The impact of IAS 36 on the quality of financial statements for UK companies: A multi-dimensional analysis of impairment of assets

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THE IMPACT OF IAS 36 ON THE QUALITY OF FINANCIAL STATEMENTS FOR UK COMPANIES: A MULTI-DIMENSIONAL ANALYSIS OF IMPAIRMENT OF ASSETS

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Abstract

This doctoral thesis explores the influence of International Accounting Standard 36 (IAS 36) on the quality of financial statements for UK companies. The study focuses on the impairment of assets, aiming to understand the factors affecting impairment timeliness, the role of audit industry specialisation, and the extent of compliance with disclosure requirements.

The research is divided into three empirical chapters, each employing distinct methodologies to address the research objectives. The first empirical chapter explores timeliness of impairments through studying the association between conservatism, measured by C_Score, and various firm characteristics, such as return on assets (ROA), non-operating accruals (NOAcc), business investment cycle, volatility, corporate governance, firm's age, and credit rating.

The second empirical chapter employs a modified Basu's model of conservatism to test the relationship between audit industry specialisation and impairment timeliness, using negative news signals as predictors. The third empirical chapter utilizes content analysis to examine the level of compliance with IAS 36 disclosure requirements and identifies potential areas of improvement in the disclosure practices of UK companies.

Through rigorous analyses, this research contributes to the understanding of the factors influencing impairment timeliness and the compliance level of UK companies with IAS 36 requirements. The findings shed light on the role of audit industry specialisation in shaping financial reporting quality and provide insights into the impact of conservatism on accounting practices.

The study uncovers that the implementation of IAS 36 has led to improvements in financial reporting quality, particularly in the impairment recognition and disclosure processes. The research also highlights the importance of audit industry specialisation in influencing impairment timeliness and the relevance of negative news signals, such as stock returns, sales changes, and operating cash flow changes, as predictors of impairment.

Moreover, the content analysis reveals variations in the level of compliance with IAS 36 disclosure requirements across different industries and years, emphasizing the need for enhanced transparency and consistency in financial reporting practices.

The findings of this thesis contribute to the ongoing debate surrounding the impact of IAS 36 on financial reporting quality. The insights gained from this study can aid regulators, standard setters, and companies in enhancing financial reporting practices and ensuring the reliability and transparency of financial statements.

Overall, this research advances the understanding of impairment of assets in the context of UK companies, providing valuable contributions to the fields of accounting and financial reporting. The implications of this study extend to researchers, practitioners, and policymakers seeking to improve the quality and effectiveness of financial reporting practices in an evolving global financial landscape.

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Chapter One: Introduction

1 Introduction

The quality of financial statements is highly dependent on valuation methods used by management and the disclosure of relevant financial information. The primary purpose of this study is to explore and analyse the effect of the requirements of International Accounting Standard 36 Impairment of assets on the quality of the financial statements from the perspective of the financial statement's users. In the realm of Agency Theory, the interests of the shareholders are not always aligned with those of the managers while balancing transparency and private incentives is crucial in impairment assessments. A concept related to Agency theory is earnings management which includes the practice of Asset impairments that can influence impairment decisions. As impairment results in reducing the asset's value on the balance sheet, managers may influence financial reports to avoid recognizing impairments, affecting stakeholders' perceptions.

2 Research Background and Motivation

The impairment of assets stands at the core of the asset value, where challenges to the timeliness of impairments, reliable estimates, and the level of disclosure could put into question the idea of accountability itself.

Although not the only source of information, accounting is a hugely influential reference as the authority of institutionalizing and codifying the methods of assets valuation. Lev and Feng (2016) argue that the quality of the overall information used by investors continuously deteriorates, and share prices reveal less of companies' value and prospects as accounting is not about facts anymore.

Yet the availability of trustworthy financial information on the valuation methods, the supportability of their underlying assumptions, proper timeliness of impairment, and the transparency of disclosing the relevant information is fundamental in delivering the necessary confidence. The Conceptual Framework outlines the qualitative characteristics of financial statements and requires management to use prudence while preparing financial statements which in essence, entails exercising a certain level of caution when making estimates in uncertain conditions, ensuring a conservative approach in reporting. We here come at the principle of prudence and conservatism in accounting as a qualitative characteristic of useful financial information. According to Belkaoui (2012), while timeliness measures the degree of

incorporation of economic income in contemporaneous accounting income, conservatism measures the timeliness in incorporating value decreases, or adverse economic income. This study endeavours to explore and analyse the effect of mandatory requirements of IAS No. 36 on the financial statements' quality particularly the timeliness of impairments and the respective disclosed information.

Moreover, audits, as part of a warning system, are an essential contributor to the trust and confidence, helping to ensure that companies report truthfully on their financial information. Depending on various incentives, without a monitoring mechanism, managers can bias the assumptions used in their valuation methods when estimating the fair value of assets. As such, management can exploit their private information to avoid reporting an impairment loss. The external auditor with significant involvement in the impairment process, particularly in the assessment of fair value estimates, acts as a monitoring mechanism in addressing the agency conflicts between management and shareholders (Holthausen, Watts, 2001).

In light of the agency theory examining the role that the auditors play in monitoring and verifying the specific management estimates in the process of the impairment of assets and whether the auditing industry specialisation improves the timeliness of impairments will shed light on their role on the quality of the financial information.

On the other hand, despite the kind of conservatism allowed in financial reporting, standard setters are concerned with the types of information that financial reporting needs to convey and the costs associated with it. However, the full disclosure concept is open to various interpretations and leaves many questions unanswered as a broad and open-ended paradigm. The determination of an asset impairment loss depends on the discretion of management in choosing and applying the measurement and valuation methods. Usually, there is no available observable price for an identical individual asset or cash generating unit (CGU). As such, management needs to estimate the fair value by using valuation techniques, maximizing their observed inputs. Kurunmäki, Mennicken, and Miller (2016) are concerned about measurement and argue that the moment when objectivity is attached to numbers is what matters and when that objectivity becomes ubiquitous and irresistible. Measurement has been investigated by researchers such as Elliott and Hanna (1996), Beatty, Ramesh, Weber (2002), and Riedl (2004).

However, Ijiri and Jaedicke (1976) state that accounting is plagued by the existence of alternative measurement methods and for years accountants have been searching for those criteria that would make choosing the best measurement alternative possible. The usefulness of accounting information, which means the purpose for which the data is to be used is one of the criteria that is considered when choosing an accounting measurement method. However, different accounting measurement methods are suggested as being appropriate for the same group of

financial information users as for instance is the issue of choosing between fair value and historical cost for the measurement of long-lived assets. Accounting as an information source holds distinctive recognition and measurement methods while is subject to assiduous professional management by managers, auditors, and regulators. These unique attributes are expected to significantly impact the information content of accounting measures, which constitutes the central focus of this research.
The bulk of the research literature focuses on the earnings quality rather than qualitative characteristics as defined by the IASB in the Framework for Financial Reporting '(IASB 2008). This is mostly because the earnings quality as defined by Krishnan and Parsons (2008) encapsulates the level to which reported earnings include economic reality, in order to correctly evaluate a company's financial performance which in the end is reported in financial statements. However, the quality of financial reporting is a wider concept that includes financial information and disclosures in addition to non-financial information included in the report that affects decision-making. It is a major and difficult endeavour to summarize the degree to which the standard leads to better information for investors, although it is expected that the accounting quality increases because of the changes in the financial reporting system and with firms' adoption of IAS. This clearly indicates an interest in assessing the information of financial statements to reveal the quality of financial reports, taking into account the dimensions of decision-making usefulness. Especially, assessing specific items in financial reports, such as the disclosures regarding the impairment of assets, remains an essential aspect in the evaluation of the quality of accounting information.

Another objective of this study is to research the disclosed information on impairments according to the requirements of the IAS 36 in the financial statements the chosen valuation methods, the extent that this information is disclosed in financial statements, and the role of audit in this process.

3 Study Motivation

Many years ago, as I had been supervising the process of the re-evaluation of the assets and testing for their impairment for several big state-owned corporations in my country, I was puzzled with the complexity of the process. It raised my interest to find out whether the IAS 36 standard was sufficient on providing adequate guidelines and whether it enhanced the quality of the financial information that was the end result of the process. As I explored the process of the impairment of assets first hand, and studied several relevant research, I realised that a mayor clue was missing. For a long time, the scholars' attention has been drowned by conservatism in accounting and the impairment of assets but not yet to researching specifically the impact of the International Accounting standard 36 (IAS 36) on the quality of the financial information.
In the ever-evolving landscape of accounting and financial reporting, adherence to high-quality accounting standards holds paramount importance. As businesses

operate in a dynamic and competitive environment, the reliability, transparency, and comparability of financial statements turn out to be crucial factors that influence decision making and the confidence of stakeholders. The International Accounting standard 36 (IAS 36) on the Impairment of assets directly impacts the financial reporting process.
My motivation to explore the adequacy of the IAS 36 standard and its impact on financial information quality directly aligns with agency theory. Agency theory posits that managers, acting as agents, may have incentives to manipulate financial information to serve their own interests, potentially leading to agency conflicts. By investigating whether the IAS 36 standard effectively addresses these concerns and promotes reliable asset valuation, this study delves into the agency relationship between management and stakeholders, highlighting the necessity of conservatism as a response to mitigate agency problems and ensure the reliability of financial reporting.

This thesis embarks on an exploration of the impact of IAS 36 on the quality of financial statements for UK FTSE all shares. In conducting my research for this thesis, my primary motivation was to generate valuable insights and contribute meaningfully to the field. When considering database options, I decided against utilizing my country's (Albania) dataset due to its limited information and relatively small size compared to the extensive database available from the UK. This pragmatic decision was driven by the need for a more robust and comprehensive dataset, ensuring the reliability and validity of my study findings.
By investigating the specific consequences of IAS 36, which addresses impairment of assets, this study aims to shed light on the effects for the decision-making processes of UK companies. Policymakers, standard-setters, auditors, and other industry participants will find value in the insights derived from this study, as it offers a critical assessment of the effectiveness of IAS 36 in ensuring the relevance of financial statements.

4 Research gap

There exists a significant gap in understanding the impact of IAS 36 on the UK FTSE all shares market. This research aims to address this gap by delving into the intricacies of asset impairment processes, thereby contributing to our comprehension of accounting conservatism and the timeliness of impairment recognition.

Additionally, the introduction of the "C_Score" indicator as a measure of conservatism for UK FTSE all shares, along with its assessment following Khan and Watts (2009), enriches our understanding of conservatism's characteristics and implications. Furthermore, this study explores the relationship between conservatism (timeliness of impairments), as captured by the C_Score, and various factors such as Corporate Governance, Credit Rating, Investment Cycle, Company's Age, and Volatility,

providing valuable insights into the nuances and impacts of conservatism in the UK accounting landscape. To the best of my knowledge this research has not been done yet for the UK companies.

Furthermore, this research fills another notable gap in the literature by examining the influence of audit specialisation on the timeliness of asset impairment recognition, a subject yet to be thoroughly explored in the context of UK FTSE all shares companies.

Additionally, this research scrutinizes the extent of disclosure compliance under IAS 36 requirements and how companies adhere to such mandates. By examining the extent of audit firms' involvement in asset impairments and the frequency of auditing opinions, this study sheds light on the dynamics of the impairment process and offers insights into how audit firms convey their evaluations. This represents a gap in the literature because, despite the significance of disclosure compliance under IAS 36 requirements and the critical role of audit firms in evaluating asset impairments, there is limited research that thoroughly investigates these aspects within the UK FTSE all shares market. While various studies have explored the broader implications of IAS 36 and accounting conservatism, there remains a lack of empirical evidence specifically focusing on the extent to which companies comply with disclosure requirements and how audit firms engage in the impairment process.

IAS 36, "Impairment of Assets," has undergone several amendments and revisions since 2005. Appendix 2 provides an overview of the development of IAS 36.

5 Scope of the Research

The scope of this research covers the empirical examination of the practices related the impairment of assets as defined by the IAS 36. The study delves into the impairment of assets and its implications on financial reporting practices, taking into account the dynamic accounting environment and the evolving nature of the regulatory landscape.

This research seeks to analyse all UK companies listed on the FTSE all shares index excluding financial institutions to ensure a comprehensive and diverse understanding of impairment practices. By considering companies across different industries and of varying sizes, the study seeks to capture the heterogeneity in financial reporting practices and decisions related to the impairment of assets. Financial institutions deal with complex financial instruments and assets that require specific impairment assessment methodologies involving credit risk models, mark to mark valuations and other specialized techniques that would make comparison challenging.

The analysis is primarily based on the publicly available financial information provided by DataStream, Audit Analytics databases, annual reports, and related disclosures ensuring a practical approach to gather data that is accessible and relevant to stakeholders. The time frame for this research covers the period from 2005 to 2019 to reflect the current accounting and financial reporting practices influenced by IAS 36. However, it is essential to recognize that financial reporting practices may continue to evolve beyond this timeframe particularly after the pandemic.

6 Research objectives

The main purpose of the present study is to investigate the impact of International Accounting Standard 36 (IAS 36) on the quality of financial statements for UK companies listed on the FTSE all shares index.
This includes investigating the process of the Impairment of Assets from various perspectives that will entail the following steps:

- To empirically test the timeliness of the impairment of assets for the UK FTSE all shares companies.
- To examine the role of the specialized auditors in the timeliness of the impairment of assets.
- To explore the level of disclosure of information regarding the impairment process in the financial statements.
- To explore the valuation methods and underlying assumptions used in the process of the impairment of assets.

7 Research questions

In the realm of accounting and financial reporting, the accurate and timely recognition of asset impairments plays a critical role in providing stakeholders with reliable and transparent information. The effectiveness of impairment processes directly influences the quality of financial reports, guiding investment decisions and fostering investor confidence. As UK FTSE all shares companies navigate through the complex accounting landscape, understanding the factors that impact the timeliness of asset impairment, the role of the auditor industry expertise, and the level of disclosure in financial statements becomes imperative. This thesis sets out to explore and shed light on these vital aspects of asset impairment within the context of UK FTSE all shares companies. The overarching research objectives seek to unravel the intricacies of the impairment process, investigating the factors influencing its timeliness, the influence

of auditor industry specialisation, and the level of disclosure as well the valuation methods employed.

1. What factors affect the timeliness of impairment of assets amongst UK FTSE all shares companies in financial reporting?

The first research question delves into the determinants that influence the prompt recognition of asset impairments within the financial reporting framework. By analysing various internal and external factors, this study seeks to identify key drivers that shape the timely reporting of impairments and how these factors vary across companies.

2. How does audit industry specialisation impact the timeliness of impairment enhance the quality of financial reports?

The second research question focuses on the role of audit industry specialisation in the timeliness of asset impairments. Through in-depth examination, this study aims to uncover how auditors and industry experts influence the contents and quality of financial reports, ensuring compliance with accounting standards and best practices.

3. What information regarding the impairment process is disclosed in the financial statements?

The third research question delves into the extent and nature of information disclosed in financial statements concerning the impairment process. By analysing the level of transparency and detail provided, this study seeks to ascertain the adequacy of impairment-related disclosures for informed decision-making.

4. What valuation methods are used, and how does management support key assumptions applied in their valuations?

The fourth research question centres on the valuation methods utilized during the asset impairment process. Additionally, this study aims to understand how management supports and justifies the key assumptions applied in these valuations, evaluating the reliability and accuracy of impairment calculations. Investigating valuation methods and management support for key assumptions provides valuable insights into the accuracy, transparency, and compliance of the asset impairment process.

Throughout rigorous empirical research and methodological analysis, this thesis aspires to contribute to the existing body of knowledge in the field of accounting by enhancing the understanding of asset impairment processes in UK FTSE all shares companies. By addressing these research questions, this study endeavours to provide valuable insights for stakeholders, regulators, and professionals, fostering transparency, reliability, and the overall quality of financial reporting practices.

Table 1: The link between Research Objectives, Research Questions and Research Methods

Table 1: The link between Research Objectives, Research Questions and Research Methods

Research Objectives	Research Questions	Methods
To test empirically the timeliness of the impairment of assets for the UK FTSE all share companies	What factors affect the timeliness of impairment of assets amongst UK FTSE all share companies in the financial reporting.	Main: Empirical model
To examine the role of the specialized auditors in the timeliness of the impairment of assets.	How does audit industry specialisation impact the timeliness of impairment in hence the quality of financial reports	Main: Empirical model
To explore the level of disclosure of information regarding impairment process in the financial statements.	What information regarding the impairment process is disclosed in the financial statements?	Main: Analysis of Financial reports' contents
To explore the valuation methods and underlying assumptions used in the process of the impairment of assets and	What valuation methods are used and how does management support key assumptions applied in their valuation?	Main: Content analysis

8. Research Methodology

The primary purpose of this study is to investigate the impact of IAS 36 "The impairment of assets" on the quality of accounting information. It aims to examine the timeliness of impairment loss recording, the impact of the specialised auditors on the timeliness recording of an impairment loss, as well as to examine the content of financial statements disclosed information regarding the impairment of the assets.

The two first empirical chapters will rely on quantitative methods to test the timelines of the impairment of assets, and the factors that impact it, as well as testing whether industry specialized auditors can improve the timeliness of the impairment of assets.

Moreover, a third empirical chapter using Content analysis method explores the contents of financial statements regarding the disclosed information on the process of the impairment of assets and how does that disclosed information comply with the requirements of IAS 36 "The impairment of assets".

8.1 Timeliness of impairments

The first empirical chapter will address the timeliness of impairment of assets to explore whether UK FTSE all shares exhibit timeliness of the impairment loss recording and study the way that the asymmetric timeliness coefficient varies with the firm characteristics. The estimation of the timeliness of impairment will be based on the Basu (1997) 's model firm-year measure of conservatism which is specified in the cross-sectional regression as defined in Chapter 5. Basu (1997) argues that earnings are anticipated to be more related to the current negative, not expected returns, a proxy for "bad news" than unexpected positive news.

In this research, I follow the suggestion of Kothari and Nikolaev (2013) and use a modified model of Basu (1997) to take into account firm specific factors which are deemed to be endogenous and relevant. Hence, this is a favoured model as it considers all the important and relevant firm characteristics that could have an impact on the earnings.

According to Khan and Watts (2009), *C_Score*[1] can be used to predict asymmetric earnings timeliness changes. This research studies the usefulness of C_Score as a measure of conservatism flow and examine whether UK FTSE all shares demonstrate conditional conservatism *and* also to study the association of non-operating accruals, Return on Assets (ROA), Investment cycle, and Returns Volatility with conservatism. Moreover C-Score measure of conservatism will be tested whether it can predict future asymmetric timelines of earnings up to three years ahead. As such, four groups of hypotheses (Chapter 2.5) are accordingly formulated to test the timeliness of the impairment of assets using C_Score as defined in chapter 5.

8.2 Enhancing the Timeliness of Impairment Recognition: The Influence of Audit Industry Specialisation

Testing whether companies that hire industry specialist auditors record timelier asset impairments relative to those that hire less industry specialized auditors, is explored in the second empirical chapter 6 where a modified Basu (1997) model by Stein (2019) is used for this purpose. Stein (2019) applied this modified model for testing whether companies that hire industry specialist auditors record timelier asset impairments relative to those that hire less industry specialized auditors for the USA companies, and at best of my knowledge, which is yet to be performed for UK companies. The control variables are as those defined by Ettrege, Huang, and Zhang (2012) and also defined in chapter 6. The auditor's expertise can be helpful in recognizing triggering

[1] The timeliness of good news (*G_Score*) and the added timelines of bad news (*C_Score*) are linear functions of firm specific characteristics each year.

events that can cause impairment of assets in a certain period. Their expertise is an important factor in assessing whether an impairment loss is recorded in a timely manner.

This research uses audit fees as the variable for measuring audit industry specialisation following the most recent research to date as Audousset-Couiler, Jeny and Jiang (2016) argue because audit fees are a function of the client's size, riskiness and complexity which would better capture the audit firms efforts instead of using simply client's sales revenues or total assets. Hence, the portfolio approach analysed at the audit firm level measured by audit fees is used in this research to estimate the Audit Industry specialisation as a proxy for audit quality. We expect a positive effect of the audit industry specialisation in the timeliness of asset impairment recording.

8.3 Analysing Disclosure on Asset Impairment in Financial Statements: A Content Analysis Approach

The third empirical chapter investigates and analyses the effect of the requirements of International Accounting Standard 36 "Impairment of assets" on **the disclosure** regarding the impairment of PPE (Property Plant and Equipment) as a tenet of the quality of the financial statements. The International Accounting Standards/International Financial Reporting Standards (IAS/IFRS) comprise a set of international accounting principles which, when adopted, allow the availability of comprehensible rules to demonstrate comparable and transparent accounting information.

While the two other proceeding empirical chapters analyse conservatism and the timeliness of impairments for the UK FTSE all share companies as elements that improve the quality of financial statements, the other empirical chapter investigates the end result of the impairment process which is the disclosure of such information in the financial reports using content analysis. Content analysis can be used as both qualitative and quantitative research method depending on its application and the research goals.

Among the debate between qualitative and quantitative methodology, Content analysis takes a mediating position including elements of both sides. The central elements of all forms of content analysis are the categories that act as the instruments with which the text is worked through. In this study, a deductive coding approach is adopted, emphasizing the importance of precise category definitions with clear description of the coding rules and definitions together in the coding guideline. It is developed before coding, using theoretical arguments, particularly for the definitions.

Triangulating the findings from these three approaches allows for a thorough understanding of the impact of the IAS 36 on the Impairment of assets.

9. Contribution to knowledge

This research can help with the identification and exploration of the quality of the financial statements related to the impairment policy. It aims to extend our knowledge through a detailed analysis of the process of the impairment of assets.
The outcome of this study aims to draw inferences regarding the timeliness of recording an asset impairment loss as an element of the quality of financial information, as well as the level of compliance of the UK FTSE all shares with IAS 36.

In doing so, this research contributes to the literature by estimating an indicator "C_Score" as a firm-year measure of conservatism for the UK FTSE all shares and examining its properties as a metric according to the model of Khan and Watts (2009). Moreover, it contributes to the literature by examining the relationship between Conservatism in Accounting captured by C_Score and the Corporate Governance, Credit Rating, Investment Cycle, Company's Age and Volatility shedding more light on the nature and effects of conservatism in accounting in the UK.

This study also investigates whether Audit specialisation improves the timeliness of the impairment of assets, a study that to the best of knowledge is not yet performed for the UK FTSE all shares.

