is excessive pay hidden in a complex remuneration report?
3. Is earnings management hidden in a complex remuneration report?

9.3.Summary of the research methodology

This study employs an unbalanced panel data in a longitudinal design with a deductive approach. Based on the Hausman test, we presented a combination of fixed and random effects results. The data for the readability of the annual report and the remuneration report is obtained by processing downloaded annual reports using the Lancaster University's Corporate Financial Information Environment – Final Report Structure Extractor (CFIE-FRSE) desktop application. The executive compensation, earnings management and financial and governance data are collected from Bloomberg.

The initial sample data is selected from the FTSE350 index between 2011 and 2019 resulting in a final sample of 198 firms, with 941 firm-year observations. Even though the sample size could be criticised we did not deem appropriate to extend the sample to firms outside the FTSE350 due to different regulations. For example, the 2012 version of the UK Corporate Governance Code stipulate that while smaller firms should have at least two independent non-executive directors, larger firms should have at least half of their board, excluding the chairman, made of independent non-executive directors.

As impression management could be done in various ways (Merkl-Davies and Brennan, 2008), this study only focuses on the reading ease manipulation of the remuneration report. Four measures, namely the Fog index, Flesch index, wordcount and number of pages, have been used to assess the reading ease. The analysis of CEO pay focuses on the unjustified element (overpaid or underpaid). Earnings management is proxied using the magnitude of accruals as defined in Dechow et al. (2010).

9.4.Summary of the findings

The findings of the study are threefold. Our analysis in chapter 6 suggests that CEOs keep receiving huge pay packages despite calls for change and public criticism. On average, CEO pay has been above the 2011 level throughout our sample period implying that the regulations introduced did not produce a complete turnaround as expected. We distinguish three phases namely 2011-2013, 2013-2015, 2015-2019. Between 2011-2013, mean and median CEO pay rose sharply by 71% and 60% respectively. Between 2013 and 2015, mean CEO pay kept increasing but at a slower rate (0.3% in 2014 and 4.3% in 2015) compared to the first phase whereas median CEO pay declined by 8.3% in 2014 before increasing by 12.5% in 2015. The last phase, 2015-2019 shows zig-zag movements

in mean CEO pay. A decrease in 2016 of about 8.5% was followed by an increase of 12.9% in 2017. Again, mean CEO pay declined in 2018 (9.8%) before seeing a minor increase of 1.4% in 2019. Over the same period, the median CEO pay kept increasing at a slower rate before dipping in 2018 and increasing in 2019.

On the other hand, annual reports which constitute the main communication medium between firms and shareholders continue to get longer, bulkier and difficult to read. On average, a typical annual report size has increased from 134 pages in 2011 to 187 pages in 2019. The average Fog score is above 27 throughout the study period. It seems that firms are trying to provide more information to shareholders, in accordance with the regulations but the increased disclosure does not seem to have an effect as the annual reports are complex to read and understand.

Secondly, chapter 7 investigates the association between the readability of the remuneration report and CEO pay. We found that, in cases where CEOs are overpaid, a more readable remuneration report is produced in line with the legitimacy theory. In case of underpayment, no significant relationship was obtained. This suggests that the introduction of remuneration-related regulations seems to help mitigating impression management through obfuscation. Laksmana et al. (2012) rather found that excessive payment to CEOs were covered in complex remuneration reports in line with the obfuscation theory. However, these findings were obtained from a US sample under the non-binding say-on-pay regime.

Thirdly, this study examines the relationship between the readability of the remuneration report and earnings management. We report that earnings management results in complex remuneration reports, in line with the obfuscation theory.

9.5.Main contribution of the study

The relevance of this study is threefold. Firstly, this research investigates the trend in readability of the annual report vis-à-vis CEO pay in the context of the 2013 Reforms which is the start of the new direction that the UK Government wants to instil to tighten the pay-performance sensitivity, empower shareholders and facilitate the communication with shareholders. Conyon et al. (2011a) and Frydman and Saks (2010) are the only studies that have examined the evolution of executive pay in the US while Li (2008) covered the readability of the US annual reports. To the best of my knowledge, this thesis is the first to examine the trend in the annual report readability and CEO pay in the UK between 2011 and 2019. Since 2011, the UK has seen more and more public concerns and outrage about the rise in pay not resulting from performance. The assessment of the appropriateness of the pay packages awarded to executives depends on the readability and understandability of the remuneration disclosures. Li (2008) reports that the annual reports of US public firms seem to become increasingly more difficult to read despite the introduction of regulations aiming at promoting transparency in disclosure. This study provides an insight into the trend in readability over a recent time period in which regulatory reforms in the UK have targeted increased transparency and clarity in remuneration disclosures as a way of enhancing firm-shareholders communications.