The reporting of asset impairments has always been a challenge for accountants. There is a rich literature with papers examining the impairment of assets, the quantitative, and to a lesser extent, the qualitative effects on accounting data. It is a major and difficult endeavour to summarize the degree to which the standard leads to better information for investors, although we expect that the accounting quality increases because of the changes in the financial reporting system and with firms' adoption of IAS.
Although the debate about the level of disclosure continues, the focus of this research is also to investigate the level of disclosure under the IAS 36 requirements and how companies comply with such disclosures.

Furthermore, it contributes to the literature by investigating whether the impairments of assets have been within the scope of the auditing company in general for the whole sample of UK FTSE all shares that have recorded an asset impairment for the entire period of IAS application, the frequency of auditing opinions on the impairment of assets, identifying the auditing companies that were more engaged in the impairment process and show how the auditing companies expressed their opinions.

Understanding the dynamics of disclosure compliance and audit firms' involvement in asset impairments is crucial for several reasons. Firstly, it provides insights into the effectiveness of regulatory frameworks and standards in ensuring transparency and accountability in financial reporting. Secondly, it offers valuable information for investors, regulators, and other stakeholders who rely on financial statements to make informed decisions.

With this introduction, the background is set for an in-depth exploration of the impact of IAS 36 on the quality of financial statements for the UK companies. In the following chapters, we will review relevant literature, delve into the theoretical foundations, outline the research methodology, and present the empirical findings that collectively contribute to the advancement of knowledge in this important domain of accounting research.

10. Thesis Structure

This thesis is organised into eight comprehensive chapters dedicated to exploring crucial aspects of asset impairment processes and their impact on financial reporting. The structure of the theses is as follows:

The first chapter serves as the foundation of this research, providing an overview of the study's background, outlining the research objectives and its significance presented in the contribution to knowledge section. It outlines the research questions that guide this research and justifies the need for this research on the Impairment of assets. The chapter concludes with an outline of the subsequent chapters, offering a preview of the study's structure and flow.

Chapter two presents the Literature review and hypothesis development. In this chapter, a comprehensive review of the relevant literature pertaining to asset impairment, financial reporting and related concepts is conducted. It starts with a description of the Accounting Treatment for the Impairment of Assets as a starting point of this research and continues with a discussion of the Conceptual Framework particularly the trade-off between the concept of Prudence and Neutrality as these two fundamental accounting principles can sometimes be in conflict when making accounting judgments and decisions. It then continues with the discussion of conservatism in accounting, then proceeds with literature on the Timeliness of Impairment, the role of auditors on the quality of financial statements, then the level of disclosers and measurement. The synthesis of literature supports the theoretical underpinnings of the study and informs the development of research hypotheses.

Chapter three outlines the theoretical framework. Building upon literature review, this chapter presents the chosen theoretical framework that guides the analysis of data and interpretation of findings. The theoretical framework aligns with

the research objectives and also offers a conceptual lens through which the research questions are addressed. This chapter also justifies the suitability of the selected framework for this study.

The research design and methodology are elaborated in Chapter four for each of the empirical investigations. The study's approach, data collection methods, data sources and sampling techniques are explained for each of the three empirical chapters. This chapter ensures the research's consistency and validity, underpinning the subsequent empirical investigations.

Chapter 5 focuses on investigating the timeliness of asset impairments through exploring whether UK FTSE all shares exhibit timeliness of the impairment loss recording and study the way that the asymmetric timeliness coefficient varies with the firm characteristics. Empirical data is analysed to identify key determinants and patterns associated with the timeliness recognition of impairments in financial reporting. Chapter five presents the findings and their implications, contributing to the understanding of timeliness of asset impairments.

Building on the previous chapter, Chapter 6 explores the influence of the industry specialised auditors on the timeliness of asset impairments. The empirical analysis highlights the role of industry specialised auditors on the timeliness of the impairment of assets providing valuable insights for stakeholders.

Chapter 7 undertakes a comprehensive content analysis of financial statements to evaluate the extent and nature of information disclosed regarding asset impairment. The analysis assesses the adequacy of impairment-related disclosures particularly as required by IAS 36, offering valuable understanding into transparency and disclosure practices.

Chapter 8 synthesizes the key findings from the preceding chapters and draws conclusions. The implications of the research are discussed in the context of the literature and theoretical framework. Based on the conclusions, recommendations are provided also identifying areas for future research.

By remaining to this structured approach, this research aims to contribute to the field of accounting and financial reporting, providing valuable insights into asset impairment practices among UK FTSE all shares companies. The research findings and recommendations hold potential implications for stakeholders and professionals, fostering transparency, reliability, and the overall quality of financial reporting practice.

Chapter 2: Literature Review and Hypothesis development

1. Introduction

Accounting information provides a standardized language that enables business to communicate financial information effectively and make informed decisions while also serving as an indispensable tool for measuring, analysing, and interpreting the business financial performance. The quality of financial statements is highly dependent on valuation methods used by management and the timely disclosure of the relevant financial information. Therefore, to be relevant, information must be available to users in a timely manner so that it could be used in making timely decisions. Yet the availability of trustworthy financial information on the valuation methods, the supportability of their underlying assumptions, proper timeliness of impairment, and the transparency of disclosing the relevant information is fundamental in delivering the necessary confidence.

Audits, as part of a warning system, are an essential contributor to the trust and confidence, helping to ensure that companies report truthfully on their financial information.

Assessing the impairment practice in the context of the quality of financial reporting is fundamental because this process requires the exercise of management's judgment and discretion, factors that allow discretion to derive from the characteristics of accounting standards. This is more relevant in the context of the agency theory which provides a theoretical emphasis on understanding the organizational process and design from the principal agent perspective (Hodge et al. 2009) that will be addressed thoroughly in the Theoretical framework chapter. It addresses the incentives for eventual problems that can occur from the separation of management and ownership. Lambert (2001), states that the principal supplies capital, bears risks and construct incentives, while the agent is required to make decision on the behalf of principal, perform tasks and also bear risks. Both parties aim to maximize their self-interests which often are not the same. According to Jensen and Meckling (1976, p.308) the agency relationship allows the agent (management) some decision-making authority on behalf of the principal (shareholders). Assigning this authority raises the concern whether management acts in the best interests of the shareholders which on the other hand implies some agency costs. The agency relationship leads to the problem of information asymmetry that arises due to the different information available to shareholders and management. Shareholders need information to evaluate the performance of management. For instance, managers may choose to delay the impairment process which decreases the value of assets, as an attempt to reduce the

gap that arises from this conflict of interest. Kothari, Shu, and Wysocki (2009) also find that management delays the release of bad news to investors. The mechanism of conservatism is to defer recognition of gains until they can be verified with the aim of reducing exposure to moral hazard (Ball, Shivakumar, 2005).

This chapter begins with an overview of the accounting treatment of asset impairment in section 2, laying a strong foundation for the subsequent discussions. Section 3 delves into the conceptual framework, with a particular emphasis on exploring the relationship between prudence and neutrality. Continuing the exploration of accounting principles, section 4 focuses on conservatism in accounting, while section 5 scrutinizes the timeliness of impairments and hypothesis development.
In section 6, the role of auditors in the impairment process is examined, followed by an exploration of disclosure practices in section 7. Section 8 is dedicated to the critical aspect of measurement in the impairment process, delving into various methodologies employed. Finally, section 9 summarizes the key findings and conclusions derived from the comprehensive analysis presented in this chapter.

2. The Accounting Treatment for the Impairment of Assets

IAS 36 “Impairment of assets” specifies that an asset is considered impaired if its carrying value (book value) exceeds its fair value.
Under IAS 36, entities are required to conduct an impairment test when there is an indication that an individual asset or Cash Generating Unit (CGU) may be impaired. Internal indicators typically offer direct evidence of impairment, while external sources of information are broader and less specific to the asset or CGU in question.

Estimating the recoverable amount often involves determining the fair values of assets and Level 2 or 3 investments. This process can be challenging, as it relies on management's assumptions and inputs consistent with prospective buyers. Different motivations may drive alternative models of valuation, leading to a lack of objective and uniform criteria for selecting a valuation model for asset impairment.

When an impairment is recognized, the company reduces the asset's value and records an impairment loss in the income statement as a "write-down." The asset impairment process involves discretion regarding the amount and timing of write-offs, giving management economic incentives to align with specific circumstances in the present and future periods.

One common practice for instance, is the "big bath," where companies experiencing lower than regular earnings may record several discretionary losses not previously recognized. This tactic is intended to signal to the market that difficult times are over. However, critics, like Zucca and Campbell (1992), highlight concerns that

this approach can be a form of earnings management, resulting in lower depreciation expenses in the future.

Managers need to cope with decisions on the amount and timing of impairment. Elliot and Hanna (1996) identify three critical issues related to accounting for write-offs: timing, measurement, and disclosure, with timing often dependent on the application of measurement and disclosure practices.

Figure 1: The process of impairment of Assets.

Ball et al. (2000) argue that economic income is incorporated into accounting income in a smoothed and lagged pattern over time, primarily due to the recognition principle. Copeland (1968) further suggests that earnings smoothing involves shifting earnings from peak years to less successful years to mitigate year-to-year fluctuations.

In Positive Accounting Theory, discretionary choices play a significant role, as emphasized by Watts and Zimmerman (1978). They contend that management's influence on accounting standard determination and their understanding of management incentives opposing or supporting these standards are crucial aspects of the positive theory of standard setting. In a regulated environment, Watts, and Zimmerman (1978) argue that managers are more likely to opt for accounting standards that report lower earnings, reducing tax liabilities and increasing cash flows to enhance their compensation incentives.

Contrasting this view, Govindarjan et al. (2018) find that earnings matter less for CEO compensation. Companies are reportedly reducing cash-based bonuses linked to profits and adopting stock-based compensation to discourage managers from sacrificing essential investments.

However, Amiraslani, Iatridis, and Pope (2013) present research indicating an increased association between the "big bath" and write-off reporting behaviour, suggesting opportunistic reporting by managers after standard implementation. Additionally, they find that the quality of reporting write-offs has diminished, aligning with criticism of the standard.

The combination of forward-looking and historical bases in financial disclosures poses challenges to the reliability of impairment tests.

a. Recognition and Measurement of Impairment

Central to the issue of discretionary choice is the measurement and valuation method applied by management in the determination of an asset impairment loss.

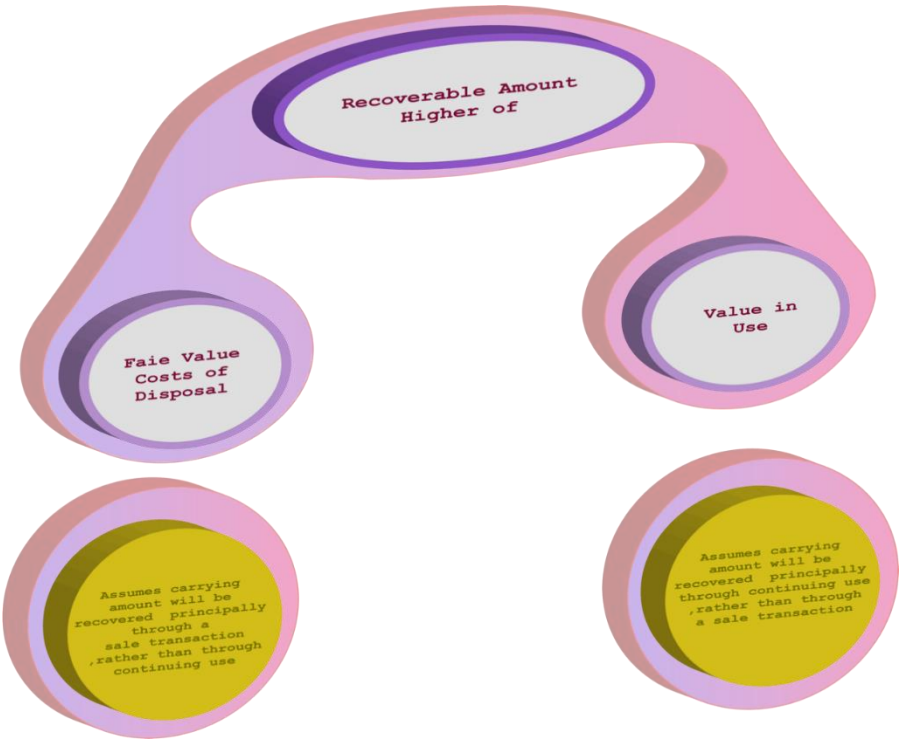

Figure 2: Fair value and Value in use

Source: Author

An impairment test involves estimating both: the fair value less costs of disposal FVLCOD[2] and the value in use VIU[3] and then comparing the higher amount to the asset's carrying amount.

The fair value estimate takes into account the specific characteristics of an asset that market participants would consider when pricing the item. On the other hand, VIU is entity-specific and reflects its intentions regarding the asset's usage, assuming its recovery through continued use and eventual disposal.

The distinction between fair value and VIU lies in the assumptions used by market participants for pricing an item. To estimate VIU, it's necessary to forecast future cash flows derived from the ongoing use of the asset, encompassing its eventual disposal value. Then, an appropriate discount rate is applied to these cash flows. Cash flow estimation relies on management's projections and budgets, while the discount rate reflects the expected return required by investors for similar investments. When relevant data is unavailable, the entity may opt to estimate the discount rate using alternative sources of information.

[2] FVLCOD fair value less cost of disposal
[3] VIU Value in use

The Conceptual Framework underscores the importance of management applying prudence in financial statement preparation. Prudence entails exercising caution when making estimates in situations of uncertainty.

a. Recognition

In asset recognition, the principle of prudence instructs that assets are typically recognized initially at historical cost. Moreover, any declines in value should be promptly acknowledged as impairment, whereas increases in value are only recognized upon the actual sale of the asset.

b. Measurement

In the context of valuing assets and liabilities using fair value or cash flow models, employing higher discount rates to accommodate illiquidity risk demonstrates a prudent approach. The principles of prudence and conservatism in accounting are fundamental qualitative characteristics of useful financial information.

3. Conceptual Framework on Prudence and Neutrality

The revision of the Conceptual Framework by IASB[4] and the FASB[5] in 2010 did not include prudence in the Chapter of Qualitative Characteristics. Nevertheless, prudence remained a significant aspect of IFRS[6]. Scholars like Mora and Walker (2015) pointed out that the absence of prudence in the 2010 Conceptual Framework was due to its potential conflict with neutrality and the risk of being exploited for earnings management. The FASB defines neutrality as the absence of bias in reported information to achieve predetermined outcomes or influence behaviour. For example, ACCA (2014) supports the omission of prudence in the measurement of assets for fair value measurement, as it emphasizes the need for honest application, particularly in uncertain conditions. Including prudence in accounting standards could introduce an unquantified bias, according to ACCA (2014).

While exercising prudence is not a justification for deliberate understatement of assets or overstatement of liabilities, Mora, and Walker (2015) argue that the qualitative characteristics of accounting focus primarily on the accounting information itself. Watts and Zimmerman (1978) highlight that management may influence accounting standards based on their self-interest, leading to the exclusion of prudence from the Framework due to its perceived incompatibility with neutrality. Consequently, reporting elements may be influenced by specific company interests in conjunction with the reporting standard, which are not easily controlled by the norm of good

[4] IASB International Accounting Standards Board
[5] FASB Financial Accounting Standards Board
[6] IFRS

intentions. Weak enforcement or political interference can also diminish the intended economic gains from accounting regulation, as suggested by Ball (2001) and Bushman and Smith (2001).

In the 2018 framework, IASB emphasizes faithful representation, aiming to maximize completeness, neutrality, and freedom from error as underlying characteristics. While IASB aligns neutrality and prudence, stating that a neutral depiction is supported by exercising prudence, there remains some ambiguity in the Framework regarding prudence and neutrality. The term 'prudence' is consistent with conservatism, as argued by Mora and Walker (2015). However, Barker (2015) points out a restriction in the term prudence if it conflicts with neutrality, cautioning against overstatement of net assets.

This research addressees in its first two empirical chapters conservatism in accounting, analysing the timeliness of impairments and exploring how accounting is actually practiced.

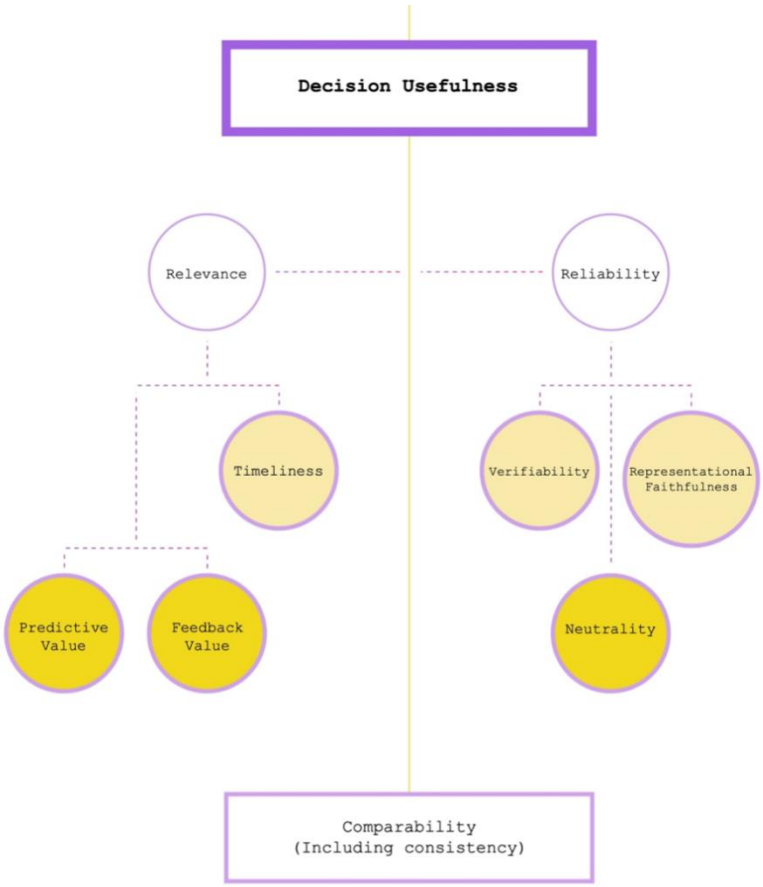

Figure 3: Qualitative characteristics of useful accounting information

Source: Author

4. Conservatism in Accounting

Sterling (1967) considers conservatism to be the most influential principle of valuation in traditional accounting. The principle of conservatism is often encapsulated in scholarly literature through the maxim "expect no gains and make provisions for all foreseeable losses" (Bliss, 1924). However, Barker (2015) states that the question of whether IFRS should be conservative is topical and important. There is considerable empirical evidence that accounting is conservative meaning that losses are recognized on a timelier bases than gains. According to positive accounting research, which explains accounting decisions based on the costs and benefits of participants involved, the demand for conservatism arises in an agency setting of various economic incentives among the stakeholders and different access to information (Watts, 2003a).

Feltham and Olsen (1995) demonstrate in their research that accounting is conservative as opposed to unbiased. They believe that the market value of the company is related to the disclosed accounting data respectively from financial and operational activities. Each of these two activities involves different measurement issues and according to Feltham and Olsen (1995) the market value of the company is a function of these components of financial statements. They also find that in conservative accounting, the book value of an asset induces higher price and expected earnings if the accruals proportion of operating activity is also high. However, the linear information dynamics model of Feltham and Olsen (1995) has been criticized because of the undefined “other information” variable and also for not including information asymmetry. Their research comes under the area of capital market-based accounting research as Kothari, 2001 states, in which book values, earnings and dividends are commonly used in stock price valuation.

Holthausen and Watts (2001) also believe that it is useful for the academics and FASB connected individuals to gain some knowledge about the degree of association between accounting numbers and equity valuations. Holthausen and Watts (2001) argue that it is hard for the standard setters to identify the implication of such association. The interaction of standards and practice could be investigated using conservatism as well. Holthausen, Watts (2001) raise the question whether conservatism is more due to how accounting is practiced rather than to how the accounting standards give authorization to.

On the other hand, the Conceptual Framework allows significant level of discretion regarding conservatism which can be exploited by companies operating in different jurisdictions to tailor their conservatism level according to their economic and

legal context. It might as well have an impact on the comparability of the financial information. If one wishes to impose or assume responsibility and the ability to make decisions, one first has to make individuals to a certain extent comparable and calculable (Miller, 1992).

Conservatism could also be more prevalent in some parts of financial reporting than others. For instance, tax and contracting arguments indicate that conservatism may play a more significant role in financial statement recognition than in disclosure.
LaFond and Watts (2008) find that conservatism reduces the ability and incentives of managers to affect the accounting data and hence reduces the information asymmetry. They further state that this increases firm and equity values.
According to Beaver and Ryan (2005) accounting conservatism is manifested in two general but distinct ways recognized in the literature.

a. Unconditional Conservatism

Conservatism can manifest in two ways: unconditional and ex ante, independent of any news. Unconditional conservatism involves the accounting process generating unrecorded goodwill at the inception of assets and liabilities, often referred to as the balance sheet approach. Beaver and Ryan (2005) provide examples of unconditional conservatism, such as the immediate expensing of internally generated intangible assets or the accelerated depreciation of assets compared to their economic depreciation, as well as historical cost accounting for projects with positive net present value.

Beaver and Ryan (2005) developed a model capturing the distinct natures and interactions between conditional and unconditional conservatism. Under unconditional conservatism, the book value of net assets is understated due to predetermined aspects of the accounting process (balance sheet approach), while under conditional conservatism, book value is written down under adverse circumstances, but not written up under favourable circumstances (income statement approach).

The literature on unconditional conservatism focuses on the challenges associated with valuing certain types of economic assets and liabilities and determining their impact on future income.

b. Conditional conservatism

Conservatism can take a conditional form, being dependent on news or ex post. This means that when unfavourable conditions arise, book values are written down, but if conditions become favourable, they are not written up. The latter behaviour represents the conservative approach (income statement approach).
Instances of conditional conservatism include lower of cost or market accounting for inventory and impairment accounting for long-lived tangible and intangible assets.

The literature on conditional conservatism emphasizes enhancing contracting efficiency due to managers' incentives to report accounting numbers with an upward bias.

The application of conditional conservatism is more likely to be transitory on the income statement because of fluctuations in the content and timing of economic news across periods (Chen, Folsom, Paek, Sami, 2014).

According to the evidence provided by Chen et al (2014) and Dichev and Tang (2008), volatility of earnings increases under conditional conservatism while earnings persistence decreases.