Another contribution of this study relates to the issue of the readability of the remuneration report and CEO pay. The remuneration report constitutes an important part of the corporate reporting as it discusses the pay package granted to management and should help shareholders assess the appropriateness of the compensation packages awarded to management. While Laksmana et al. (2012) and Hooghiemstra et al. (2017) investigate the US and UK firms, they focus on the say-on-pay period (DRR in the UK

context). They both contend that firms that excessively pay their CEOs tend to produce complex remuneration reports which corroborates the obfuscation theory. This study provides an analysis of the association between the readability of the remuneration report and CEO pay in the context of an improved set of regulations which to the best of my knowledge has not yet been covered. This study extends the works of Laksmana et al. (2012) and Hooghiemstra et al. (2017) and contributes to the literature by reporting a complete turnaround in firms' reporting behaviours even in extreme cases where CEOs are excessively paid. In that context, the 2013 regulatory reforms act as the backdrop allowing me to focus on a period whereby the reporting environment is more open and transparent in terms of remuneration information

Thirdly, this study contributes to the extant literature by investigating the link between the readability of the remuneration report and the level of earnings management. To the best of my knowledge all related studies have focused on the readability of the annual report as a whole or the readability of the management discussion and analysis. This chapter adds novel knowledge by investigating the association between earnings management and remuneration report readability, which has not previously been investigated. It shows that earnings management reduces the clarity and transparency of the remuneration reports.

9.6.Practical implications and recommendations

It is evident that regulators are constantly trying to improve the governance rules and regulations, but the current landscape clearly presents some drawbacks. This study shows that despite public calls and concerns CEO pay continues to rise while the annual reports get more complex to read. The mean Fog for the annual report is above 25 indicating that

it is extremely difficult to read. Shareholders' understanding, especially unsophisticated ones, is hugely impacted by the readability of the information presented in the annual reports. For example, a complex remuneration report could affect shareholders' appraisal of the appropriateness of the pay packages granted to management and thus facilitate the say-on-pay process. However, this thesis also reports that excessive remuneration packages do not exacerbate the complexity of the remuneration report. Earnings management occurs mainly for opportunistic reasons and according to this research, it is hidden in complex remuneration reports. Thus, the current set of regulations seems to promote transparency in the remuneration-related matters, but the remuneration report is still susceptible to manipulation and obfuscation when earnings management occurs. To improve the readability of the annual report, UK policymakers could promote plain English disclosure practices in the annual report to facilitate shareholders' understanding of the information presented. Li (2008) shows that the plain English disclosure guidelines seem to effectively forced companies to make their annual reports more readable.

9.7.Limitations of this study

It is common for studies to be constrained by certain limiting factors such as the availability of appropriate data, time and funding restrictions. This study suffers, first of all, from the limited availability of certain data. Data on executive compensation, financial performance and governance are collected from Bloomberg. Unfortunately, this platform fails to break down executive pay into the various components which in my opinion would have enhance the analysis of the trend of the readability of the annual report and CEO pay. A breakdown of executive pay by element would have provided an insight into how each component of pay moves with the readability of the annual report.

Secondly, some control variables which could have improved our analysis were not fully available on Bloomberg. For example, governance variables like the size of the remuneration board, the number of meetings, the number of board committees on which the CEO has a role and the percentage of shares held by institutional owners which were used in other studies like Hooghiemstra et al. (2017) would have improved the results in chapter 7 and 8.

This study mainly focuses on the UK FTSE350 and cannot be generalised to other countries or to smaller firms. This is because the UK corporate governance framework differs from other countries and as shown above firms outside the FTSE350 are subject to different governance rules.

Criticism could be raised concerning the sample procedure and the sample size. In chapter 7 and 8, our results suffer from normality issues mainly due to the sample size. Moreover, our sample is not the result of a random procedure as we intentionally used the FTSE350 without financial and utility firms. Due to limited provision of corporate data for all listed firms in the UK, it is difficult to use random sampling.

9.8.Avenues for research extension

This study focuses mainly on CEO pay. Therefore, I believe that this study could be improved by considering other executives such as the chief finance officer as they might have similar incentives to manipulate earnings or modulate the reading ease of the remuneration report.

Even though a lot of criticisms have been raised against the readability measures used in this study, they remain the most used in the extant literature. However, new measures

like the Bog Index are being increasingly used in the literature as it overcomes the criticism raised against the Fog index for measuring complexity using only syllable count.