IASB[7] advocates the balance sheet approach, which considers assets and liabilities as the primary reference point for analysing financial results instead of operating income (Barker, Schulte, 2017). This approach is based on the idea that profit changes merely express changes in wealth. However, in the context of Fair Value Accounting combined with the balance sheet approach, re-measurements of assets lead to increased profit volatilities (Bernstein, 2002).

Lev and Feng (2016) argue that the overall quality of information used by investors is continuously deteriorating, and share prices reveal less about companies' value and prospects as accounting is no longer solely about facts. Nevertheless, despite not being used in isolation, there is strong evidence that accounting remains a significant source of information for decision-making.

On the other hand, almost every income statement item and most balance sheet values are based on estimates, leading to two major problems: all estimates are prone to errors, and managers may intentionally provide biased estimates to meet or exceed financial analysts' forecasts.
Thus, it becomes challenging to distinguish how much of the reported earnings are estimates and how much is factual.

While both forms of conservatism result in understated net assets in the balance sheet, they have different effects on the timing of the income statement recognition and different timing in the balance sheet recognition (Ruch, Taylor 2015).

The goals of both types of conservatism are directed towards minimizing regulatory or litigation costs, capturing investors' perceptions of asymmetric loss operations, and avoiding criticism.

4.1 Different approaches of Conditional Conservatism

[7] IASB International Accounting Standard Board

Despite its long history and ongoing use, an ongoing debate exists regarding whether conservatism, especially unconditional conservatism, is desirable. According to Mora and Walker (2015), conditional conservatism refers to the relative speed with which good and bad news about assets in place is reflected in financial statements. If the accounting system requires a higher degree of verification for recognising good news than bad news in earnings, then this will result in an asymmetry in the recognition of bad and good news, with bad news being timelier recognised than good news.

4.1.1 The value relevance approach

The focus lies on using accounting numbers for valuation purposes rather than contracting purposes. Barth et al. (2005) advocate for the "value relevance" approach to financial reporting, which primarily emphasizes predicting future cash flows, as seen in cases of assets valuation for impairment.

For example, Barth et al. (2005) conduct research to investigate whether companies reporting under IAS demonstrate less earnings management, more timely loss recognition, and higher value relevance in their accounting numbers. Beattie (2004) also notes in her review of UK financial accounting research that value relevance studies often consider a comprehensive accounting context, encompassing accounting institutions and specific features of the accounting standards being examined.

Barth, Beaver, and Landsman (2001) contend that value relevance is just one aspect among several that can be used to assess the quality of information. In this perspective, value relevance is just one of numerous factors to ponder when evaluating the benefits of conservatism. Nevertheless, it is crucial to recognize that value relevance might be seen as advantageous in accounting mainly from a valuation standpoint (unconditional conservatism) and not necessarily from a contractual viewpoint (conditional conservatism).
Moreover, Ruch and Tylor 2015 argue that evaluating the effect of conservatism on value relevance is important to understanding the effects of conservatism on equity market users.

Dietrich et al. (2007) suggest that conservatism adds an interesting dimension to characterize accounting earnings, particularly regarding timeliness.

4.1.2 The contracting purposes approach

Holthausen and Watts (2001) on the other hand present an argument that conservatism in financial reporting may be driven by contracting purposes, primarily focused on equity valuation, while potentially neglecting other essential roles of

accounting. In contrast, Basu (1997) contends that conservatism's origins may indeed be rooted in contracting purposes, but additional influences such as regulatory forces, litigation, taxation, and political processes have also contributed to the presence of conservatism in accounting standards. Basu emphasizes that both regulatory motivations and costly contracting play roles in sustaining conservatism's influence within Generally Accepted Accounting Principles (GAAP).

Watts (2003) conducts an assessment of conservatism, focusing on its significance in the context of contracting purposes. He identifies four primary sources of conservatism:

a) Contracting: Conservatism serves as a mechanism to address asymmetric information and moral hazard issues that arise in contractual relationships. By incorporating conservative accounting practices, financial reporting aims to mitigate opportunistic behaviour by managers, compensating for biases and the asymmetric verifiability requests of stakeholders.

b) Litigation: Overstating assets is more likely to lead to litigation costs compared to understating them. Adopting conservative reporting methods can help minimize the risk of legal disputes and potential liabilities.

c) Taxation: Recognizing losses more readily than gains reduces the present value of taxes, thereby increasing the overall value of the company. Conservative accounting practices can thus have tax-related implications for the organization.

d) Regulatory Motivation: Regulators and standard setters are subject to greater scrutiny and criticism when net assets are overstated by managers, as opposed to understating them. Conservatism in financial reporting helps address these regulatory concerns and supports the credibility of financial information.

By examining these sources of conservatism, Watts provides a comprehensive understanding of the multifaceted motivations behind its presence in accounting practices. The interplay of contracting, litigation, taxation, and regulatory considerations highlights the complexity of conservatism's role in shaping financial reporting standards and decision-making processes.

4.1.3 A reconciled approach

Ball and Shivakumar (2005) highlight the existence of asymmetry (timeliness) in financial reporting but acknowledge that its specific reason remains unclear. They argue that the demand for timely loss recognition, driven by debt and compensation contracting, outweighs the equivalent demand for timely gain recognition. Penman and

Zhang (2002) on the other hand argue that when employing conservative accounting alongside investments growth, it reduces earnings and accounting rates of return, while also generating undisclosed reserves. Companies that reduce investments can tap into these reserves, thereby boosting earnings and raising rates of return resulting in weakened quality or sustainability of earnings.

However, Kothari et al. (2010) seek to reconcile the controversy surrounding conditional conservatism by focusing on the fundamental agency relationships, particularly between shareholders and management, as well as between shareholders and debt holders. They argue that users of financial information require certain characteristics in financial reporting such as conservatism, a balance sheet that includes only controllable and saleable assets, and an income statement that provides a reliable measure of management performance. This is crucial for equity investment decisions, where numerous principals hold investment contracts and share a common interest in conservative, general-purpose financial statements. The concept of contracting plays a significant role in this context, emphasizing the importance of meeting the information needs of all stakeholders. Garcia Lara et al. (2020), discovered that conditional conservatism enhances the firm's information environment by mitigating earnings management. Moreover, O'Connell (2007) argues that conservatism in accounting is particularly valuable for improving stewardship.
It is important to note that conservatism serves as a rational response to risk. However, Fuad et al. (2023), argue when faced with increased ambiguity, where uncertainty surpasses the firm's control and outcomes become unpredictable, management tends to decrease conservative accounting practices.

5. Timeliness of Impairment

Previous studies have extensively investigated conservatism using an asymmetric timeliness approach introduced by Basu (1997). Basu's model employs stock market returns as a measure of news and establishes that under conservatism, earnings are reported more timely for publicly available bad news than for good news. Analysing conservatism sheds light on the nature of accounting accruals, which allow accountants to recognize future cash flow-related bad news asymmetrically. The rationale behind this lies in the fact that unrealized losses, such as impairment write-downs, impact current earnings but not current cash flow or future income, whereas unrealized gains do not affect either current earnings or cash flow.

Dichev and Tang (2008) found that the correlation between previous expenses and present revenues has grown throughout the four decades leading up to their research. The heightened correlation between past expenses and current revenues aligns with timely recognition of losses. Consequently, Dichev and Tang (2008) assert that this observation aligns with a rise in conditional conservatism over a similar period, as highlighted by Givoly and Hayn (2000).

Basu (1997) argues that when an asset impairment is recorded, reported earnings react faster and more comprehensively to bad news compared to good news (DT). Furthermore, accruals that include write-downs are more likely to exhibit conservatism than other accruals. Additionally, negative earnings changes tend to reverse more frequently in the subsequent period than positive earnings changes. For example, recording an impairment loss reduces earnings and the asset's value in the current period, resulting in lower depreciation expense in the future period.

Ball and Shivakumar (2005) consider reporting quality in terms of financial statements' usefulness to stakeholders like investors, creditors, and managers. They stress the importance of timely recognizing economic losses as a critical aspect of reporting quality and highlight the significant role of accounting accruals in identifying gains and losses before cash flow realization. Shivakumar and Waymire (2003) analyse the impact of accounting requirements for fixed assets of the Interstate Commerce Commission (ICC) in 1907 and 1908 but find limited evidence of reduced income smoothing. The ICC's accounting rules were major as they were the first in the US to empower regulators with enforcement capabilities, such as fines and imprisonment.

Brown et al. (2006) find that the association of conditional conservatism with earnings' value relevance is contingent on contextual, country-specific, and firm-specific factors. Ball, Kothari, and Robin (2000) extend Basu's (1997) model to incorporate variables reflecting international institutional differences. They consider the extent of political influence on accounting as a key institutional variable, arguing that enforcement and political influence in standard setting affect the demand for timely and conservative income. Moreover, they argue that timeliness and conservatism together capture the transparency of financial statements, and information asymmetry depends on the incentives of managers and auditors to disclose information about economic losses, which also varies internationally (comparing US and Japan). Their model, using the change in market value of stockholders' equity as a proxy for timeliness, has been adopted by numerous researchers to analyse international differences in timeliness of impairment and conservatism.

Amiraslani, Iatridis, and Pope (2013) conducted a study examining the implementation of impairment reporting requirements under IFRS in 4,474 listed companies. Their research focused on the timeliness of impairment losses for assets in Europe, and they identified firm-specific and countrywide factors associated with the quality of impairment disclosures. By assessing how quickly economic losses are recognized in accounting earnings, they addressed the discretion offered by reporting standards in managing the amount and timing of impairments. Their findings highlighted cross-country differences in the quality of bad news recognition decisions, suggesting that the institutional infrastructure significantly shapes financial reporting outcomes across European countries reporting under IFRS.

Similarly, Andre et al. (2016) also investigated the timeliness of impairment and reached similar conclusions to Amiraslani, Iatridis, and Pope (2013). They discovered that the actual number of impairments was relatively small compared to the number of firms experiencing economic impairment, with only 20-25% of firms impairing, depending on the measure of economic impairment used.

In essence, these studies aimed to capture institutional differences on an international scale, and they highlighted how requirements for conservatism differ due to the influence of discretion allowed in standard requirements.

Pope and Walker (1999) also conducted an analysis of the timeliness of income recognition in the financial reporting regimes of the USA and the UK. They expanded on previous work by examining the link between current reporting earnings and changes in market value, considering the low association between market data and current earnings due to accounting recognition rules. Depending on the earnings measure, they presented new findings on parameter estimates' sensitivity and included news from prior periods as an explanatory variable. Their results revealed that good news had a lag of one-year recognition, while bad news recognition was anticipated by up to two years. Ryan and Zarowin (2003) found similar results, showing that the importance of lags and asymmetry persisted even when earnings were aggregated over a four-year period. This led to a weak relation between four-year earnings and returns by the end of the sample period. They suggested that increasing lags could be attributed to limitations on historical cost valuation bases and the availability of timelier non-earning information for valuation purposes. They also proposed that the increase in asymmetry could reflect the rise of conservatism.

Ball and Shivakumar (2005) demonstrated that accrued loss recognition was more widespread than accrued gain recognition, aligning with Basu's (1997) findings. They investigated if a similar pattern occurred for conditional conservatism in accruals and explored whether incorporating the asymmetrically timely gain and loss recognition role of accruals could enhance the explanatory power of standard accrual models. Their model compared timely loss recognition between UK public and private firms and highlighted the significance of nonlinear models as a substantial specification improvement.

Researchers have questioned the reliability of Basu's (1997) measure of conservatism. For instance, Dietrich et al. (2007) examine whether "bad" news is incorporated into earnings more timely than "good" news. They identify biases in the test statistics arising from the asymmetric timeliness estimation procedure, except under very restrictive conditions rarely met in empirical settings. Their findings raise concerns about the validity of some previous research studies that have explored earnings recognition timeliness and suggest that these inherent biases hinder the accurate measurement of conservatism. However, Ball, Kothari, and Nikolaev (2013) argue that when the research objective is to estimate the functional shape of the

conditional expectation E (I | R), return is the correct independent variable, and conditioning on it does not induce bias.

Patatoukas and Thomas (2011) reveal that the Different Timeliness measure is influenced unexpectedly by two empirical regularities related to scale: (1) deflated mean earnings and (2) variance of stock returns, which have a negative relationship. Although these regularities are not directly linked to conditional conservatism, their combined impact is significant and widespread. They emphasize that previous findings regarding time-series and cross-sectional variation in differential timeliness might be confounded by the variation in these regularities. Givoli et al. (2007) identify certain characteristics of the information environment unrelated to conservatism that affect the DT measure. They find that the measure's sensitivity is influenced by the degree of uniformity in the content of news during the examined period, the types of events occurring in the period, and firms' disclosure policies. Their tests, based on actual and simulated data, suggest that accurately assessing reporting conservatism using this measure requires recognition of and control for these characteristics. Additionally, they discover that the difference in the timeliness of reporting bad versus good news may be more pronounced than previously reported.

Ball, Kothari, and Nikolaev (2013) assert that conventional Basu (1997) regression coefficients exhibit bias in estimating the relation between unexpected 'news' components of earnings and returns due to a cross-sectional relationship between their expected components. This bias is caused by a nonlinear correlation between expected earnings and expected returns, which can confound the Basu's estimator without proper controls. Patatoukas and Thomas (2011) previously identified this bias and attributed it to scale-related effects. However, Ball, Kothari, and Nikolaev (2013) provide evidence that the issue does not stem from scale but rather arises from a nonlinear correlation between the expected components of earnings and returns, distinct from their news components. They argue that this bias is conceptually similar to an omitted correlated variable, a common concern in empirical literature with known solutions. By including firm fixed effects, the bias disappears and becomes statistically insignificant. Despite implementing these controls, the estimate of asymmetric timeliness remains statistically and economically significant, showing a predictable relationship with book-to-market, size, and leverage. They emphasize that much of the criticism towards the Basu (1997) regression misunderstands researchers' objectives. They demonstrate that the Basu measure is unbiased under the null hypothesis of zero asymmetry and captures conditional conservatism as formulated in their model under the alternative hypothesis.

Following the cross-sectional model of Khan and Watts (2009), I employ firm-fixed effects for the time period from 2005 to 2019. This methodology has been utilized by Ball, Kothari, and Nikolaev (2013) in their study of conservatism, where they demonstrate that controlling for expected earnings mitigates systematic bias variation related to various firm characteristics often used as proxies for conditional

conservatism (Khan, Watts, 2009), as well as for risk (Fama, French, 1992, 1993). Their research also affirms that the inclusion of firm fixed effects in the estimation effectively eliminates the bias, rendering it statistically insignificant. Dechow, Ge, and Schrand (2010) suggest that impairments may reflect earnings management or accounting distortions, making them essential for assessing the quality of earnings.

Badia et al. (2021) find in their empirical findings that researchers investigating the factors and consequences of conditional conservatism can confidently utilise our revised Basu AT measure.

A significant gap remains in the extant reviewed literature which refers to understanding the influence of IAS 36 in the timeliness of Impairment for UK FTSE all shares. To address whether UK FTSE all shares demonstrate conservatism in accounting therefore record timely asset impairments, I examine the variation of the asymmetric timeliness coefficient with firm characteristics, which influence their information environments. The development of the "C_Score" indicator as a firm-year measure of conservatism for UK FTSE all shares adds to the understanding of conservatism's properties and implications. C-Score has been widely used by the literature to capture conservatism by Kim et al., 2013, Francis et al., 2013, Chen et al., 2014, Garcia Lara et al., 2014, D'Augusta et al., 2016.

Based on the argument that conservatism acts as a mechanism to address the agency problems like reducing the risk of opportunistic behaviour by agents by biasing financial reporting towards caution and prudence, it is expected to improve timely recognition of an impairment loss by providing a higher information quality. As a result, the first hypotheses is developed:

H 1: C_Score is a measure of conservatism flow

5.1 Firm-specific characteristics used in estimation.

Considering the significance of asymmetric timeliness of earnings recognition as a crucial factor in reporting quality and the controversies surrounding its empirical detection, Ball, Kothari, and Nikolaev (2013) demonstrate that the asymmetric timeliness coefficient varies with firm characteristics that affect their information environments, such as the length of the firm's operating and investment cycles, and its degree of diversification. Ryan and Zarowin (2003) as well, caution against relying solely on a single measure to assess the overall conservatism of a reporting regime, as it may lead to incorrect inferences. Ahmed et al. (2000) expand the Feltham and Olsen (1995) model further when searching for conservatism and find that the accounting-based conservatism proxies have additional explanatory power even after controlling for factors like size, book value (or sales) growth, and leverage.

To test for conservatism and asymmetric timelines of earnings a set of firm characteristics that are available and commonly used as proxies for the firm's investments opportunity will be used in this research: M/B, Size, and leverage. Below

it is elaborated how M/B, size and leverage are related to conservatism through the four Watts (2003a) factors.

M/B ratio:

Roychowdhury and Watts (2007) pointed out the difficulty of assessing empirical proxies in the absence of an economic theory of conservatism. Roychowdhury and Watts stressed that a theory of conservatism was necessary to understand the relation between asymmetric timeliness, M/B value, and the extent to which both measures reflected conservatism. They examined how accounting practice influenced the market-to-book ratio and the asymmetric timeliness of earnings, two commonly used empirical measures of conservatism. Battie (2007) highlights that using the market value of net assets as the benchmark for accounting introduces errors in measuring conservatism with both M/B and asymmetric timeliness. Roychowdhury and Watts (2007) argue that the error in M/B is unknown due to the unobservable relative amounts of rents and net assets. They find that the relation between the end of the period market-to-book and asymmetric timeliness becomes positive over long horizons, suggesting that Basu's (1997) measure estimated cumulatively may be a better measure of conservatism with respect to net asset values than M/B. Ball, Kothari, and Nikolaev (2015) argue that the Basu coefficient is influenced by the amount of new information about rents and growth options relative to assets. They also find that shocks to growth expectations are not contemporaneously captured in accounting income, indicating that asymmetric earnings timeliness is linked to the quantity of news about "unbooked" growth options relative to news from other sources. This research builds on this rationale.

Evaluating the relationship between market-to-book ratio and asymmetric timeliness is considered a crucial initial step in assessing conservatism measures, as pointed out by Beatty (2007). According to Feltham and Ohlson (1995), accounting can be considered conservative if the expected value at time t of the market value exceeding the book value of the firm's equity at time t-1 is greater than zero, approaching infinity.

This concept of conservatism suggests using the M/B ratio as a proxy for the level of conservatism. A ratio greater than one indicates conservative accounting, and an increase in the ratio over time implies an increase in the degree of reporting conservatism, all else being equal. Stober (1996), utilizes this measure to examine the presence of conservatism, as done by Givoly and Hayn (2000). Roychowdhury and Watts (2007) argue that the M/B ratio tends to be negatively associated with the timeliness of reporting bad news.

Firms with high M/B ratios are often associated with greater stock return volatility, which can be attributed to their riskier growth options and relatively less regulatory oversight. These high M/B firms are also more prone to experiencing

significant losses, leading to increased litigation risk, thereby creating a higher demand for conservatism in their financial reporting (Khan, Watts, 2009).

Empirical evidence, indicates that conservatism varies with the M/B ratio and aligns with Watts' theory, justifying its use in the estimation of the C_Score (Khan, Watts, 2009) for the UK FTSE all shares.

I hypothesise a positive relationship between the M/B ratio and conservatism, in line with the findings of Roychowdhury and Watts (2007) and Khan and Watts (2009).

H 1a: Earnings response to bad news is negatively correlated with M/B.

Size:

Smith and Watts (1992) propose that firm size is an endogenous variable influenced by economies of scale in both production and organization. Consequently, size becomes an indicator of conservatism and reflects the investment opportunity set. According to Ball and Shivakumar (2005), larger firms, being correlated with listing status, are expected to report losses more promptly due to various agency costs and litigation risks. Additionally, executives gain from managing larger companies and more assets since their compensation is strongly linked to firm size (DeBondt, Thaler, 1995).

Kanodia and Lee (1998) argue that larger firms are committed to higher disclosure quality by providing information on management's investment decisions. This serves as a monitoring scheme to reduce management's tendency to invest in assets that could harm shareholders' value. Such disclosure becomes especially relevant for multi-segment firms due to the increased potential for information asymmetries and value destruction within this context.

Managers in such firms have the opportunity to use cash flows from profitable segments to fund poorly performing segments, resulting in smoother overall earnings and a potential reduction in the present value of tax liability. As noted by Watts and Zimmerman (1990), the political cost hypothesis suggests that large firms are more inclined to adopt accounting choices that decrease reported profits compared to small firms. Size serves as a proxy variable for political attention, with larger companies being more likely to engage in write-offs. However, the magnitude of write-offs tends to decrease with size, reflecting increasing political costs due to greater visibility to tax authorities.

Both size and leverage play significant roles in explaining cross-sectional variances in accounting choices (Zmijewski, Hagerman, 1981; Leftwich, 1981) and information asymmetry (Bartov, Bodnar, 1996).

Large firms, with their complex operations, often experience information asymmetry. However, due to the higher litigation risk and greater demand for reducing tax liability, these firms are also expected to take measures to lower information asymmetry as a net effect.
Therefore, I anticipate a negative relationship between size and conservatism, in line with the perspective that larger firms exhibit less asymmetric timeliness (LaFond, Watts, 2003; Khan, Watts, 2009; Banker et al., 2017).

H 1b: Earnings response to bad news is positively correlated with Size.

Leverage:

According to Watts and Zimmerman (1990), as leverage increases, managers are more likely to employ accounting methods that boost income, leading to heightened agency problems between shareholders and lenders. In response, conservatism is expected to be more prevalent in high-leveraged firms and contract choices to reduce subsequent information asymmetry. Studies by Zhang (2000) and Nikolaev (2010) support this notion, showing that firms with extensive use of debt agreements in public debt contracts demonstrate higher levels of conditional conservatism.

Watts (2003) highlights that conservative reporting enhances the verifiability of net assets, aiding lenders in making better lending decisions and efficiently monitoring borrowers' ability to repay. For highly leveraged firms under financial distress, there is an increased risk of litigation and a greater demand for conservatism.

Consequently, I anticipate a positive relationship between leverage and conservatism.

H 1c: Earnings response to bad news is positively correlated with Leverage.

Overall, asymmetric timeliness estimates of earnings vary with the firm characteristics like size, M/B ratio, and leverage because they are natural determinants of expected earnings and returns (Ball et al. 2013).

5.2 Other empirical properties of C_Score as a measure of Conservatism flow

Taking in consideration that C_Score is effective in measuring the flow of conservatism, rather than relying primarily on market-based measures of conservatism (such as the M/B ratio, Size and Leverage) this research acknowledges that conservatism is an issue of the timing and sequencing of revenues and expenses relative to the accruals.
Therefore, distributional properties of earnings and accruals are examined below.

ROA:

A basic feature of a conservative reporting system is the early and full recognition of unfavourable events in the financial statements and the delayed and gradual recognition of favourable events (Givoly, Hain 2000). If such tendencies exist, the earnings distribution would be negatively skewed. As ROA (Return on Assets) measures a company's profitability by dividing its net income by its average total assets, it provides insights into how efficiently a company generates earnings from its assets. Companies with higher C-Scores (higher conditional conservatism) tend to recognize losses more quickly, which could lead to lower reported net income. As a result, their ROA might be negatively impacted. Conversely, companies with lower C-Scores (lower conditional conservatism) may be recognizing gains more quickly and delaying the recognition of losses.
This approach could lead to higher reported net income and potentially higher ROA. Therefore, I develop this hypothesis:

> *H2a: Accounting Conservatism captured by C_Score varies with ROA in the opposite direction.*

NOACC (non-operational accruals):

Earnings comprise both cash flows and accruals. Cash transactions are considered objective evidence of completed transactions and are recorded when they occur. On the other hand, accruals are recorded based on contractual agreements before any cash transaction takes place, making them more timely than cash transactions but subject to discretionary estimations (Dechow, 1994). Givoly and Hayn (2000), present a compelling argument that conservatism leads to a reduction in cumulative reported earnings over time. They propose that the sign and magnitude of accumulated accruals over time can serve as measures of conservatism. In firms that are in a steady state with no growth and adopt neutral accounting practices, earnings tend to converge to cash flows, and periodic accruals tend to approach zero. However, according to Givoly and Hayn (2000, p. 292), a consistent prevalence of negative accruals among firms over an extended period suggests a tendency towards conservatism, assuming all other factors remain constant.

Moreover, the rate at which negative accruals accumulate can serve as an indicator of the changing level of conservatism over time. In this manner, the study provides valuable insights into the dynamics of conservatism in financial reporting practices.

Conservatism analysis involves examining the nature of accruals in financial reporting. Basu (1997) argues that conservatism's effects on earnings and cash flows

can be analysed in a similar manner. Accruals allow accountants to recognize bad news concerning future cash flows asymmetrically and in a timely manner. While cash flow transactions are recorded as they occur, unrealized gains reduce current earnings without affecting current cash flow. Basu (1997) finds that accruals incorporating write-offs and write-downs are more likely to reflect conservatism than others. These findings suggest that conservatism is primarily reflected in accruals and not in cash flow. It is important to note that the timing and amount of most non-operational accruals (NOACC) are subject to management discretion.

Building on these arguments, I hypothesize that accounting conservatism captured by C_Score moves to the same direction with NoACC.

I state the research hypothesis as follows:

> *H2b: Accounting Conservatism captured by C_Score varies with NoACC in the same direction.*

Moreover, this research aims to explore further the nature of conservatism in accounting, by studying the relationship of the variation of conservatism in accounting as captured by C-Score with other variables which have also been used in the literature such as firm's age, credit ratings (Beatty et al., 2008), investment cycle (suggested in Ryan, 2006), Corporate Governance for the UK FTSE all shares.
Exploring the relationship between conservatism in accounting, as indicated by the C-Score, and other variables such as firm age, credit ratings, investment cycle, and corporate governance for the UK FTSE all shares allows for a comprehensive understanding of the factors influencing conservative accounting practices.

Age:

Conservatism is expected to decrease with firms' age, because younger firms tend to have higher growth options relative to assets in place compared to older firms. Moreover, information asymmetry between managers and investors is more pronounced during the growth period because predicted cash flows are less verifiable, thus producing more agency costs. This leads to an increased demand for conservatism. Assets in place on the other hand require less verifiable efforts with increased age of the company. Givoly and Hayn (2000) for instance find evidence for an increase in conservatism in U.S in the last four decades.

We predict a negative relationship between C_Score and Age and state the following hypothesis:

> *H3a: Accounting conservatism decreases with Age.*

Volatility:

The volatility of returns reflects the unique risk associated with individual companies. It is anticipated that conservatism will demonstrate a positive relation with volatility because agency costs tend to rise with this variable. When there is a lack of information for certain securities, investors assume the estimation risk. In such cases, securities with less information are perceived as riskier due to greater uncertainty surrounding their return distribution parameters. Consequently, reducing information asymmetry by increasing the amount of available information to stakeholders will reduce the estimation risk and subsequently would lower the cost of equity. Suijs (2008) proves that the reporting strategies adopted by firms emerge as a crucial factor influencing investment risk.

Lara et al. (2012) find in their study that when firm-level conservatism rises, it subsequently leads to a reduction in future stock-returns volatility, which aligns with the notion that conservatism helps in reducing information asymmetry.

Additionally, volatility is also expected to be positively related to conservatism due to its negative association with returns (Christie, 1982). Therefore, for conservative firms, volatility is expected to rise during periods of asset write-offs as returns will reflect the negative signal by increasing return volatility. Based on these arguments, as this research studies the idiosyncratic risk we expect that conservatism increases with volatility.

H3b: Accounting conservatism increases with volatility.

Investment Cycle Length:

Firms with high uncertainty regarding *long investment cycles* increase the demand for conservatism because of the uncertainties the investment cycle length raises related to the accuracy regarding the magnitude and timing of the future cash flow estimation. A longer investment cycle implies a greater degree of uncertainty concerning the future outcomes. This is also related to the possibility of higher potential loses that increases the likelihood of litigation which generates a higher demand for conservatism.

However, there is limited research that directly addresses the relationship between the length of business cycle and accounting conservatism besides Khan and Watts (2009) analysing USA companies and Lay and Taylor (2008) study for Australian companies.

In this case we predict a negative relationship between C_Score and the Investment length cycle. This negative relationship derives due to the calculation of Investment cycle length variable which is a decreasing measure of the length of the

investment cycle (defined as depreciation expense deflated by lagged assets). Hence a negative relationship between C_Score and the proxy for Investment Cycle length indicates a positive relationship, I state the following hypothesis

H3c: Accounting conservatism increases with investment cycle length.

Corporate Governance:

Further examined in this research is the extent to which conservatism in accounting is related to Corporate Governance. Louis et al. (2009) as well support the association of accounting conservatism with governance. It would be reasonable to expect that a strong corporate governance that emphasizes transparency and accountability promotes accounting conservatism by encouraging companies to adopt prudent and reliable financial reporting practices. However, this is not the case. Louis et al. (2009) for instance, argue that conservatism serves as a substitute for external monitoring, reducing agency conflicts between managers and shareholders.
Moreover, as Burke, Chen and Lobo (2020) argue, the impact of CG performance can be linked to conditional conservatism through reduced management opportunism and information asymmetry because by engaging in socially responsible practices, companies build positive relationships with the stakeholders, improve their information environment (Anagnostopoulou, Tsekrekos, Voulgaris 2021; Cho, Lee, Pfeiffer 2013; Cui, Jo, Na 2016), reducing thus the demand for conditional conservatism. This is more due to the fact that that the demand for conservatism in accounting is lower for those companies that have a good performance of CG which signals less managerial opportunism. This is in line with Williamson (1975), Watts (2003) who contend that the demand for conservatism varies with the degree of managerial opportunism.

I hypothesize that the level of conservatism in accounting arising from the demand for less information asymmetry between management and stakeholders is lower for better performing CG companies.

H3d: Accounting conservatism decreases with corporate governance.

Credit Rating:

This research examines whether accounting conservatism has a positive effect in the company's credit rating.

Accounting conservatism may have an impact in the risk perception of the credit ratings agency toward default risk because companies that employ conservatism in accounting are expected to reduce information asymmetry thus providing a clearer and more accurate view of their financial position leading potentially to higher credit

ratings. Moreover, conservatism in accounting involves a cautious approach toward the recognition of losses and risk by recognising the impairment of assets in timely manner. In their study Francis et al. (2005), explore the link between accruals quality and credit rating. They find that accruals quality, which provides insights into how accounting earnings are transformed into cash flows, significantly contributes to explaining debt ratings. Ahmed et al. (2002), investigated the correlation between credit ratings and indicators of conservatism, while Zhang (2008) explored the connection between spreads on private debt and indicators of conservatism. Both studies revealed that lenders tend to lower interest rates for borrowers exhibiting relatively higher levels of conservatism in their financial reports. This suggest that conservatism plays a crucial role in mitigating the cost of debt (proxied by credit ratings). Franzen, Rodgers and Simin (2007), as well as Frankel and Roychowdhury (2006) have identified a correlation between default risk and the degree to which companies present conservative financial reports.

Therefore, companies that adopt conservative accounting may be viewed as less risky contributing to the perception of a long-term stability thus again potentially contributing to higher credit ratings. That said, several US based studies find a positive relationship between the level of conservatism and credit ratings (Ahmed et al. 2002; Moerman 2006; Nikolaev, 2007; Bauwhede 2007; Zhang 2008; Peek 2010).

In general, it is expected that companies characterized by greater information asymmetry tend to receive more conservative ratings demonstrating a positive relationship so I state the following hypothesis:

H3e: Accounting conservatism increases with credit rating.

The predictive ability of C_Score

This research also investigates whether C_Score could be useful in forecasting asymmetric timeliness for up to three years in advance. Rank Correlation assesses the correlation between the C_Score decile ranking and the Basu's coefficient, serving as an indicator of the C_Score's predictive capacity for the Basu's coefficient. To analyse the Rank correlations companies are sorted yearly according to C_Score decile in year t–3, t-2, and t-1. Then the Basu (1997) regression is performed using year t data within each decile.

C_Score could be useful in forecasting asymmetric timeliness for up to three years in advance if the results demonstrate positive and high rank correlation for the three observed years.

H4: C_Score can predict changes in asymmetric timeliness of earnings up to 3 years ahead.

This study adds to the knowledge by investigating the relationship between conservatism captured by C_Score with Corporate Governance, Credit Rating, Investment Cycle, Company's Age, and Volatility, providing valuable insights into the nature and effects of conservatism in accounting within the UK context. To the best of my knowledge, this research has not yet been performed within the UK context for the period of IAS 36 implementation (2005-2019).

6. Auditors

The audited financial statements play a crucial role in monitoring mechanisms to address the agency conflict that arises from the separation of management and ownership. Stewardship properties and performance evaluation of these statements help in this regard. Without such monitoring, managers may have incentives to bias the assumptions used in their valuation methods, especially when estimating the fair value of assets. This could lead to the avoidance of reporting impairment losses by exploiting their private information.

External auditors, who are significantly involved in the impairment process and assessment of fair value estimates, act as crucial monitoring mechanisms to address the agency conflicts between management and shareholders (Holthausen, Watts, 2001). Auditors are responsible for assessing the reasonableness of their clients' measurements, and if they find material misstatements, they require their clients to adjust fair value estimates before reporting them in the financial statements (Griffin, 2014).

However, recent accounting and auditing standards may impact how auditors fulfil their fiduciary duty to investors, especially when they need to require clients to adjust fair value estimates. Whether these standards lead auditors to require more or fewer adjustments to fair value estimates is an open question that requires further examination.

b. The industry specialisation of auditors

Verifiability, as a crucial component of faithful representation, creates an expectation among financial information users that all reported data can be audited. However, verifiability does not limit the use of indirect verification only to situations where direct verification is unavailable or too costly. While direct methods generally offer more persuasive support, they do not express a preference for them.

Gaynor, Kelton, Mercer, and Yohn (2016) argue that financial reporting complexity has a negative impact on audit quality. As accounting estimates and

subjectivity in accounting and auditing standards increase in complexity, audit quality tends to decrease (Christensen, Glover, Wood 2012). Bratten, Gaynor, and Griffin (2014) find that bias in audited financial statements suggests that auditors may fail to detect or correct it.

Although auditors are more likely to require adjustments when uncertainty is high, Griffin (2014) observes that supplemental disclosure compensates for potential unreliability of recognized amounts. Audit quality variations have been evident in firms with highly subjective and imprecise fair value estimates (Griffin, 2014).

The convergence of recent events in regulation and standard setting has placed a challenging burden on auditors, according to Christensen, Glover, and Wood (2012). They express concerns that the increasing convergence of events may exceed auditors' ability to provide the level and nature of assurance currently required for estimates with extreme estimation uncertainty. Evaluating acceptability and auditing estimates within larger reasonable ranges that exceed materiality becomes a difficult task for auditors without sufficient quantitative information on estimation uncertainty provided to users.

However, past research indicates that embracing risk-based techniques and enhancing competencies among industry specialist auditors can lead to higher-quality audits. Gul, Fung, and Jaggi (2009) conducted a study to explore how auditor industry specialisation influences the relationship between auditor tenure and earnings quality. They discovered that the link between shorter auditor tenure and lower earnings quality is weaker for firms audited by industry specialists compared to non-specialists. Similarly, Balsam, Krishnan, and Yang (2003) examined the connection between earnings quality measures and auditor industry specialisation and found that clients of industry specialist auditors exhibit lower discretionary accruals and higher earnings response coefficients compared to clients of non-specialist auditors, suggesting higher earnings quality for industry specialists' clients.

However, Minutti-Meza (2013) contradicts the idea that auditor industry specialisation is a reliable indicator of audit quality, as measured using the auditor's within-industry market share. On the other hand, Reichelt and Wang (2010) investigated audit quality for industry audit specialists at the national and city-office level and found that auditors who were both national and city-specific industry specialists had clients with the lowest abnormal accruals, indicating higher audit quality. They concluded that joint national and city-specific industry specialisation contributes to superior audit quality, drawing upon auditors' national positive network synergies and individual auditors' deep industry knowledge at the office level. These concepts will be elaborated in detail in chapter 6.

Solomon, Shields, and Whittington (1999) explored the experience-knowledge link for industry-specialized auditors and found that industry specialisation enhances frequency knowledge accuracy while producing mixed evidence for knowledge

quantity gains. They suggested that the focused training and deep direct experiences of industry specialists primarily enhance non-error knowledge.

As auditors specialised in certain industries develop knowledge related to the trends and triggering events that are deemed to cause an asset impairment that affect similar clients for a given period, it is expected that companies that hire more industry specialised auditors would record timelier impairments in comparison to the companies that hire less specialised auditors.
To test whether timeliness of impairments varies based on the audit industry specialisation congruent with bed news signals such as negative stock returns, sales change and operating cash flow change, a modified Basu's model of conservatism in accounting is used (section 6.3) having negative impairment as dependent variable (Stein 2019; Banker, Basu, Bysalov 2017; Ball, Shivakumar 2005).

While it is not possible to practically observe the right period when an impairment loss should have been recorded, we need to search for benchmarks that serve as indicators of such an event. According to Banker, Basu and Bysalov (2017), as different classes of assets are tested separately for impairments, accountants use indicators that predict future cash flows respective to each of these asset classes. After controlling for stock return (*Return* in Basu 1997 model), earnings are likely to exhibit asymmetric loss recognition due to several other indicators such as sales change (*ΔSales*) and operating cash flow change (*ΔOCF*) (Banker, Basu, Bysalov 2017).

Moreover, as impairment tests are based on operating cash flow forecasts while sales are the main driver of cash inflows and outflows, sales change adds information to impairment tests most likely for short-term assets (Dechow, Kothari, Watts 1998).

Sales Change (ΔSales):

Sales change (ΔSales) for instance is an important new indicator in conservatism research. Moreover, as impairment tests are based on operating cash flow forecasts while sales are the main driver of cash inflows and outflows sales change adds information to impairment tests most likely for short-term assets (Dechow, Kothari, and Watts 1998).

According to Ertimur et al. (2003), the sales surprise is an important indicator to investors in their decision-making because through this variable they can identify cases of earnings management. They further argue that usually, companies with negative sales surprises will have e negative reactions from the market.

Operating Cash Flow Change (ΔOCF):

According to Ball and Shivakumar (2006) operating cash flow (OCF) has an asymmetrical effect of earnings incremental to that of stock return although Banker, Basu and Bysalov (2017) and Dechow, Kothari, and Watts (1998) argue that operating cash flow includes transitory noise due to the normal variation of working capital.

However, because operating cash flow is influenced by both sales and costs it is useful in predicting future costs (Ertimur, Livnat and Martikainen 2003).
As prior research indicates, companies that demonstrate an asset impairment loss also display poorer financial performance compared to the companies that have not recorded an asset impairment, reflected thus in lower Δ*OCF.*

There is a gap in literature on the impact of Industry specialized auditors in the timely recording of an asset impairment within the UK context. In this study, I aim to examine whether companies audited by industry specialists record timelier impairments compared to companies audited by less specialized auditors.

Therefore, to test this research question, I utilize the modified Basu (1997) model proposed by Stein (2019), which has been previously used to test USA companies but has not yet been applied to UK companies, as far as my knowledge goes. Based on these arguments I develop the hypothesis (stated in alternative form):

H5: Client firms engaging industry specialist auditors record more timely asset impairments relative to client firms engaging auditors with less industry specialisation.

7. Disclosures

Standard setters are mindful of the different forms of conservatism permitted in financial reporting and are focused on determining the essential information financial reports should convey, taking into account the associated costs. This perspective recognizes the significant role of accounting in shaping the preferences of the users for whom it provides information (March 1987).

However, the concept of full disclosure remains open to various interpretations, leaving many questions unanswered as it is a broad and open-ended paradigm. Additionally, as stated in the IFRS Framework, financial reports are not the sole source of information available to users in their economic decision-making. The primary users of general-purpose financial reporting include present and potential investors, lenders, and other creditors. They rely on this information to make decisions about buying, selling, or holding equity or debt instruments, as well as influencing management's actions that impact the utilization of the entity's economic resources. These primary users seek information not only to assess an entity's future prospects for net cash inflows but also to evaluate how effectively and efficiently management has utilized the entity's existing resources, known as stewardship (IFRS Framework, [1.3-1.4]).

Kothari (2001) highlights that a substantial portion of published research examines the relationship between financial statement information and capital markets. In an efficient market, a firm's value is determined as the present value of expected future cash flows, discounted at an appropriate risk-adjusted rate of return (Kothari, 2001). While a firm's current performance summarized in its financial statements is important, it is not the sole factor influencing the market's assessment of the firm's valuation, aligning with the objective of general-purpose financial reporting (IFRS Framework, [1.6]).

However, it is crucial to recognize that direct equity valuation is not the only determinant of the nature of today's balance sheet, as it does not aim to value the firm on a going-concern basis. Shareholders, investors, and lenders consider other relevant information from other sources as well. The IFRS Framework acknowledges that general-purpose financial reports cannot provide all the information that users may need to make economic decisions.

Verrecchia (2001) raises concerns about the relationship between disclosure and information asymmetry reduction, suggesting that increased disclosure could diminish the private benefit from information collection and subsequently decrease information asymmetry. However, the Conceptual Framework emphasizes that financial accounting information should be sought if the benefits of acquiring such information outweigh the associated costs. Shareholders benefit from disclosure if it adds value. Lev and Feng (2016) argue that despite advances in information technology and investors' processing capacity, information asymmetry persists as managers possess more knowledge than investors. Crawford and Sobel (1982) also point out that while sharing information can lead to better agreements, strategic considerations may make revealing all information to an opponent less advantageous. Bhattacharya et al. (2012) study the relationship between information risk and the cost of equity and find that improving the quality or precision of information outweighs the effect of information asymmetry on equality of access to information.

Miller and Porter (2013) assert that accounting is fundamentally a responsibilising practice, though its effectiveness in achieving desired outcomes is debatable. Lambert, Leuz, and Verrecchia (2005) conclude in their research that increasing the quality of mandated disclosures generally reduces the cost of capital for firms in the economy. In another study, Lambert, Leuz, and Verrecchia (2011) examine the link between information differences across investors (i.e., information asymmetry) and the cost of capital, finding that the degree of competition in the capital market plays a critical role in this relationship.

In the pursuit of transparency, Strathern (2000) argues that techniques for assessing, auditing, and evaluating institutions are often justified on the grounds of

transparency. However, she warns that this appeal to benevolent visibility can also have a potentially tyrannical side.

According to the Conceptual Framework (2018), financial information must not only represent related phenomena but must also faithfully represent the phenomena it purports to represent to be useful.

Transparency is essential in financial reporting as it helps users of the financial statements understand a company's underlying economics, including assets, liabilities, and equity, as well as how their values are measured and change over time. Beatty and Smith (2012) note that the importance of disclosure determinants can vary depending on the specific disclosure topic due to its unique attributes.
Andrews (2006) conducted a study on the treatment of impairment losses and disclosure practices in UK companies. He found that a significant portion of the companies did not provide adequate explanations for the calculation of impairments or reasons behind them.

Amiraslani, Iatridis, and Pope (2013) also observed variations in the depth of impairment disclosures. Some companies merely comply with the minimum requirements, while others offer detailed explanations of their impairment policies and judgments.

The ESMA[8] report criticizes significant disclosures for lacking entity-specific information and raising concerns about key management assumptions, consistency in sensitivity analysis, use of external information sources in fair value determination, optimistic future growth projections, and missing information on discount rates used.
Tsalavoutas, André, and Dionysiou (2014) found similar issues in disclosures in a worldwide sample. Boucková (2014) also highlighted deficiencies in the disclosure of mandatory information related to IAS 36 compliance, particularly concerning the calculation of the recoverable amount and sensitivity analysis.

The debate on knowledge contributing to the information organizations gather about themselves is ongoing. Companies with high accounting quality in their reported disclosures provide stakeholders with verifiable information about unfavourable financial events, while less verifiable information is more susceptible to manipulation and less useful to stakeholders.
Increasing the quality and quantity of disclosed information comes with implementation costs, and accounting regulations enforcing mandatory disclosure can raise these costs. The challenge lies in balancing these costs with the social benefits of revealing crucial financial information to stakeholders.

[8] ESMA: European Securities and Market Authority

As financial statements information provides a systemic framework for recording, summarizing, and interpreting financial transactions and events within the organisation, any information that would make a difference in the process of decision-making should be disclosed (Al-Mulhem 1997).

This study aims to investigate the quality of information regarding the impairment process that is disclosed in the financial statements. It seeks to explore the level of compliance with IAS 36 requirements, the way companies disclose such information and to identify companies that may be regarded as good practice amongst UK listed companies.