Moreover, this study could be further extended by investigating the association between the readability of the remuneration report and the voting dissent amid the introduction of the 2013 Reforms. First of all, a complex remuneration report could confuse the readers thus reducing their abilities to spot the disconnect between pay and performance which could result in lower voting dissent. Secondly, Hooghiemstra et al. (2017) document that shareholders do not react to complex information as it is deemed too costly and unreliable. Thirdly, complex information could trigger shareholders' anger as it could be seen a lack of transparency and credibility which could result in higher voting dissent. Therefore, we believe that this association could be worth exploring.

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APPENDIX 1: SAMPLE COMPANIES FROM FTSE 350

888 Holdings PLC	Carnival PLC
Anglo American PLC	C&C Group PLC
abrdn plc	Centamin PLC
Associated British Foods PLC	Chemring Group PLC
Admiral Group PLC	Clarkson PLC
Assura PLC	CLS Holdings PLC
Ashtead Group PLC	CMC Markets PLC
Aston Martin Lagonda Global Holdings PLC	Centrica PLC
Antofagasta PLC	Capricorn Energy PLC
Ascential PLC	Coats Group PLC
Ashmore Group PLC	Compass Group PLC
Auto Trader Group PLC	Croda International PLC
Aviva PLC	CRH PLC
Avast PLC	Crest Nicholson Holdings plc
AVEVA Group PLC	Countryside Partnerships PLC
AstraZeneca PLC	ConvaTec Group PLC
BAE Systems PLC	Currys PLC
Babcock International Group PLC	Cranswick PLC
Barclays PLC	DCC PLC
British American Tobacco PLC	Diageo PLC
Balfour Beatty PLC	Direct Line Insurance Group PLC
Barratt Developments PLC	Derwent London PLC
Beazley PLC	Dunelm Group PLC
Biffa PLC	Domino's Pizza Group PLC
Berkeley Group Holdings PLC	Dechra Pharmaceuticals PLC
British Land Co PLC/The	Diploma PLC
B&M European Value Retail SA	Drax Group PLC
Bunzl PLC	DiscoverIE Group PLC
Bodycote PLC	Electrocomponents PLC
BP PLC	Endeavour Mining PLC
Burberry Group PLC	Elementis PLC
Brewin Dolphin Holdings PLC	Man Group PLC/Jersey
BT Group PLC	Energean PLC
Britvic PLC	Entain PLC
Bellway PLC	Euromoney Institutional Investor PLC
Big Yellow Group PLC	Essentra PLC
Capital & Counties Properties PLC	Experian PLC
Close Brothers Group PLC	easyJet PLC
Computacenter PLC	FDM Group Holdings PLC
Coca-Cola HBC AG	Ferguson PLC

Firstgroup PLC	Indivior PLC
Flutter Entertainment PLC	Informa PLC
Frasers Group PLC	Investec PLC
Fresnillo PLC	IP Group PLC
Future PLC	Intertek Group PLC
Ferrexpo PLC	ITV PLC
Games Workshop Group PLC	IWG PLC
Genuit Group PLC	JD Sports Fashion PLC
Grafton Group PLC	J D Wetherspoon PLC
Glencore PLC	Johnson Matthey PLC
ContourGlobal PLC	Jupiter Fund Management PLC
Greencore Group PLC	Just Group PLC
Genus PLC	Kingfisher PLC
Great Portland Estates PLC	Kainos Group PLC
Greggs PLC	Land Securities Group PLC
Grainger PLC	Legal & General Group PLC
GlaxoSmithKline PLC	Lloyds Banking Group PLC
Hays PLC	LondonMetric Property PLC
Harbour Energy PLC	Lancashire Holdings Ltd
Hilton Food Group PLC	London Stock Exchange Group PLC
Hikma Pharmaceuticals PLC	Mitchells & Butlers PLC
Hill & Smith Holdings PLC	Micro Focus International PLC
Hargreaves Lansdown PLC	Mediclinic International PLC
Halma PLC	Morgan Advanced Materials PLC
Hammerson PLC	Meggitt PLC
Hochschild Mining PLC	Morgan Sindall Group PLC
HSBC Holdings PLC	Marks & Spencer Group PLC
HomeServe PLC	Mondi PLC
Hiscox Ltd	M&G PLC
Helios Towers PLC	Moneysupermarket.com Group PLC
Howden Joinery Group PLC	Melrose Industries PLC
International Consolidated Airlines Group SA	Marshalls PLC
Ibstock PLC	Mitie Group PLC
Intermediate Capital Group PLC	NCC Group PLC
IG Group Holdings PLC	Network International Holdings PLC
InterContinental Hotels Group PLC	National Express Group PLC
3i Group PLC	National Grid PLC
Imperial Brands PLC	NatWest Group PLC
IMI PLC	Next PLC
Inchcape PLC	Ocado Group PLC