8. Measurement

Miller and Porter (2013) argue that accounting is what we term a subjectivizing or individualizing practice in its effects, both within organizations and more generally. Subjectivizing here has two aspects: it refers to the possibility of being subject to regulation or control by another; but it also includes the fundamental presumption of an individual who is free to choose, albeit often by reference to financial norms or standards. The amount of discretionary choice available to management in the decision to charge an impairment loss is also an important point in terms of whether management uses this discretion in order to manipulate the published financial results. Griffin (2014) argues that measuring fair values in the absence of reliable market prices is difficult because the estimation process often depends on relatively subjective information inputs and generates imprecise ranges of possible outcomes. He further mentions Reilly and Scannell (2008) who argue that investor advocates warn that preparers could use this uncertainty to bias fair value estimates.

According to Ijiri and Jaedicke (1976) accounting is plagued by the existence of alternative measurement methods and for years accountants have been searching for those criteria that would make choosing the best measurement alternative possible. The usefulness of accounting information, which means the purpose for which the data is to be used is one of the criteria that is considered when choosing an accounting measurement method. However, different accounting measurement methods are suggested as being appropriate for the same group of financial information users as for instance is the issue of choosing between fair value and historical cost for the measurement of long-lived assets.

The usefulness of financial information depends on the reliability of the measurement procedure used. However, accountants have employed the objective principle to justify the measurement procedure used, as a full reliability in accounting is often difficult to achieve. The important characteristic of objective information is to be free of bias and based on evidence.

Ijiri (1965) in his paper was concerned on the foundations of conventional accounting measurements and was attempting to construct an axiom system on which a purely mathematical measurement system could provide a uniform approach to

conventional accounting measurement. However, this system was designed for the historical cost measurement approach in accounting which is retrospective for a path already given and for events that have already occurred. Fair value accounting on the other hand, relies on the various alternatives some of them indeterminable for which management needs to make a decision and to choose as the optimum path. Furthermore, Ijiri (1965) argues that information on market values, replacement cost, net realizable values, discounted future cash flows, etc., have two factors in common with other forecasted data; their usefulness depends very much upon the ability of the forecaster and their usefulness is limited in time.

Existing research provides evidence that complex estimates are used to manage earnings, which reduces financial reporting quality (Gaynor, Kelton, Mercer, Yohn 2016). Dechow, Ge, and Schrand (2010) mention three features of earnings quality. First, earnings quality is conditional on the decision-relevance of the information. As such, the term “earnings quality” alone is meaningless; earnings quality is defined only in the context of a specific decision model. Second, the quality of a reported earnings number depends on whether it is informative about the firm’s financial performance, many aspects of which are unobservable. Third, earnings quality is jointly determined by the relevance of underlying financial performance to the decision and by the ability of the accounting system to measure performance. This definition of earnings quality suggests that quality could be evaluated with respect to *any* decision that depends on an informative representation of financial performance. In addition, managers generally exhibit incentives to overstate rather than understate earnings and net assets, including a preference to avoid permanent write-downs of their firms’ assets. Graham, Harvey, and Rajgopal (2005) find in their research that 78% of managers admit sacrificing long term value to smooth earnings.

8.1. Moral economy of valuation

Chambers (1966) in the introduction of his book raises the question as why one studies accounting and with this question, he does not refer to those who study accounting as a means of performing specific tasks in accounting. This question refers to those that are concerned with the fundamentals of accounting such as the nature and functions of accounting. And he believes that the mere motives of studying accounting are for protection of man from the effects of hostile elements of their environments.

Belkaoui (2012) states that truth in accounting implies the need to avoid secrecy which is the act of concealing a fact or blocking information or evidence about it from reaching interested parties or public that could benefit from it.

However, as Bok (1982) states, secrecy is different from lying or promise breaking and other offending practices for which the burden of proof relies on those who would depend on them. Bok (1982) further states that secrecy differs from

truthfulness and other practices carrying a favourable presumption. She regards secrecy as a morally neutral act. However, secrecy involves moral consideration, and each act of secrecy needs to be examined according to moral arguments for and against each one. For example, the decision for secrecy in accounting rests on the agreement between management and financial statement users and the professional utility of confidential information. That said, the need of principles and how we derive them come at the forefront of the quest for using these principals in different contexts. Positivists link fairness to an efficient market that allows a just transfer to shareholders. Gerwith (1978) on the other hand provides a rational justification for moral principles to objectively distinguish between morally actions and wrong ones.

Belkaoui (2012) for instance, states that accountants are not at the liberty of disclosing reserved information that would benefit users and the truth in accounting is an elusive goal which cannot be attained. According to Vatter (1966) the real world of business is too complicated for simple answers and accounting is not an exception to that.

However, the quest for truth persists in the notion that there should be some “right” or “best way” of presenting the facts. The problem is that facts arise in contexts and should be interpreted for communication. As such in accounting the possible truths are present if approximated to the criteria of neutrality, objectivity, and reliability particularly in cases involving measurement, choices of measurement techniques, and income smoothing. The failure of accounting in capturing the truth as Littleton (1953) puts it, is that accounting theory cannot justifiably be said to consist in scientific explanation.

Deloitte (2006), in the discussion paper on the conceptual framework, state that reliability is an essential attribute of financial information, and the management should choose methods that are expected to yield unbiased and free from material error estimates of the economic phenomenon for the information to be reliable.

However, they raise the concern that information may be very imprecise, but relevant and verifiable in the sense that methodologies can be developed to produce an amount, even if the measurement is very uncertain. Current deliberations have not resolved this debate. Existing rules and techniques are based on foundations of accounting theory and improving the contents and format of financial statements which is definitely linked to improving the accounting theoretical structure such as objectives of accounting the theoretical concepts, environmental postulates and the principles of accounting. It is worth emphasizing how informational aspects of accounting measures affect market or non-market interactions on the measurement process followed by practicing accountants every day which presumably gives rise to such information content.

Accounting is unique in that it is an information source that uses distinguishing recognition and measurement processes and is heavily and professionally managed

by managers, auditors, and regulators. These characteristics must have something to contribute to the information content of accounting measures, which is precisely what is aimed to capture in this research.

Despite the existing research on the disclosure of the impairment information in financial statements, a notable gap remains regarding the thorough examination of disclosures on valuation methods employed by management, their key assumptions, and the disclosure of internal and external circumstances surrounding impairments. Specifically, limited attention has been given to the comprehensive analysis of the selection and application of the valuation methods, the critical assumptions underlying these methods, and the extent to which companies disclose internal and external factors influencing impairment decisions.

This study seeks to bridge this gap by placing a significant emphasis on scrutinizing the intricacies of valuation methodologies, identifying key assumptions, and analysing the level of disclosure according to the requirements of International Accounting Standard (IAS) 36 using Content Analysis. A major focus of this research is on the level of disclosure required by IAS 36 and how companies comply with such requirements addressing the following research questions:

RQ 1: What information regarding the impairment process is reported in the financial statements?
RQ 2: What valuation methods are used, and how does management support key assumptions applied in their valuations?
RQ 3: How does the disclosure level vary, in terms of industry, year and auditing company.

By investigating whether the impairment of assets has been within the scope of auditing companies disclosed in the financial statements, and the frequency of auditing opinions on impairments, this study adds to our knowledge by uncovering the dynamics of the impairment process and provides insights into how auditing companies express their opinions.

9. Conclusion

There has been a long debate about the strengths and weaknesses of an impairment-only model. This is extremely important because in the context of a political economy dominated by market logic and the ideas of neoclassical economics, the notion of an asset is socially very influential (Perry, Nolke 2006). Watts and Zimmerman (1979) position accounting theory as a set of “excuses” used by actors to justify accounting policies and outcomes which favour their interests. From this point of view, accounting numbers and policies have no inherent meaning other than providing a disciplinary constraint on management. Therefore, the apparently technical issue of an accounting measurement convention is, in fact, a political space in which the relationship between management, accounting, and markets has been, and remains, contested (Power,

2010). These two issues of purpose and measurement represent vectors of continuous pressure in financial accounting and give it its essential contestability (Miller, Power, 2013).

Although the above literature review does not comprehend all research performed in this field, it shows the diversity of drawn conclusions and the several factors analysed regarding the reliability of impairment and potential impacts on the quality of financial statements but without identifying how exactly this should be done. Accrual-based accounting is quite challenged when Lev and Feng (2016) define corporate financial report information as largely unfit for 21st-century investment and lending decisions. From a financial statements users' perspective, this research adds valuable insights to the understanding of asset impairment by examining the specific factors and processes influencing this accounting practice at the micro-level. The study by Miller et al. (2006) is particularly relevant as it investigates whether company insiders strategically sell shares before the disclosure of goodwill impairment losses. The findings reveal evidence of a managerial incentive to delay the accounting recognition of goodwill impairments. Additionally, the research highlights that the market reaction to such impairments is substantially higher in environments where information quality is relatively low, emphasizing the significance of information quality in influencing market responses to impairment events.

In conclusion, the literature review has provided a comprehensive overview of the existing research on the impairment of assets and its implications for financial reporting practices. The reviewed studies have contributed valuable insights into the quality of financial statements concerning impairment policies, the timeliness of recording impairment losses, and the level of compliance with International Accounting Standard 36 (IAS 36) among UK FTSE all shares companies.

However, despite these valuable insights gained from the literature, a significant gap remains in understanding the influence of IAS 36 in the UK FTSE all shares. By exploring the process of asset impairment in detail, this research aims to extend our knowledge in the field and contribute to the literature on accounting conservatism. The development of the "C_Score" indicator as a firm-year measure of conservatism for UK FTSE all shares and its examination according to Khan and Watts (2009) adds to the understanding of conservatism's properties and implications.

Literature highlights the relevance of factors such as firm age, volatility, and investment length cycle in influencing the level of conservatism. Additionally, this study investigates the relationship between conservatism captured by C_Score and Corporate Governance, Credit Rating, Investment Cycle, Company's Age, and Volatility, providing valuable insights into the nature and effects of conservatism in accounting within the UK context.

Firm age, as an indicator of maturity, is likely to impact the conservative reporting practices of companies. Higher volatility could signify greater uncertainty,

leading to potential implications for financial reporting conservatism. Additionally, we anticipate that the length of the investment cycle may play a role in shaping conservatism, given the level of future uncertainty involved in decision-making and its impact on accounting choices.

Corporate governance and credit rating have been identified as essential elements influencing accounting conservatism. The relationship between conservatism and corporate governance performance is likely to reflect the alignment of management practices with shareholder interests, impacting the extent to which companies choose to adopt conservative reporting policies. Likewise, credit rating agencies, in their evaluation of a company's creditworthiness, may consider the level of conservatism in financial reporting, which could have implications for the cost of debt.

Moreover, this research addresses a significant gap in the literature by investigating the impact of audit specialisation on the timeliness of asset impairment recognition, a topic that has not been thoroughly explored for the UK FTSE all shares companies.

The reporting of asset impairments has been a challenging aspect for accountants, and this study acknowledges the complexity of assessing the degree to which the standard leads to better information for investors. However, it is expected that the adoption of IAS and changes in the financial reporting system would lead to improvements in accounting quality.

A major focus of this research is on the level of disclosure under IAS 36 requirements and how companies comply with such disclosures. A research gap in the literature persists regarding the exploration of how the frequency and scope of audit opinions on impairments impact compliance with IAS 36 disclosure requirements. By investigating the scope of auditing companies' involvement in asset impairments and the frequency of auditing opinions, this study uncovers the dynamics of the impairment process and provides insights into how auditing companies express their opinions. The examination of attributes such as the auditing company, year, and audit opinion aims to address the research gap by understanding how these factors influence the level of compliance and the overall quality of financial information disclosed in the financial statements.

In conclusion, this research contributes significantly to the literature on asset impairment and financial reporting practices for UK FTSE all shares companies. The findings and inferences drawn from this study will aid in enhancing the understanding of impairment-related decisions, accounting conservatism, and the overall quality of financial reporting in the UK context. It is expected that this research will serve as a valuable resource for stakeholders, regulators, and researchers in advancing knowledge and best practices in accounting and financial reporting.

Chapter 3: Theoretical Framework

1. Introduction

The financial reporting environment is a complex one as it involves various parties such as preparers, auditors, intermediaries, and investors, each with their economic and social motivations (Festre, 2010). Moreover, Financial reporting, governed by standards, is influenced by the incentives of managers and auditors responsible for preparing the reports (Ball et al., 2003). Accounting theory on the other hand, which forms the basis for accounting techniques, aims to explain, predict, and control financial phenomena (Belkaoui, 2012). Although establishing a consensus on accounting concepts and principles is crucial for the accounting discipline, different paradigms and theories that have emerged, resulted in making it a multiple-paradigm science (American Accounting Association, 1977).

Positive theory in accounting considers the incentives of preparers in their disclosure of accounting information, recognizing that high-quality standards may not always lead to high-quality information (Ball et al., 2003). Asset impairment is a challenging area in this respect for accountants because it is influenced by economic factors and reporting incentives (Riedl, 2004). Managers for instance, may delay recognizing impairments for strategic reasons, but contractual obligations may compel them to do so to avoid litigation costs.

In the context of market-based research, the efficient market hypothesis and agency theory are used to explain information asymmetry, conservatism in accounting, income smoothing, and signalling theories (Figure 4).

The objective of this chapter is to present a theoretical framework that rationalizes the existence of information asymmetry between management and stakeholders and explores the demand for conservatism in accounting. It also delves into the income smoothing hypothesis, signalling theory, and market-based theories like the efficient market hypothesis and behavioural finance. Additionally, the chapter explores the relationship between timeliness in accounting, conservatism, and asset impairment.
These theories imply that the demand for conservatism in accounting, driven by information asymmetry between management and stakeholders, can influence managerial behaviour, market perceptions, and ultimately, the efficiency of financial markets.

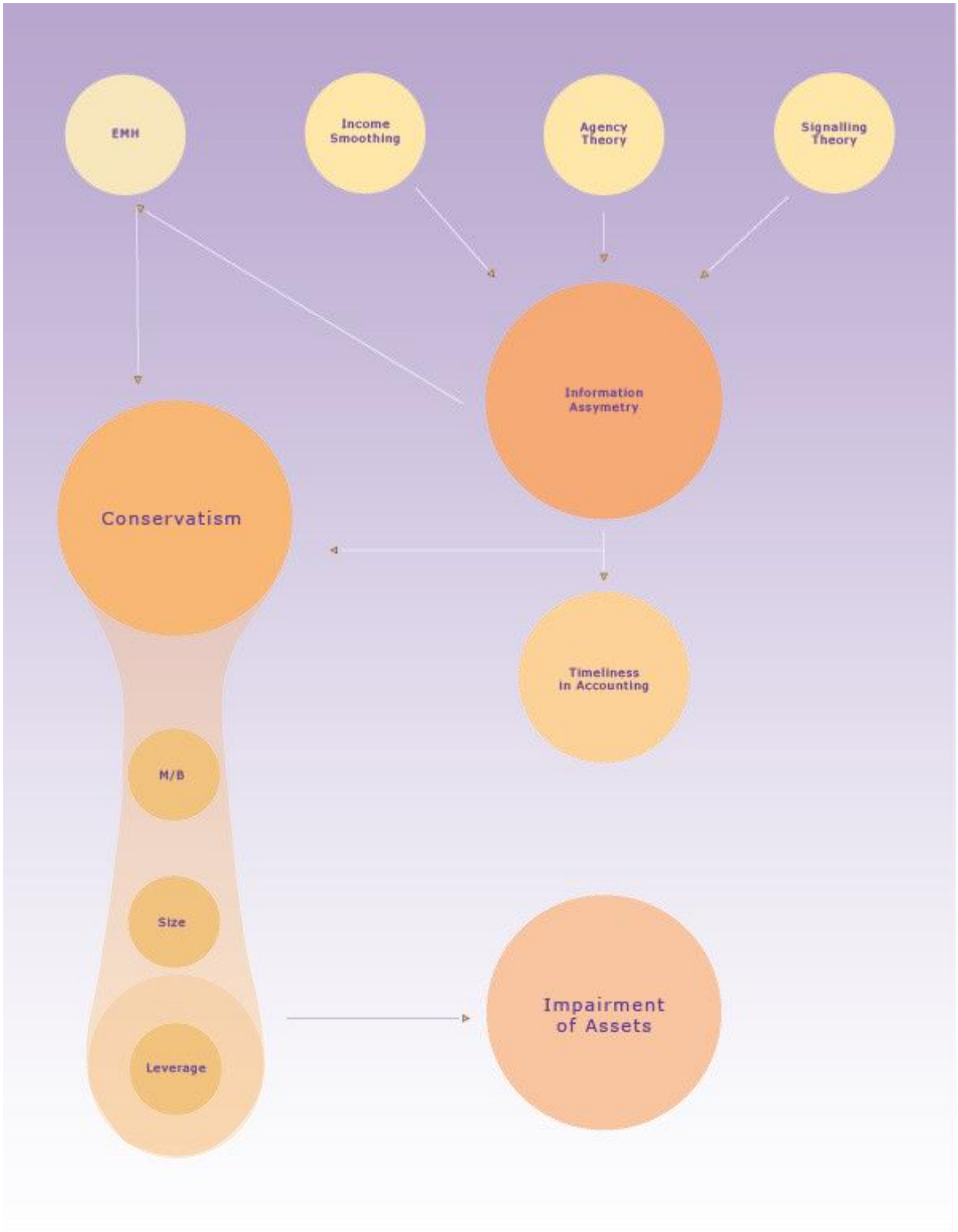

Figure 4: Theory Framework Diagram

Source: Author

2. Theories explaining the Information Asymmetry and its impact on the Impairment of assets

Accounting information plays a crucial role in providing users with insights into a company's financial position, performance, and management. However, information asymmetry between management and investors can influence accounting choices. Managers with inside information may use accounting choices as a means to signal the firm's market value to external investors. Accounting is viewed as a communication process, where observations are encoded into the language of the accounting system, manipulated, and then decoded and transmitted to users (Chambers, 1978).

In imperfect markets, accounting disclosures result from specific accounting choices aimed at influencing the output of the accounting system in a desired manner. These choices can be motivated by contracting reasons (Jensen, Meckling, 1976; Watts, Zimmerman, 1986), asset pricing considerations, or the desire to influence external parties. For example, management may select accounting methods to maximize earnings in a given period, smooth earnings over time, avoid losses, or prevent earnings decline to influence share prices. However, according to Dye and Verrecchia (1995), having reporting flexibility leads to a more informative indication of firm performance. Additionally, if agents have the ability to impact their compensation by managing either accruals or actual transactions, adjusting accruals may result in reduced wealth losses to shareholders compared to manipulating real activities.

The relationship between share prices and earnings has been extensively researched in accounting (Ball, Brown, 1968). Researchers have focused on improving the quality of accounting information and reducing managerial opportunism to ensure that accounting information supports users' decision-making (Iatridis, 2008).

This research explores the presence of conservatism in financial statements and examine management's perspective on impairments from the perspectives of agency, signalling and, income smoothing theory in the context of market-based research.

2.1 The Agency theory

The agency theory offers valuable insights into the organizational process and design, particularly from the principal-agent perspective (Hodge et al., 2009). It addresses the challenges that can arise from the separation of management and ownership, where both parties have conflicting self-interests. Managers, possessing inside information, may use accounting choices as a means to signal the firm's market value to external investors.

Information asymmetry may lead to two problems of agency theory such as moral hazard, when one of the parties exploits the information asymmetry for their own

benefit as well as leading to an adverse selection when principal cannot assess the effectiveness of the agent due to lack of information (Boučková 2015).

The agency relationship allows management decision-making authority on behalf of shareholders, but it also raises concerns about whether management truly acts in the shareholders' best interests, resulting in agency costs (Jensen, Meckling, 1976). These costs include monitoring costs incurred by shareholders, bonding costs for agents to assure shareholders of their actions, and residual costs, which represent the difference in actions between agents and shareholders.
However, the Agency theory has faced criticism, particularly regarding the concept of the principal and agent.
Some argue that the corporation itself should be considered the principal, rather than the shareholders, aligning with corporate law and the social role of the corporation (Lan, Heracleous, 2010). The board of directors' authority derives directly from law, and management is seen as a cooperative team member rather than unreliable.

However, critics point out that information asymmetry, conflicts of interest, and opportunistic behaviour still exist when there is a delegation of authority. Corporate governance models have been developed to address agency conflicts, but challenges in monitoring the monitors remain (Shapiro, 2004).

Furthermore, it is essential to recognize that agents also have their own conflicting interests, and when multiple agents are involved, it can exacerbate information asymmetry and create monitoring challenges (Shapiro, 2005). Wiseman et al. (2012) view the social agency theory, which introduced corporate governance models, as an extension of the classic agency theory. The central issue in agency conflicts remains the conflicting goals between principals and agents.

To address the agency problem, various solutions have been proposed, including offering management incentives to align their interests with those of the principal. However, incentives such as stock options and ownership have sometimes resulted in stock price inflation. After several corporate scandals, reforms in corporate governance aimed to strengthen the control mechanisms over management (Zajac, Westphal, 2004).

Emphasizing the agency perspective in corporate governance, Zajac and Westphal (2004) observed a market reversal of previous aggregate reactions to stock repurchase plans. Nyberg et al. (2010) conducted a study on financial alignment achieved through equity ownership and other means, along with its consequences for shareholders. They found significant financial alignment, but it does not completely eliminate agency costs, and it does not guarantee that firms' managers will always make optimal decisions for their own firms.

In summary, the presence of competing interests among agents and multiple agents can amplify information asymmetry and monitoring difficulties. While incentives have been proposed to align management with the principal's interests, challenges remain, and reforms in corporate governance have been implemented to enhance oversight. However, achieving perfect alignment of interests may not completely eliminate agency costs or ensure optimal decision-making by managers. As Mitnick (1998, p.12) puts it, perfect agency is rare and is considered deviant behaviour.

Despite efforts to align interests, agency conflicts persist, and information asymmetry between management and shareholders can lead to increased demand for conservatism in financial statements as a means of reducing information asymmetry. Shareholders need information to assess management's performance, and the presence of information asymmetry amplifies this need.

In conclusion, agency conflicts are inherent, and information asymmetry arising from these conflicts necessitates conservatism in financial statements to bridge the gap between management and shareholders. The agency theory provides a valuable framework to analyse such issues in accounting (Baiman, 1990).

2.2 Signalling Theory

Signalling theory seeks to address information asymmetry in markets and has been applied to various aspects of corporate decision-making, including dividend policy, capital structure decisions, voluntary disclosure, current value accounting, signalling quality of management forecasts, analyst forecast accuracy and auditor selection. The conveyance of signals plays a crucial role in the organizational realm. Recognizing its importance, researchers have made significant progress in deepening our understanding of organizational signalling. (Yasar, Martin, Kiessling, 2020; Drover et al. 2018; Connelly et al., 2011; Stiglitz, 2002; Spence, 2002; Stuart et al., 1999).