OSB Group PLC	DS Smith PLC
Oxford Biomedica PLC	Smiths Group PLC
Oxford Instruments PLC	WH Smith PLC
Paragon Banking Group PLC	Smith & Nephew PLC
Pagegroup PLC	Sanne Group PLC
Pets at Home Group Plc	Spire Healthcare Group PLC
Premier Foods PLC	Spirent Communications PLC
Provident Financial PLC	Spirax-Sarco Engineering PLC
Phoenix Group Holdings PLC	Serco Group PLC
Pennon Group PLC	SSE PLC
Prudential PLC	SSP Group Plc
Persimmon PLC	Standard Chartered PLC
Pearson PLC	St James's Place PLC
Playtech Plc	Savills PLC
PZ Cussons PLC	Severn Trent PLC
Quilter PLC	Spectris PLC
QinetiQ Group PLC	Synthomer PLC
Rathbones Group PLC	Tate & Lyle PLC
Redrow PLC	TBC Bank Group PLC
Redde Northgate PLC	TP ICAP Group PLC
RELX PLC	TI Fluid Systems PLC
RHI Magnesita NV	Tullow Oil PLC
Rio Tinto PLC	Travis Perkins PLC
Reckitt Benckiser Group PLC	Tesco PLC
Royal Mail PLC	TUI AG
Rightmove PLC	Taylor Wimpey PLC
Rank Group PLC	Ultra Electronics Holdings PLC
Rotork PLC	Unilever PLC
Rolls-Royce Holdings PLC	UNITE Group PLC/The
Renishaw PLC	United Utilities Group PLC
Rentokil Initial PLC	Victrex PLC
Safestore Holdings PLC	Virgin Money UK PLC
J Sainsbury PLC	Vodafone Group PLC
Softcat PLC	Vesuvius PLC
Schroders PLC	Vistry Group PLC
Sage Group PLC/The	Vivo Energy PLC
Segro PLC	Weir Group PLC/The
Shaftesbury PLC	John Wood Group PLC
Shell PLC	Wizz Air Holdings Plc
Smurfit Kappa Group PLC	Workspace Group PLC
	WPP PLC
	Whitbread PLC
	XP Power Ltd

APPENDIX 2: VARIABLES DEFINITIONS

Variable	Description
FOG	Fog score obtained from the CFIE-FRSE application
FRES	Flesch Reading Ease score obtained from the CFIE-FRSE application
LENGTH1	The natural logarithm of the remuneration report wordcount obtained from the CFIE-FRSE application
LENGTH2	The natural logarithm of the remuneration report number of pages obtained from the CFIE-FRSE application
CEO PAY	Total awarded pay to CEO in a fiscal year obtained from Bloomberg
OVERPAID	Equal to the residual term from the estimation model of CEO total pay if the residual is positive, and zero otherwise
UNDERPAID	Equal to the absolute value of the residual term from the estimation model of CEO pay if the residual is zero or negative, and zero otherwise
MAGACC	Magnitude of accruals obtained as $Earnings_t$ - Operating $Cash\ Flows_t$
FSIZE2	The natural logarithm of the sales for the fiscal year t
FSIZE1	The natural logarithm of total assets at the end of fiscal year t
MTB	The market value of the firm divided by its book value measured at the end of fiscal year t
ROA	Return on assets measured at the end of fiscal year t
DUAL	Indicator variable equals to 1 if CEO is chairman and 0 otherwise
BSIZE	The natural logarithm of 1 + the total number of directors on the board
BIND	Number of outside directors as a percentage of total executives as of the fiscal year-end
PFEMEX	Number of female executives as a percentage of total executives as of the fiscal year-end
PWOB	Percentage of women on the board of directors
BIG4	Indicator variable which equals 1 if the auditor is a Big 4 accounting firm and 0 otherwise
COMPLEX	The sum of receivables and inventory scaled by total assets
CAPINT	The net property, plant, and equipment scaled by total assets
RDINT	The total R&D scaled by total assets
CR	The ratio of current assets to current liabilities
FIRMAGE	The natural logarithm of 1 + the difference between the fiscal year and the foundation year
LEV	The total liabilities divided by total assets