It is particularly useful in situations where two parties have access to different information. The theory illustrates how this information asymmetry can be reduced when the party with more information signals it to others. Morris (1987) emphasizes that the signal must be verifiable based on the actual product quality observed after the purchase. On the other hand, agency theory focuses on the principal-agent problem, which arises from the separation of ownership and control in a firm (Jensen, Meckling, 1976). It pertains to the relationship between different suppliers of capital and the division of risk-bearing decision-making and control functions within firms. Conflicts can emerge when individuals prioritize their self-interest.

After studying both agency theory and signalling theory, Morris (1987) concludes that while they are not equivalent, there are sufficient conditions in signalling theory that align with agency theory. He also highlights that both theories share the concept of rational behaviour and make predictions about lobbying, accounting choices, and voluntary auditor selection. Fundamentally, signalling theory

aims to address information asymmetry between two parties, and its core involves analysing different types of signals and the specific situations in which they are employed (Spence, 2002).

Financial reports play a crucial role in providing information to investors and potential investors, influencing their economic decisions. The most recent literature is consistent with the argument that corporate governance can enhance the signalling effect of reported earnings. However, in their research, Francis et al. (1996) discuss another signal conveyed to the market through a write-off announcement, which relates to earnings management. Among the information conveyed in these reports, write-offs serve as a means of signalling the company's financial performance to external stakeholders. According to Fransis et al. (1996), investors generally perceive write-offs as negative news. However, the market response varies depending on the type of write-off. When a write-off announcement suggests a decline in the economic value of assets, the market typically reacts with decreased market-adjusted returns. Conversely, a write-off announcement that signals a change in management strategy aimed at improving future performance tends to lead to more positive price effects (Thakor 1987; Francis et al. 1996). Hand and Skantz (1998) also analyse decisions about the treatment of non-operating gains (loss) and find, among other motives that information signalling has predictive power for company' choices.

Aboody et al. (1999) argue that managers may opportunistically exercise their discretion, reducing the reliability of estimates, and using it to reflect their private information.

Rees et al. (1996) on the other hand, provide an explanation for abnormal negative accruals in the year of an asset write-down, as indicating that managers do not seem to be acting opportunistically in generating abnormal negative accruals, but instead, that the negative accruals reflect the real economic circumstances of the company and that the increased negative accruals provide important information to investors.

The market's reaction to these signals, however, depends on the magnitude of a strong signalling component of the write-off announcement, particularly whether it is intended to provide information about future performance (Francis et al. 1996). Hirschey and Richardson (2003) also conducted a study and found that significant negative stock price reactions to goodwill write-off announcements were associated with somewhat larger negative post-announcement period effects. These announcements were connected to a further fundamental deterioration in the market value of the company during a subsequent year-long period. As the signalling theory tends to be time dependent, Etzion and Peer (2013) go one step further introducing and conducting a dynamic analysis rather than static, conceptualization of signalling.

If a company consistently provides accurate and transparent financial information, including recognizing impairments, when necessary, it can signal to investors that it is trustworthy and has good corporate governance practices.

Earnings information is a critical tool utilized by investors in their investment decision-making process, and the announcement of profit in the capital market is anticipated to trigger a market reaction. If investors interpret impairments as a negative signal about the company's prospects, it could lead to a decrease in the company's stock price. On the other hand, if impairments for instance are seen as a proactive measure to address underlying issues and improve future performance, the market reaction may be more muted or even positive in the long term. Comparing impairment decisions and actions across companies within the same industry can also provide signals. For example, if one company in an industry writes down the value of its assets while others do not, it may signal differing performance or risk profiles among competitors.

However, the key question remains: what is the market's response to accounting policy decisions in terms of timing?

2.3 Efficient Market hypothesis

Healy and Palepu (2001) emphasize the critical role of corporate disclosure in ensuring the efficient functioning of capital markets. They assert that the demand for financial reporting and disclosure stems from the existence of information asymmetry and agency conflicts between company managers and external investors.

In conventional terms, securities markets are assumed to be efficient and in a constant state of equilibrium. According to Fama (1976), in an efficient market, prices fully and accurately reflect all available information, leading to instantaneous and unbiased reactions to new information. However, this definition has faced criticism due to the fact that information is not always freely available, and true strong efficiency may not exist unless the cost of information decreases (Belkaoui 2012, p. 409). Furthermore, the definition implies that the deviation of expected values should be zero.

Ball and Brown (1968) posit that capital markets exhibit efficiency and lack bias, meaning that if information is relevant for determining asset prices, the market will swiftly adjust asset prices, accordingly, leaving no room for further abnormal gains. However, they acknowledge that market efficiency relies on the adequacy of data sources. Their research reveals that only half of the available information during the year is reflected in the market returns. As a result, the market relies not only on annual financial reports but also on other more timely sources of information. Financial analysts have been shown to provide valuable new information through their earnings forecasts and stock recommendations (Healy, Palepu, 2001). Nevertheless, Healy and Palepu (2001) identify systematic biases in the outputs of financial analysts, which may arise from the conflicting incentives they encounter. Although theory suggests that auditors enhance the credibility of financial reports, empirical research has surprisingly provided little evidence to support this notion.

Beaver (1981) draws a distinction between market efficiency concerning a signal, such as an accounting change, and market efficiency regarding information systems that include published accounting information. Market efficiency in relation to an information item implies that prices behave as if everyone possesses knowledge of that information. For instance, if there is a change in the depreciation method for annual report purposes, market prices act as though there is universal awareness of this accounting method alteration (Beaver, 1981).

In the research conducted by Francis et al. (1996), it is found that managers are motivated to record asset impairments to improve the financial statement reports, aligning with agency and signalling theory. However, the market does not react favourably to this perspective, and impairments are perceived as negative news or signals. In the absence of information, or if the information available is likely to be inaccurate, markets are prone to inefficiency.

Malkiel (2003) argues that the market cannot be perfectly efficient, as there would be no incentive for professionals to uncover information that quickly reflects in market prices. Hou, Hung, and Gao, (2014) for instance find that in the conservatism bias model, investors tend to underweight the public information, such as analysts' earnings forecast revisions providing evidence for possible explanations about the violation of the efficient market hypothesis. They suggest that the conservative bias causes investors not to sufficiently update their beliefs and eventually results in subsequent return continuation as investors' underreaction to analysts' earnings forecast revision is stronger with higher information uncertainty.

Furthermore, the concept of market efficiency faces challenges from the behavioural finance theory.

2.4 The semi strong form of efficient market hypothesis

Malkiel (1989) contends that people find it challenging to accept the concept of randomness. When events occur in clusters or streaks, individuals tend to seek explanations and patterns.

Verrecchia (1980) argues that, prior to trading, investors can gather private information sets through sample observations. Fischer and Verrecchia (1999) investigate the circumstances under which heuristic investors can compete with rational Bayesian investors. They provide a comprehensive analysis of the profitability of various forms of irrational trading. Their analysis incorporates the notion of limited attention, allowing for the possibility that some investors may underreact to public signals.

With private observations, each investor forms an estimate of the unknown mean, which influences their individual assessment.

When the precision of the estimate of the return within the consensus belief is equal to or greater than the precision in any single investor's estimate, the consensus belief

becomes as accurate as that of any individual investor. As a result, this indicates that the market is efficient concerning the collective information sets of all investors.

Bloomfield (2002) presents the Incomplete Revelation Hypothesis as a challenger to the Efficient Market Hypothesis, offering an alternative perspective. This hypothesis focuses on noise traders, individuals who gather information about asset values but engage in random trading in the market. The presence of noise traders prevents prices from fully revealing information, as traders observing only the prices cannot discern whether the high prices are due to informed traders with positive news or simply because noise traders are making significant purchases.

Hirshleifer and Teoh (2002) discuss the concept of "limited attention," which hinders traders from fully considering all available data when making their trading decisions. They argue that errors may arise when investors fail to pay attention to certain non-relevant or complex aspects of the economic environment, which may not necessarily be newly arrived signals.

Ball and Foster (1982) emphasize the significance of research models that incorporate key aspects of corporate disclosure decisions, such as the presence of competing information sources and the distinct role played by auditors concerning these competing sources. Fischer and Verrecchia (1999) find that improved public disclosure reduces the variance of price change and maintains a positive relationship with market liquidity and strong-form efficiency, despite the counteracting effect of heuristic behaviour.

2.5 Behavioural finance

Behavioural finance examines the impact of investor psychology on financial decision-making, departing from the assumption of rationality in traditional finance theories. It posits that real investors are influenced by psychological biases, which affect their behavior and may lead to suboptimal decisions (Subrahmanyam 2007; Tseng 2006).

Moreover, the theory of behavioural finance suggests that stock prices adjust slowly to information, leading investors to examine returns over extended periods to test market efficiency. Empirical research has identified two persistent patterns: the underreaction of stock prices to news, such as earnings announcements, and the overreaction of stock prices to a series of positive or negative news (Barberis et al. 1998). This evidence poses a challenge to the efficient markets theory as it implies that sophisticated investors can achieve better returns by exploiting underreaction and overreaction without taking on additional risk. The challenge lies in explaining how investors form beliefs that result in both underreaction and overreaction. Grant (2021) contends that behavioural finance offers insights into momentum returns through the examination of psychological factors such as overreaction, underreaction, slow information diffusion, anchoring, and sentiment. Savor (2012) for instance finds that investors underreact to news about fundamentals but overreact to other shocks.

Barberis et al. (1998) draw a connection between their study and a psychological phenomenon known as conservatism, which is characterized by a slow updating of models in the presence of new evidence (Edwards, 1968). The evidence of underreaction, in particular, aligns with the concept of conservatism. Edwards (1968) argues that research has demonstrated that humans tend to be conservative when processing fallible information. They find that the primary cause of conservatism is the mis aggregation of data by individuals. In other words, investors may accurately perceive the meaning of individual indicative meaning but struggle to integrate this information with other data points when adjusting their opinions.

Garvey et al., (2021) study the overriding of Accounting standards in the in the context of behavioural theories. They argue that despite the fact that the risk of having to override standards is in exceptional circumstances, adherence to the standards or rules provides psychological comfort to the preparers of financial information. This seems to compensate the risk involved.

Economists and psychologists in the field of behavioural finance observe that this short-term drive is in line with psychological feedback mechanisms. When individuals witness a stock price rising, they are often enticed to join the market, influenced by a "bandwagon effect." For instance, DeBond and Thaler (1995) argue that people tend to display overconfidence in their own judgment and make decisions that are influenced not only by objective payoffs but also by how a problem is framed. According to the Behavioural Finance theory, these deviations from the normative model are systematic and do not simply vanish with basic aggregation.

Firms communicate important information to investors through various financial reports, such as financial statements, notes on the financials, management reports, and regulatory filings. Several recent studies indicate a decline in the relevance of earnings and other financial statement items. Chang (1998), Lev and Zarowin (1999), and Brown et al. (1999) have used different research designs and found that the relationships between stock returns and earnings, as well as between stock prices, earnings, and book values, have weakened over time in the US. However, the key takeaway from the recent literature is that regulated financial reports still provide investors with valuable and pertinent information.

2.6 Stock Prices: Cash flows vs. Reported Earnings

2.6.1 Positive theory of accounting

Positive theories in accounting assume that the stock price depends on the cash flows rather than reported earnings (Belkaoui 2012). Moreover, in an efficient market two

firms with identical cash flow distributions are valued in the same way despite the different accounting procedures.

Earnings = Cash flow + Accruals

Accruals = Non-Discretionary Accruals + Discretionary accruals

The positive accounting theory is developed by Watts and Zimmerman and is heavily dependent on the efficient market hypothesis, the capital assets pricing model, and agency theory. Positive theory of accounting aims to explain current accounting practices in terms of management's voluntary choice of accounting procedures and how the regulated standards have changed so far. The central idea of positive approach is to develop hypothesis about the factors that influence accounting practices and to test the validity of these hypotheses empirically in terms of the reliability of predictions based on the observed series of accounting numbers along a trend considered best or normal by management (Watts, Zimmerman (1978). According to Watts (2003b) conservatism in accounting addresses the agency theory concerns regarding information asymmetry between management and the third interested parties. To mitigate information asymmetry, management reduces the inflation of earnings in the current period as a means of reducing dividend payment to shareholders as a means of protecting lenders from excessive distributions. On the other hand, asymmetric earnings timelines recognition requires greater verification measures for recognising gains compared to loses thus constraining management from overstating earnings and reducing the bonus-based payments. Positive accounting approach aims to determine how accounting procedures affect cash flows in the realm of agency theory, gaining an insight in the factors that influence manager's choice of accounting procedures (Belkaoui 2012). Positive theory in accounting is also concerned with uncertainty reduction from the fluctuations of income numbers (Watts, Zimmerman 1978).

2.6.2 Income smoothing hypothesis

Income smoothing is an attempt to counter the cyclical nature of reported earnings and thereby tends to reduce the correlation of a firm's expected returns with returns on the market portfolio (Beidleman 1973). Beidleman (1973) further states that to the degree that auto-normalization of earnings is successful and that the reduced covariance of returns with the market is recognized by investors and incorporated into their valuation processes, smoothing will have added beneficial effects on share values. Kamin and Ronen (1978) find that managers do in fact behave as if they engage in goal directed determination of the signals conveyed to users of financial statements through income numbers.

The object of smoothing in accounting is usually the most used and visible financial indicator which is profit. In general researchers refer to the object of

smoothing as net income before extraordinary items, earnings per share, due to their belief that users are more concerned on the bottom figure whether it is income or earnings per share.

Scholars like Dechow and Skinner, (2000), Fudenberg and Tirole, (1995) posit that artificial income smoothing constitutes a type of earnings management. It involves manipulating earnings via accruals to stabilize earnings patterns without altering long-term equity. Ryan (2006) further contends that conditional conservatism and income smoothing are two primary factors that significantly impact the quality of financial information conveyed to the market.

Moreover, discretion in the incurrence of expenses has been possible for a long time. From the standpoint of an investor, the relevant cash flows are dividends and capital gains. A stable earnings stream is capable of supporting a higher level of dividends than a more variable earnings prospect (Beidleman (1973). Subramanyam (1996) finds that returns are positively associated with contemporaneous discretionary accruals, while Hunt et al. (2000) report that income smoothing enhances the contemporaneous price-earnings relation. Givoly and Hayn (2000) focus on the income-statement effects of conservatism and argue that conservative accounting leads to persistently negative accruals. Tucker and Zarowin (2006) state that although earnings are positively correlated with operating cash flows, predicting cash flows is the main task of equity valuation. Extracting depreciation, amortization and operating accruals components from total accruals results in accruals consisting primarily of such items as loss and bad debt provisions (or their reversal), restructuring charges, the effect of changes in estimates, gains or losses on the sale of assets, asset write-downs, the accrual and capitalization of expenses, and the deferral of revenues and their subsequent recognition. The timing or amount of most of non-operating accruals are subject to management discretion.

Accruals enable accountants to recognize bad news about future cash flows on an asymmetrically timely basis. Unrealized losses reduce current earnings but do not impact current cash flow, while unrealized gains affect neither current earnings nor current cash flow. Since earnings is the sum of cash flow and accruals, if unrealized losses but not realized gains are recognized, then earnings are more conservative than cash flow. Sloan (1996) also finds that firms with relatively high (low) levels of accruals, experience negative (positive) future abnormal stock returns that are concentrated around future earnings announcements.

Lara, Osma and Penalva (2020) acknowledge that literature suggest that any form of conservatism resembles the creation of reserve accounts, which could potentially be exploited for earnings management in the future. Therefore, when anticipating poor economic performance, income smoothing is utilized to artificially enhance current profit margins and postpone their recognition. This practice, permissible under accounting standards, provides management with flexibility to minimize profit fluctuations stemming from variances between actual income and expenditure (Grant, Markarian, Parbonetti 2009).

3. Timelines in Accounting

Previous studies suggest that the timely recognition of significant losses is a sign of higher accounting quality (Ball et al., 2000; Ball, Shivakumar, 2006; Lang et al., 2006; Barth et al., 2008). Ball et al. (2000) define timelines in accounting as the extent to which current period accounting income incorporates the current period economic income. While in the firm's lifetime accounting income and economic income are equal, this is not the case in the short run. Economic income reflects the present value of the changes in cash flow expectations immediately while the accounting income due to recognition principles incorporate changes gradually over time usually close to the periods when cash realizations occur. Ball et al. (2000) state that "the recognition principle causes economic income to be incorporated in accounting income in a lagged and smoothed fashion over time."

4. Conservatism in accounting

Basu (1997) defines conservatism as the extent to which current period accounting income asymmetrically incorporates economic loses relative to economic gains. While the timeliness measures the degree of incorporating economic income in the actual accounting income, conservatism measures the improved timeliness in incorporating value decreases or negative income (Belkaoui 2012). In other words, the conservatism principle implies that when choosing among accounting techniques, a preference is shown for the option that has least favourable impact on the stockholder's equity.

LaFond and Watts (2008) argue that the demand for conservatism in financial statements originates from the information asymmetry between management and shareholders. They find that information asymmetry is significantly positively related to conservatism. FASB on the other hand, implies that conservatism increases information asymmetry because under this principle, the accumulated profits and the understatement of assets causes incorrect references to investors and other users of financial statement.

Moreover, Conceptual framework implies that financial information should be neutral and free from bias that influence investor's decisions. However, LaFond and Watts (2008) find that equity investors demand more conservative earnings as a means of mitigating agency problems. Basu (1997) argues that under conservatism in accounting, unrealized losses are typically recognized earlier than unrealized gains and interprets conservatism as capturing accountants' tendency to require a higher degree of verification for recognizing good news than bad news in financial statements. This asymmetry in recognition leads to systematic differences between bad news and good news periods in the timeliness and persistence of earnings (Basu

1997). Ryan and Zarowin (2003) find that the increase in asymmetry could reflect the increases in conservatism.
Ramalingegowda and Yu (2012), find a favourable correlation between the involvement of monitoring institutional investors and conservatism, particularly in cases where the company possesses growth opportunities.
Hu and Jiang (2019) find a positive association between high managerial risk incentives and accounting conservatism. Ramalingegowda and Yu (2021) find that firms with more conservative financial reporting adjust their capital structure toward their objective more quickly. In general, substantial evidence suggests that conservatism proves beneficial across different facets of debt agreements and financial structure.

Ball and Shivakumar (2005) clarify that the additional requirement of conditional conservatism definition is that the reduction in accounting income reflects a contemporaneous economic loss. This requirement is not satisfied by expensing early, by deferring revenue, or by under-reporting income or book value on a regular basis, none of which is correlated with contemporaneous real income. The difference in definitions is most apparent in Basu's primary research design, which studies the asymmetric incorporation of economic gains and losses (proxied by positive and negative stock returns over the fiscal year) in current-year accounting income.

Conservatism additionally aids companies in contracting with creditors who rely on reflecting timely negative news in financial statements to oversee the status of their investments (Basu 1997; Ball et al. 2000; Sunder et al. 2018).

5. How is impairment of assets connected with conditional conservatism.

Conservatism is defined as the understatement of the firm's book value of equity relative to its economic value. The different timeliness measure has often been used to characterize the degree of conservatism of a reporting system, such as a country, industry, or legal setting. However, conservative reporting may be due not only to the asymmetric timeliness of gain and loss recognition, but also to other features of the entity's reporting system. A consequence of conservative accounting is the systematic understatement of the entity's net assets relative to their economic value. Givoly, Hayn and Natarajan (2007) identify three sources of such an understatement: The first source is the failure of the financial reporting system to capture the positive present value of projects and subsequent increases in the value of assets; the minimization of the firm's assets that appear on the balance sheet; and the more timely recognition of losses relative to gains.

However, Alicatore et al. (2000) indicate that impairments are timely insofar as they are reflected in returns prior to the announcement of the write off. According to Basu (1997) and Beaver (2005) the direction of asymmetry with respect to lagged

returns depends on the amount of accounting slack for tangible assets and the uncertainty of the write-down trigger. If this slack is sufficiently large or the probability that a write off is recorded when tangible assets are economically impaired is sufficiently low, then asymmetry with respect to lagged returns goes in the same direction as asymmetry with respect to current returns, otherwise the asymmetries are in opposite directions.

A second reporting element that results in the understatement of net assets is the asymmetric timeliness of recognizing gains and losses. A significant example of this element is the application of the lower of cost or market rule that requires that, once proven, an impairment in the value of assets be recognized immediately, whereas gains and appreciation must await their realization before being recognized in income.

When an impairment occurs, managers can either write down the assets' value carrying the risk of the adverse effect on the stock's price or delay this decision anticipating for the impaired value to recover over time. However, in the case of deciding to postpone the recording of the assets write down, management faces the risk that the market discovers the impairment and responds to that news disproportionally resulting in higher negative price impact. According to Basu (2005) a loose impairment trigger implies that the further market value falls below book value the more a write down is likely to be recorded in the current period. This means that the likelihood of recording a write down increases with the magnitude of the bad news as measured by the assets price decline.

As conservatism acts against firms developing a "reservoir" of bad news that could contribute to a stock price crash, conservatism as a governance measure, also mitigates the information asymmetry problem between the firm and its external investors (Archana et al., 2020).

In a semi strong efficient market these indicators are embedded in the stock price which incorporates all public information about the firm value (Fama, 1970). Hence researchers use stock returns as the main proxy rather than individual indicators to test for the information asymmetry.

6. Triangulating Theories: Constructing a Unified Conceptual Framework

While theoretical diversity in accounting is evident, a growing concern revolves around the tendency of accounting researchers to merge various theories within a singular study, posing both opportunities and challenges (Modell et al., 2017; Beattie, 2014; Covaleski et al., 2003; Hoque et al., 2013; Jacobs, 2012; O'Dwyer, Unerman, 2016).

Modell et al. (2020) suggest that the main challenges stem from their differing ideas about how social structures and individual actions interact, as well as their

contrasting opinions on the role of theory. When it comes to understanding the nature of things, a lot of the research seems stuck in a difficult dilemma.

This research has been consistently interested in how accounting shapes both organizations and society, much like the concept of performativity. It offers valuable insights into how accounting practices interact in a mutually influential relationship with the institutions that influence its development and are influenced by it.

Accounting theory encompasses various principles, concepts, and frameworks used to understand and analyse accounting practices and their role in financial reporting. While information asymmetry is not a theory on its own, it is a fundamental concept explored within accounting theory to understand how accounting practices, regulations, and disclosures can mitigate or exacerbate information asymmetry issues in financial markets.

Mixing different theories can vary from selectively borrowing and integrating aspects of one method theory into a dominant one, to fully blending method theories to create "new" theories (Modell et al., 2017; Suddaby et al., 2011). These combinations can be valuable for refreshing theory and are generally not problematic, as long as the method theories being combined share similar underlying assumptions about reality and knowledge (Kakkuri-Knuuttila et al., 2008).

Various theories within accounting, such as agency theory, signalling theory, and market based theories, address aspects of information asymmetry and its implications for financial reporting and decision-making.

Information asymmetry between management and stakeholders refers to a situation where one party (typically management) possesses more or better information than another party (such as shareholders or creditors). In accounting, this can lead to challenges in accurately assessing the financial well-being and performance of a company. By adopting conservative accounting principles, such as recognizing losses earlier than gains and using lower estimates for asset values, financial statements become more cautious and less susceptible to manipulation.

By employing the triangulation of theories approach, I aim to provide a comprehensive and nuanced understanding of accounting practices. I delve into how concepts like information asymmetry, conservatism in accounting, and the timeliness of asset impairment recognition intersect with various theoretical frameworks including agency theory, the income smoothing hypothesis, signalling theory, and market-based theories:

Income Smoothing Hypothesis: This hypothesis suggests that management may engage in deliberate actions to even out fluctuations in reported earnings over time, making them appear more stable than they would otherwise be. This can be motivated by a desire to present a consistent image of the company's performance, which can help maintain stakeholder confidence and potentially influence market perceptions. Information asymmetry can play a role here, as management may have

better information about future earnings prospects and may use this knowledge to smooth reported earnings.

Additionally, conservative accounting practices may facilitate income smoothing by allowing management to create reserves during periods of high profitability to offset potential future losses.

Signalling Theory: Signalling theory suggests that management may use accounting choices to communicate private information about the company's prospects to external stakeholders. In the context of information asymmetry, management may choose conservative accounting policies as a signal of the company's financial stability and long-term viability. By adopting conservative practices, management signals that they are not trying to overstate the company's performance, potentially mitigating concerns about hidden risks or poor future prospects. This can help align management and stakeholder interests and reduce the adverse effects of information asymmetry.

Market-Based Theories (Efficient Market Hypothesis and Behavioural Finance):

Efficient Market Hypothesis (EMH): EMH posits that financial markets efficiently incorporate all available information into asset prices, making it difficult for investors to consistently outperform the market. In an efficient market, information asymmetry should be quickly reflected in prices as investors trade on new information. Conservative accounting practices may be viewed positively by investors in an efficient market as they provide more reliable information, reducing the impact of information asymmetry and potentially enhancing market efficiency.

Behavioural Finance: Behavioural finance recognizes that market participants may not always act rationally and may be influenced by psychological biases. In the presence of information asymmetry, investors may overreact to changes in reported earnings, leading to excessive volatility in stock prices. Conservative accounting practices can help mitigate this by providing a more stable and less volatile stream of reported earnings, reducing the likelihood of market overreactions driven by incomplete or misleading information.

Overall, these theories suggest that the demand for conservatism in accounting, driven by information asymmetry between management and stakeholders, can influence managerial behaviour, market perceptions, and ultimately, the efficiency of financial markets.

This testifies to a cumulative view of theory development where each theory has its unique strengths and weaknesses, and the combination of multiple theories generally yield a more complete picture of complex empirical phenomena.

7. Conclusion

In this chapter, we have established a theoretical framework that forms the foundation for this research into the complex nature of conservatism in accounting and its interplay with various factors within the financial reporting context. This research explores the relationship between accounting conservatism and several key determinants, shedding light on its implications for financial reporting practices.

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Primarily, we have explored the concept of conservatism in accounting, recognizing it as a significant element in financial reporting that reflects a cautious approach to recognition and measurement. One consequence of conservative accounting is the systematic understatement of the entity's net assets relative to their economic value, leading to asymmetric timeliness in recognizing gains and losses. However, under the assumption of the semi-strong efficient market hypothesis, the market reacts to public information promptly, with impairments being reflected in returns before the announcement of the write-off. It is important to note that the measures of conservatism rely on stock price movements to identify good and bad news, and the conclusions drawn in this research are based on the assumption of a semi-strong market hypothesis.

As we delve into the empirical chapters, we expect to gain a deeper understanding of how conservatism manifests itself in the context of asset impairments and its role in shaping financial information for investors and stakeholders.

Overall, this theoretical framework serves as a roadmap for our empirical investigation into the complex relationships between accounting conservatism and its determinants within the context of asset impairments. By analysing these interconnected factors, we aim to provide valuable insights into the nature and implications of conservatism in financial reporting practices, contributing to the existing body of knowledge and guiding stakeholders, regulators, and researchers in advancing best practices in accounting and financial reporting.

Chapter 4: Research Design & the Methodology

1. Introduction

The previous chapter on the theoretical framework outlined the main theories that relate to this study.
The research methodology employed in this study comprises three empirical research chapters that investigate conservatism in accounting from different perspectives. Firstly, the methodology involves quantitative analysis to examine the timeliness of impairments, utilising statistical techniques to assess how quickly firms recognise and report asset impairments. Secondly, it employs econometric analysis to explore the impact of audit specialisation on the timeliness of impairments, quantifying the influence of specialised audit firms on the recognition and disclosure of impairments. Finally, content analysis methodology is utilised to analyse disclosure practices related to impairments, providing a qualitative assessment of the extent and quality of information disclosed by firms. This multifaceted research methodology enables a comprehensive investigation into conservatism in accounting, capturing its nuances and implications across various dimensions.
This chapter aims to provide an overview of the overall methodology used throughout this research discussing the common methods, data collection techniques and data analysis approaches that will be applied to the three subsequent empirical chapters. The aim of this chapter, without going into specific details, is to set the context for the empirical research. It starts with the Research Paradigm in section 4.2, continues with methodology in section 4.3 which outlines methods used for each empirical research, discusses data collection in section 4.4 and outlines conclusions in section 4.5.

2. Research paradigm

Accounting research is diverse and like in every other social science, research in accounting is conducted based upon assumptions, about the nature of social science and the nature of society. Burell and Morgan (1979) define four assumptions about the nature of the social science that relate to ontology, epistemology, human nature, and methodology that can also be thought in terms of subjective-objective dimension. Based on these assumptions they develop four paradigms that comprise a framework for analysis research in social sciences.

Kuhn (1962, p. 109) characterises a paradigm as a guiding framework that not only provides scientists with a map for understanding but also directs the process of

mapmaking. Howe, (1987, p. 22) further elaborates on the concept of paradigm, defining it as a comprehensive system encompassing assumptions, theories, beliefs, values, and methodologies that constitute a particular and preferred perspective on the subject matter. Corbetta (2003) suggests a redefined interpretation of Kuhn's paradigm, describing it as a theoretical perspective that defines the significance of social phenomena, which proposes interpretative hypotheses, and guides the empirical research techniques.

Burrell and Morgan (1979) introduce the subjective-objective dimension as a way to understand the nature of science. In the positivist view, reality is considered separate from the observer, with the individual (subject) and reality (phenomena being studied) regarded as two distinct and independent elements (Weber 2004). On the other hand, in interpretivism, the subject and reality are inseparable, as they are intricately connected to an individual's life experiences.

Drawing upon these two dimensions, Burrell, and Morgan (1979) develop a coherent scheme comprising four paradigms. These paradigms in social theory represent four sets of assumptions that are critical in conducting research in the subject area. They offer four distinct perspectives on the social world, grounded in varying meta-theoretical assumptions concerning the nature of science and society (Burrell, Morgan 1979).

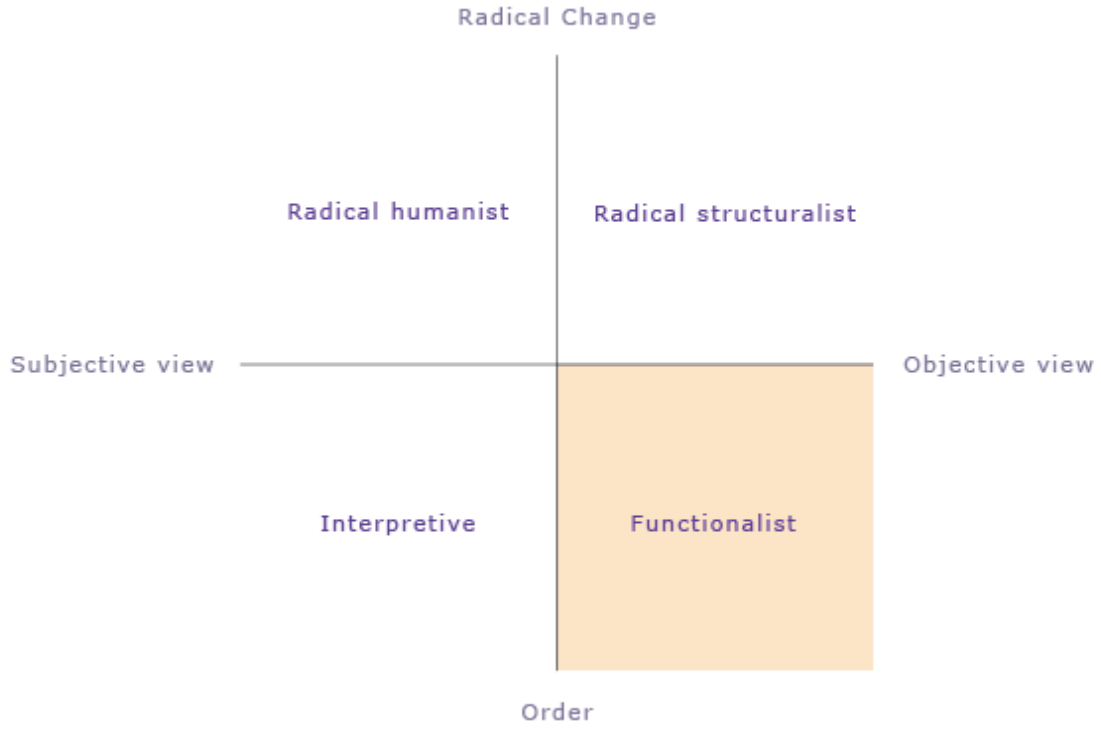


Figure 5: Burell and Morgan (1979)

Radical humanist: This paradigm is distinguished by its emphasis on radical change and subjective dimensions. According to Burrell and Morgan (1979), a fundamental notion of this perspective is that an individual's consciousness is influenced by the ideological structures they interact with. Morgan (1980) further argues that this viewpoint is rooted in the belief that the process of constructing reality can be influenced by both psychological and social factors. The roots of radical humanism can be traced back to the early philosophical writings of Marx, wherein he identified the radical constitutive needs of the human species. Dean (2020) supports this idea by suggesting that these radical needs are intrinsic to the essence of humanity, while social rights can be seen as expressions of these fundamental human needs.

The radical humanist paradigm advocates for profound changes and believes that such changes cannot be fully achieved without fundamental economic and political reforms (Dean 2020). Within this perspective, accounting is seen as promoting and perpetuating alienation and conflict. Belkaoui (2012, p. 318) contends that applying a radical humanist interpretation to accounting would imply that until a group of accountants emerges who are not bound by capitalist ideology, accounting will continue to serve the interests and ideologies of capitalism.

Interpretative: The interpretivist paradigm is characterized by its subjective and regulatory dimensions. Its primary focus lies in understanding how social reality comes into being. Scholars such as Berger and Luckmann (1966), Schutz (1967), and Chua (2019) propose that within interpretivism, reality is considered to be subjectively created, where meanings evolve and become objectified, stabilized, and institutionalized through human interactions.

Radical structuralist: The paradigm known as Radical Structuralist is characterized by both radical change and objective dimensions. It shares alignment with the objectivist perspective in advocating for radical change, placing particular emphasis on structural conflict, modes of contradiction, and deprivation (Burell, Morgan, 1979). Within the Radical Structuralist paradigm, reality is defined by society as the defining force, rooted in a materialistic conception of the social world with concrete ontologically real structures (Morgan, 1980). In this view, accounting takes on a challenging role in the social order, adopting a realist positivist, objective, and deterministic standpoint, while also focusing on the contradictions and crisis tendencies arising from the accounting process (Belkaoui, 2012). For instance, Cooper (1984) critiques existing research on the choice of accounting methods for corporate reports, which predominantly emphasize private interests of shareholders. Instead, he proposes an alternative approach to understanding how accounting systems operate in their social, political, and economic context, aiming to eventually design "better" accounting systems.

Supporters of radical theories, like Tinker (1982), call for open discussions within the intellectual community, challenging the neoclassical thought that excludes essential questions from the accounting research agenda. By doing so, they encourage a more comprehensive exploration of accounting's broader implications.

Functionalist view: The Functional paradigm in accounting is characterized by objective and regulation dimensions. Its primary focus is on establishing accounting functions needed for the efficient operation of an organization, representing mainstream accounting research. Within this paradigm, the main assumptions imply that theory is separate from observations and can be used to verify or falsify a theory. Quantitative methods of data analysis and collection, allowing for generalizations, are favoured in this context (Chua, 1986). Although positivism is not synonymous with quantification, its credibility relies on providing depersonalized, apolitical knowledge through representative, quantitative evidence, thus earning trust in numbers.

However, social sciences, including accounting, possess both subjective and objective characteristics. Subjective characteristics reflect our perceptions of reality and the meanings associated with it from the individual's perspective, while objective characteristics relate to how we interact with others, representing an intersubjective reality (Weber, 2004).

This research is based on the Positive Theory of accounting, employing the analytical agency model under the Functional paradigm. It assumes that scientific theories can be objectively assessed through empirical evidence (Ardalan, 2003). Positivism, as the underlying epistemology, is founded on the belief in an objective reality that can be studied through empirical observation and measurement. The research focuses on existing accounting practices and management attitudes toward them, aiming to understand, explain, and predict these practices. The first two empirical chapters of this study rely on Basu's 1997 model, which seeks to uncover the objective truth about earnings management through quantitative analysis of financial data using a deductive approach to test hypotheses and make predictions (ontology). Statistical techniques are employed to draw conclusions based on statistical significance and empirical evidence (epistemology).

The purpose of this approach is to highlight areas where changes are most needed and feasible (Ijiri, Jaedicke, 1966). Suggestions for change resulting from this research are more likely to be implemented due to their evidence-based nature.

Moreover, in the context of financial statements analysis, *Content analysis* can be viewed as a functionalist approach. This is more relevant when that the researcher’s objective is to understand how these statements function as a mechanism for reporting the financial information regarding the impairment of assets, the way this information is communicated to stakeholders thus, facilitating decision making. Within this paradigm content analysis by analysing the information reported

in financial statements examining the valuation methods used, and understanding how disclosure levels vary across industries, years and auditing companies, seeks to uncover patterns, structures and functional elements related to the reporting of the impairment of assets with an emphasis on the objective analysis and understanding the role of the asset impairments within the broader accounting system.

On the other hand, Content analysis can also fit to the Radical Humanist paradigm if the aim of the research were to examine how the financial reporting might maintain or aggravate social and economic inequalities, thus involving investigating issues of financial transparency, fairness and the impact of accounting practices related to the impairment of assets on stakeholders. Unlike, challenging or transforming the existing accounting practices that would fit to Radical Humanist paradigm, this research adopts a more functionalist perspective aiming to first understand the mechanism and functions of financial reporting of the Impairment of assets in the context of IAS 36.

3. Methodology

In this section, we outline the rationale behind the chosen approach and provide a concise overview of various research models utilized for studying conservatism in accounting.

3.1 Timeliness of Impairments

This empirical chapter aims to investigate the timeliness of asset impairment recognition and the presence of conservatism among UK FTSE all shares companies. Building upon the positive accounting approach advocated by Jensen (1976), and Watts and Zimmerman (1978), the research seeks to explore actual accounting practices, focusing on the factors influencing the timeliness of asset impairment recognition. The chapter also discusses the concept of conservatism and its significance in financial reporting. The positive accounting approach places emphasis on identifying factors that influence accounting practices and developing theories to explain observed phenomena. However, Sterling (1990) criticizes this approach for shifting the focus from normative questions ("What ought accounting practices be?") to descriptive ones ("What are accounting practices?").

Nevertheless, proponents like Watts and Zimmerman (1978) argue that testing theories through deriving predictions is crucial for assessing their validity. Beaver et al. (1968), on the other hand, conclude that the potential inability to generalize or the tentative nature of conclusions should not be considered as limitation for conducting predictive studies. It is important to acknowledge that accounting is conducted by

individuals whose incentives should not be overlooked when explaining and predicting accounting phenomena (Watts, Zimmerman, 1990). Hayek (1952) argues that the attempt to imitate science in methods rather than its spirit has dominated social studies without contributing substantially to our understanding of social phenomena.

On the other hand, according to Llewellyn (2003), qualitative research provides support for the "conceptual framing" of organizational actions, events, processes, and structures. It enables a more in-depth investigation of the social and behavioural aspects within organizations, offering valuable insights that can enrich theory development and enhance our overall comprehension of organizational behavior and structures.

Measures of Conservatism: Basu (1997) argues that earnings are anticipated to be more related to the current negative, not expected returns, a proxy for "bad news" than unexpected positive returns, a proxy for "good news." The study utilizes the C_Score metric developed by Khan and Watts (2009) as a measure of conservatism flow. This metric characterizes cross-sectional and time-series variation in conservatism, addressing limitations of previous measures proposed by Basu (1997) and Watts (2003b).

The C_Score captures the timing of conservatism changes and variation across firms within an industry. The Basu's measure of conservatism is estimated using either a cross section of firms in an industry-year or time-series of firm years. Watts and Khan (2009) argue that both estimation methods have limitations because the cross-sectional estimation does not take in consideration the timing of changes of conservatism for the financial reports of an individual firm. Time series estimation on the other hand for industry-year firms conceals the cross-sectional variation of conservatism, treating all firms in the industry as homogeneous. Individual firm measure as well ignores the timing of changes in conservatism assuming that firm's characteristics are static. Many factors that affect conservatism in financial reporting change across firms and along the time. Khan and Watts (2009) state that researchers have expressed a demand for a firm-level measure of conservatism that can reflect the timing of conservatism changes.

The primary objectives of this study are to assess the presence of conditional conservatism among UK FTSE all shares companies, to examine the usefulness of C_Score developed by Khan and Watts (2009) as a measure of conservatism flow.

Moreover, the effectiveness of C_Score measure of conservatism flow is tested to examine its empirical properties using other conservatism measures as previously documented in literature. First, companies are sorted according to their C_Score and then placed in C_Score deciles for each year. Afterwards, the standard Basu, 1997 regression is estimated on the pooled cross sectional and time series within each C_Score decile. The distribution of ROA and NOAcc is examined as described in Chapter 2.

To illustrate the application of C_Score as a measure of conservatism four other cross-sectional hypotheses are developed. The relationship between conservatism (C_Score) and Age, Volatility, Investment Cycle and Credit rating is examined. Furthermore, C_Score is tested whether it can predict the asymmetric earnings up to three years ahead. This is elaborated in chapter 2.

Empirical model: A number of empirical forms are implemented to capture reporting conservatism, using several measures of asymmetric timelines in previous studies. Specifically, the asymmetric timeliness model of good news relative to bad news (Basu, 1997), the Khan and Watts (2009) model for estimating the bad news metric C_Score for conservatism flow, use firm characteristics such as the M/B ratio, Size and Leverage, to test for asymmetric timelines. Asset write-downs are the most fundamental manifestation of conservatism (Banker, Basu, Byzalov 2017). Ettrege et al. (2012) use the Khan and Watts (2009) C-Score metric and examine whether Basu's (1997) differential timeliness metric and the related C-Score metric are effective in detecting predictable differences in conservatism for the USA companies. They suggest that Basu (1997) based metrics capture variation in conservatism.

Previous research highlights the relevance of factors such as firm age, volatility, and investment length cycle in influencing the level of conservatism. Additionally, this study investigates the relationship between conservatism captured by C_Score and Corporate Governance, Credit Rating, Investment Cycle, Company's Age, and Volatility, providing valuable insights into the nature and effects of conservatism in accounting within the UK context.

Firm age, as an indicator of maturity, is likely to impact the conservative reporting practices of companies. Higher volatility could signify greater uncertainty, leading to potential implications for financial reporting conservatism. Additionally, we anticipate that the length of the investment cycle may play a role in shaping conservatism, given the level of future uncertainty involved in decision-making and its impact on accounting choices.

Corporate governance and credit rating have been identified as essential elements influencing accounting conservatism. The relationship between conservatism and corporate governance performance is likely to reflect the alignment of management practices with shareholder interests, impacting the extent to which companies choose to adopt conservative reporting policies. Louis et al. (2009) control for governance using the proxies of Dittmar and Mahrt-Smith (2007), and their results remain robust when accounting for firm fixed effects, ensuring that the findings are not driven by uncontrolled firm-specific characteristics. In the research model, the variable of corporate governance (CG) is included to capture its significant role within the UK. Effective corporate governance practices are vital for investor protection and, consequently, for reducing agency costs.

Likewise, credit rating agencies, in their evaluation of a company's creditworthiness, may consider the level of conservatism in financial reporting, which could have implications for the cost of debt.

Therefore, the Khan and Watts (2009) model is appropriate in studies using data from countries in similar institutional features as USA and the UK is chosen for this specific feature. This model provides a measure of conservatism that is estimated cross sectionally and timely series as a measure of conservatism flow (C_Score) using the Fama and Macbeth (1973) model.

This empirical chapter contributes to the existing debate by clarifying whether UK FTSE all shares companies demonstrate conditional conservatism and investigating the factors impacting the timeliness of impairment. As no recent research exists on this topic for UK FTSE all shares companies post-IFRS implementation, this study fills the gap and provides valuable insights into accounting practices and conservatism in financial reporting.

3.2 The impact of Audit Industry Specialisation on the Timeliness of Impairments

This section outlines the methodology employed to test whether the timeliness of impairments varies based on audit industry Specialisation and negative news signals, such as negative stock returns, sales change, and operating cash flow change. We utilize a modified Basu's model of conservatism in accounting, with negative impairment as the dependent variable (Stein, 2019; Banker, Basu, Bysalov, 2017; Ball, Shivakumar, 2005).

According to Banker, Basu and Bysalov (2017), as different classes of assets are tested separately for impairments, accountants use indicators that predict future cash flows respective to each of these asset classes. After controlling for stock return (Return in Basu 1997 model), earnings are likely to exhibit asymmetric loss recognition due to several other indicators such as sales change (ΔSales) and operating cash flow change (ΔOCF) (Banker, Basu, Bysalov 2017). Sales change (ΔSales) for instance is an important indicator in conservatism research which provides important information for predicting future costs, especially for short-term assets. Operating cash flow change (ΔOCF) complements stock return as an incremental predictor of earnings, although it may include transitory noise due to variations in working capital (Banker, Basu, Bysalov, 2017; Dechow, Kothari, Watts, 1998; Ertimur, Livnat, Martikainen, 2003). Moreover, as impairment tests are based on operating cash flow forecasts while sales are the main driver of cash inflows and outflows sales change adds information to impairment tests most likely for short-term assets (Dechow, Kothari, Watts 1998).

We expect that negative stock returns (Return) reflect a decline in long-run cash flows, indicating potential impairment of long-lived assets (Banker, Basu, Bysalov 2017).

The primary objective of this empirical chapter is to investigate whether the timeliness of impairments varies based on the audit industry specialisation and the presence of news signals such as stock returns, changes in sales and changes in operating cash flows.

Empirical model: Incorporated in the model is a variable NEWS which aims to capture changes in stock return (Return), operating cash flows (ΔOCF), and sales (ΔSales). These indicators are essential in predicting future cash flows and can influence asset impairments over different periods (Banker, Basu, Bysalov, 2017; Ball, Shivakumar, 2006; Roychowdhury, Watts, 2007; Beaver, Ryan, 2009)
To assess the impact of audit industry specialisation and news signals on impairment timeliness, a modified Basu's model (1997) is adopted as used by Stein (2019). The dependent variable, IMPAIR_NEG/Pt-1, represents total impairments per share (coded as a negative value) deflated by the price per share at the beginning of the year. This allows for consistent interpretation of regression coefficients in line with previous research. Banker, Basu and Bysalov (2017) also use asset write-downs as a dependent variable in a similar model in their research. Following Riedl (2004) and Stein (2019), the impairment variable includes the total impairment value recorded for a company in a given year, encompassing both tangible and intangible assets. This approach acknowledges that the decision to impair one type of asset may not be independent of other asset types within the company.

To capture audit industry specialisation the variable SPEC is included in the model. This variable is detailed in Chapter 6. To address potential misspecifications, we perform several tests using the Propensity Score Matching method with a binary treatment variable. The Dose Response model is also utilized for the continuous treatment variable SPEC, as described in Chapter 6.

By employing this methodology, the aim is to provide valuable insights into the relationship between audit industry specialisation, negative News signals, and the timeliness of asset impairments. The use of a modified Basu's model, as well as additional tests to address potential misspecifications, enhances the rigor and validity of this analysis.

Ultimately, this chapter contributes to the knowledge and literature on understanding how audit industry specialisation and news signals may affect the timeliness of asset impairments.

3.3 Analysing Disclosure on Asset Impairment in Financial Statements: A Content Analysis Approach

While the previous two empirical chapters aim to analyse conservatism and the timeliness of impairments for the UK FTSE all share companies as elements that improve the quality of financial statements, this research also aims to investigate the end result of the impairment process which is the disclosure of such information in the

financial reports. Moreover, this research reviews the disclosure quality and its dimensions in an attempt to provide a rationale, regarding disclosures as a communication form between management and stakeholders using the Content analysis method. In this empirical chapter, content analysis is utilized to examine the extent to which companies comply with the disclosure requirements of IAS 36 regarding the impairment of assets. The research also investigates the categories in which disclosure may be lacking, aiming to provide explanations for these observations. Year, Industry, and Audit Company are considered as attributes that may influence the level of compliance and the quality of financial reporting in relation to the impairment of assets.

The content analysis process for this research involves several stages, each of which is explained further in this section:

- deciding on the unit of analysis,
  The first step is to determine the unit of analysis, which involves identifying the specific sections or elements of the financial statements that will be analysed for impairment disclosure information.
- identifying the concepts,
  Next, the elements required to be disclosed according to IAS 36 are defined as the concepts to be analysed during content analysis.
- defining concepts,
- decide whether to code for incidence or frequency,
  The researcher decides whether to code for the incidence or frequency of the identified concepts in the text of the financial statements.
- establish coding rules,
  Clear and operational definitions for each category of elements are established as coding rules, ensuring consistency and objectivity in the analysis.
- investigate through information.
  The researcher conducts the content analysis by categorizing and analysing the relevant sections of the financial statements based on the defined coding rules.
- analyse the results.
  The results of the content analysis are then evaluated, allowing for insights into the level of compliance with IAS 36 disclosure requirements and potential areas where disclosure may be lacking.

There are some technical requirements that need to be met for the content analysis to be effective (Guthrie, Mathews, 1985). It is necessary for instance that the categories of elements should be clearly and operationally defined.
The objectivity also is a key matter which requires to determine clearly whether an item either belongs to a particular category or not. Moreover, the information analysed

should be quantifiable and the coder needs to be reliable and consistent following a very specific previously defined procedure.

Content analysis involves the identification of particular issues within a text of, for example, an annual report, which can be categorised under headings, and then analysed (Guthrie, Parker 1990). The content analysis method used in this study involves four main steps:

a. Determining the sampling units to analyse.
b. Defining the elements required to be disclosed according to IAS 36 Impairment of Assets.
c. Measuring the frequency.
d. Evaluating the validity and reliability of data.

Content analysis offers distinct advantages over other data collection methods, such as interviews. As documents, such as annual reports, embody data compiled with thought and care, they provide valuable insights into the preparers' perspectives. Additionally, content analysis can be conducted discreetly, enabling evaluation without the preparers' knowledge (Jones, Shoemaker, 1994). The *annual report* is used as unit of analysis due to it being the statutory report representing the primary regular information for the stakeholders and public domain.

According to Birmingham and Wilkinson (2013), of the two main approaches to content analysis, conceptual analysis is by far the more popular.

Conceptual analysis examines either the incidence or the frequency of concepts (themes/issues, words, phrases, etc.) in the text. It quantifies occurrences of the selected concepts, enabling a comprehensive thematic analysis of the text. As such, in the course of a content analysis, the context embraces all the knowledge that the analyst applies to given texts. The detailed methodology of content analysis in this research is expounded upon in Chapter 7.

To ensure the consistency and accuracy of the analysing process, it is necessary to clearly define and describe the units of analysis chosen for the research process. Units of analysis refer to the specific elements as the building blocks that are chosen to be examined within the analysed content aligned with the research objectives that enable effectively answering the research questions. Moreover, selecting the appropriate units of analysis is essential for ensuring that the findings are valid, accurate and reliable and theoretically justified.

Therefore, it is necessary to select units of information that have been previously implemented in similar studies to enhance the comparability of the results (Neuendorf, 2011). The units of information that are selected for this research are

similar to the studies conducted by Amiraslani, Iatridis, and Pope (2013) due to them all deriving from the same source of information, the disclosure requirements of the IAS 36. However, there are new categories included in this research that include the auditing company, the audit opinion, and the year variation. These categories added to the list of the Units of information will shed meaningful insights on other factors that may impact the quality of the Asset Impairment disclosures. For the purpose of this research a set of *Units of information,* apart from the specific disclosure requirements of the IAS 36, are considered as elements of interest. Therefore, the inclusion of new categories, such as the auditing company, the audit opinion and the year variation are justified for several reasons as outlined below:

Enhanced understanding of auditor influence: by incorporating the auditing company as a category the research aims to examine the potential impact of different audit firms on the quality of Asset Impairment disclosures. Auditors play a crucial role in providing assurance on financial statements, and their expertise and diligence can significantly influence the reporting process. Investigating how different audit firms approach Asset Impairment disclosures can provide valuable insights into the role of auditors in ensuring transparency and accuracy in financial reporting.

Assessment of audit opinions: Including the audit opinion as a category allows the research to explore how the type of audit opinion relates to Asset Impairment disclosures which can offer valuable information about reliability of such disclosures. Since the sample of annual reports is selected by including only those companies that have recorded an asset impairment (PPE), reviewing whether auditors mentioned the impairment of assets in their opinion regarding this process would be of interest to this research since the audit opinion communicates the auditor's evaluation of the financial statements' fairness and compliance with accounting standards.

Year Variation Analysis: The consideration of year variation as a category provides an opportunity to analyse how the quality of Asset Impairment disclosures may vary over time. External factors, regulatory changes, or shifts in management practices can influence reporting practices across different years. By examining year-to-year variations, the research can identify trends or patterns in the quality of Asset Impairment disclosures and assess the impact of changing circumstances on reporting practices.

Comprehensive assessment of Disclosure Quality: The addition of these new categories expands the scope of the research, ensuring a more comprehensive assessment of disclosure quality. By examining factors related to auditors, audit opinions, and year variations in conjunction with other pre-established categories, the research aims to provide a holistic view of the determinants of Asset Impairment disclosures' quality. This approach contributes to a more thorough understanding of the complex dynamics that can influence reporting practices.

Therefore, the inclusion of the auditing company, the audit opinion, and the year variation as new categories in this research is justified as it expands the research's scope, provides a more comprehensive analysis of disclosure quality, and offers valuable insights into the factors influencing Asset Impairment reporting practices. These additional categories enhance the research's relevance and practical implications for various stakeholders in the financial reporting ecosystem.

These elements are relevant and will assist the researcher in answering the research questions.

1. *The impairment charge* is defined as a general category and includes the total impairment charge for the company year. It includes three subcategories:
   - Impairment for Fixed Assets (the total sum of impairment of Fixed assets for the company year).
   - Impairment of intangible assets (the total sum of impairment of intangible assets for the company year).
   - Impairment reversals (the sum of impairment reversals if any).
   - The impairment charge for Investments and Associates. Investments and Associates are categories within the scope of IAS 36.

2. Impairment policy
   Impairment policy category collects information about specific policies designed by companies other than the general standard impairment policy as defined by IAS 36. To be included in this category an impairment policy description should include company-specific procedures regarding impairments.
   a) As a subcategory of Impairment policy is also *Indications of Impairments*. This category collects information regarding specific disclosure on the indications for an impairment review. It is different from the category of Circumstances and events because to be categorised as *an Indication of Impairments it has to be explicitly mentioned as such.*

3. Valuation Methodology
   a) *FVLCD:* if the recoverable amount is fair value less the cost of disposal, the entity is required to disclose the following information:
   - a description of the valuation technique used to measure fair value less cost of disposal.
   - For fair value measurements in Level 2 and Level 3 of the fair value hierarchy, entities must disclose the assumptions they have used in calculating fair value less cost of disposal. They must also disclose the discount rate they have used in both the current and previous measurements if fair value less cost of disposal is calculated using a present value technique.
     FVLCD is considered as a category under the methodology in NVivo while Key assumptions are a subcategory of the FVLCD.

b) Value in use represents the present value of the anticipated future cash flows that an asset or cash generating unit is expected to generate. It falls under the methodology category and is further segmented into distinct key assumptions, each coded separately within the Value in Use framework.

4. Key assumptions refer to the factors that significantly influence the recoverable amount of the asset or cash generating unit. Additionally, the entity is required to disclose the discount rate(s) applied in the current measurement, as well as any previous measurement, if fair value less cost of disposal is determined using a present value technique.
    - Discount rate
    - Revenue Growth rate
    - Revenue growth risk
    - Period over which management has projected cash flow
    - Gross Margin
    - Pre-tax projection of cash flows
    - Sensitivity analysis

5. The definition of Cash Generating Unit (CGU) is mandated by IAS 36 (130(d, i)). It entails providing a comprehensive description of the CGU, which is essential for understanding the implications of the impairment on the entity's overall activities and operations. The aim is to offer sufficient context to assess the impact of the impairment on the entity.

6. The auditing company is a variable of interest for this research as it complements the quantitative study that examines the role that auditors play in monitoring and verifying specific management estimates in the process of the impairment of assets.

7. Industry (1 digit SIC Code) refers to the industry in which the company operates and serves as an attribute in comparing the level of disclosure about assets impairment across industries.

8. The audit opinion on the impairment is also a category in the designed project aiming to explore whether impairments have been within the scope of the auditing company for that year. The Conceptual Framework identifies verifiability as a component of faithful representation which establishes an expectation for users of financial information that all reported information is auditable.

9. Auditing Company: This unit of information is included because auditors play an active role in the preparation and presentation of financial statements after conducting audits (Reinstein and Lander, 2004). As auditors are expected to enhance the quality of disclosure, this unit of information serves as an attribute for comparing the level of asset impairment disclosure for each company in relation to the audit performed.

10. Circumstances and events

This is a category that is a requirement of the IAS 36 (130(a)) and collects information regarding events and circumstances that contributed to the impairment loss or reversal.

By following this content analysis methodology, the research aims to shed light on the quality and level of compliance with IAS 36 disclosure requirements related to impairment of assets. The findings will contribute to a deeper understanding of financial reporting practices and potential areas for improvement in disclosure practices.

4. Data collection methods

4.1 Introduction

Data collection method is important, because the way that the information is collected, analysed and what findings it generates are determined by the methodology and analytical approach applied by the researcher. The issue of the sample selection and determination of the sample size are fundamental for testing the research questions and related hypothesis particularly for the representativeness of the research findings as well as their statistical significance. At the very least we should have a sample size large enough to allow us to conduct the required tests of the research. This research is based on secondary data that have been retrieved from DataStream and also hand collected from companies' annual reports. The data sample includes UK FTSE All share companies excluding banking and financial institutions for the period from 2005 to 2019, a period that consists with the IFRS implementation in the UK. Excluding financial institutions from dataset, ensures the comparability and relevance of findings as financial institutions operate in a highly regulated environment and are subject to specific risk management practices and regulatory requirements that may significantly influence impairment assessments. Excluding financial institutions enables a more homogeneous analysis of impairment practices examining the impact of impairment on financial reporting quality or market reactions. Moreover as Khan and Watts (2009) suggest their model is appropriate in studies using data from countries in similar institutional features as USA and the UK is chosen for this specific feature.
The primary sample includes 6471 company years from UK FTSE all shares. Only companies that have prepared financial statements according to IFRS are selected. Excluded from the dataset are those company years that had not yet implemented IFRS or have missing data for our model, have negative total assets or book value of equity. The final sample results in 6271 company years.

4.2 Building the Data Set

4.2.1 Timeliness of Impairments

The data sample includes UK FTSE All share companies excluding banking and financial institutions for the period from 2005 to 2019, a period that consists with the

IFRS implementation in the UK. Only companies that have prepared financial statements according IFRS are selected. Excluded from the dataset are those company years that had not yet implemented IFRS or have missing data for our model, have negative total assets or book value of equity. The final sample results in 6271 company years.

4.2.2 Enhancing the Timeliness of Impairment Recognition: The Influence of Audit Industry Specialisation

This research is based on secondary data that have been retrieved from DataStream and Audit Analytics database. The primary sample includes 5559 company years from UK FTSE all share for the period 2009 to 2019. This period is selected because the data available for annual audit fees of European companies in the Audit Analytics database starts from the year 2009. Only those companies that have been audited by the big 4 audit companies and also audit companies that have e significant presence in the UK market including BDO LLP, Grant Thornton UK LLP, and PKF UK LLP are included in the sample. This condition is followed to avoid the potential difficulties of comparing and interpreting the results among small and large audit companies. Excluded from the dataset are also those company years that had not yet implemented IFRS and have missing data for our model.

The sample after excluding companies that have not been audited by Big 4, BDO LLP, Grant Thornton UK LLP, and PKF UK LLP is 4187. After excluding companies/years that have missing information for our variables the final sample results in 4162 company years.

4.2.3 Analysing Disclosure on Asset Impairment in Financial Statements: A Content Analysis Approach

The focus of this research is to explore the level and the quality of information disclosed in financial statements about the Impairment of Assets according to the requirements of IAS 36 “The Impairment of assets”. The *annual report* is used as unit of analysis due to it being the statutory report representing the primary regular information for the stakeholders and public domain.

The data sample includes UK FTSE all share companies excluding banking and financial institutions for the period from 2005 to 2019, a period that consists of the IFRS implementation in the UK. The companies’ selection is based on the occurrence of an impairment for Plant, Property and Equipment (PPE) during the period 2005-2019. Among 4508 impairments recorded during this period among UK FTSE all shares, only 356 are impairments for PPE that pertain to 106 companies. The relevant information is retrieved from the Annual reports of companies that have recorded PPE.

The 356 annual reports were downloaded in PDF form from the official websites of the sample companies. The annual reports that were not available because they date back more than ten years and some companies do not provide that information were retrieved from the Companies House website of the GOV.UK.
The dataset consisted of 336 annual statements in total.

4.2.4 Data Types

A variety of measures are used to assess the existence of conservatism in previous empirical research. The type of data to be gathered are determined by the specification of the conservatism model, the econometric techniques used for the estimation, and ultimately the nature of the hypothesis that are tested by the econometric analysis.
Data types relevant to conservatism analysis include company-level data from financial statements and also standardized indicators such as Corporate Governance index and, the Credit Rating. Table 2 summaries the research variables, the measurements and previous studies that have used the same measurements.

Table 2: Research variables

Variables	Variable definition	Variable Measurement	Previous studies
X_i	Earnings before extraordinary items divided by the lagged market value of equity (MVE), while *i* is the firm's index	Earnings before extraordinary items divided by the lagged market value of equity (MVE), while *i* is the firm's index	Khan, Watts (2009); Basu (1997)
Return	The annual return compounded from monthly returns beginning the fourth month after the fiscal year-end to ensure that that the market response to the previous year's earnings is excluded	The annual return compounded from monthly returns beginning the fourth month after the fiscal year-end to ensure that that the market response to the previous year's earnings is excluded	It measures the news as in Basu (1997); Khan, Watts (2009); Stein (2019); Banker, Basu, Bysalov 2017
D	Is a dummy variable	Equals to 1 when returns are negative and equal to 0 when returns are positive	Basu (1997) and Khan, Watts (2009); Stein (2019); Banker, Basu, Bysalov (2017); Ettredge, Huang, Zhang (2012),
Size	The natural logarithm of market value of equity	Market value of equity is available in DataStream	Khan, Watts (2009); Stein (2019); Banker, Basu, Bysalov (2017); Francis et al. (1996); Riedl (2004); Beatty, Weber (2006);

			Ettredge, Huang, Zhang (2012)
M/B	The market value of equity to the book value of equity at the end of the year	Book Value of Equity was calculated in Excel using data from the financial statements that were retrieved from DataStream: Total Assets-Total Liabilities= Total Equity	Khan, Watts (2009); Stein (2019); Banker, Basu, Bysalov (2017; Francis et al.; (1996); Riedl (2004); Beatty Weber (2006)
Lev	Leverage defined as long term debt plus short-term debt divided by the market value of equity	Leverage was calculated in Excel using data from financial statements that were retrieved from DataStream	Khan, Watts (2009); Stein (2019); Banker, Basu, Bysalov (2017); Francis et al. (1996); Riedl (2004); Beatty, Weber (2006); Ettredge, Huang, Zhang (2012)
AGE	The age of a company in a given year	Measured as the number of years a company has been listed in the London Stock Exchange	Khan, Watts (2009),
Credit rating	The credit rating index	Was retrieved from DataStream for those company years that it was available	Khan, Watts (2009)
Investment Cycle	Is a decreasing measure of the length of the investment cycle	Defined as depreciation expense deflated by lagged assets	Khan, Watts (2009)
Volatility	Is the standard deviation of daily stock returns	Daily stocks prices were gathered from DataStream and the calculation of daily returns and standard deviations were performed in excel.	Khan, Watts (2009)
CG	Corporate Governance index	Retrieved from DataStream	Khan, Watts (2009)
NOAcc	Are non-operating accruals, scaled by lagged assets	Non-operating accruals are measured as net income before extraordinary items, plus depreciation minus cash flow from operations (CFOA), minus operating accruals, all deflated by lagged total assets Operating accruals are measured as change in non-cash current assets, minus change in current liabilities excluding short-term debt, deflated by lagged assets	Khan, Watts (2009); Givoly, Hayn, 2000.
CFOA	Is cash flow from operations, deflated by lagged assets	CFOA is obtained from the statement of cash flows	Givoly, Hayn, 2000; Khan, Watts (2009)
ROA	Return on assets	Are earnings before extraordinary items, deflated by lagged assets	Khan, Watts (2009)
IMPAIR_NEG/Pt-1	Equals total impairments per share (as a negative value) deflated by price per share at the beginning of the year	Equals total impairments per share (as a negative value) deflated by price per share at the beginning of the year	Stein (2019); Banker, Basu, Bysalov (2017)
SPEC	The audit industry specialisation	Is defined as the total audit fee generated by the audit company in a two digit SIC code industry deflated by the total audit	Stein (2019); Numan, Willekens (2012);

		revenues for that firm in a given year	Ettredge, Huang, Zhang (2012)
ΔOCF	the change in operating cash flow	The change in operating cash flow for company *i* from period t-1 to t divided by total market capitalization at the end of t-1	Stein (2019), Banker, Basu, Bysalov (2017); Ball, Shivakumar (2005); Ettredge, Huang, and Zhang (2012)
ΔSales	The change in sales	The change in sales for company *i* from period t-1 to t divided by total market capitalization at the end of t-1	Stein (2019), Banker, Basu, Bysalov (2017) Ball, Shivakumar (2005); Ettredge, Huang, Zhang (2012)
Market value of equity	Market value of equity	This variable is available in DataStream	Khan, Watts (2009)
BTM	The book value of equity to the market value of equity at the end of the year	Book Value of Equity was calculated in Excel using data from the financial statements that were retrieved from DataStream: Total Assets-Total Liabilities= Total Equity	Stein (2019); Ettredge, Huang, Zhang (2012)

The relevant information is retrieved from DataStream and publicly available data for FTSE all share companies.

This research also assesses the implementation of the disclosure requirements of IAS 36 "*The impairment of assets*" in the annual financial statements, the key elements reported in financial statements about the impairment process and how management supports key assumptions applied in their valuations. Moreover, this study examines the form and content of the notes and narratives regarding the circumstances and events of the impairment, the audit opinion on the impairment of assets when available, the reporting practice across industries and how disclosures about the impairment of assets have evolved along the years for the period 2005-2019.

5. Chapter 4 Conclusion: Research Design and Methodology

This chapter provided an overview of the methodology used throughout this research discussing the common methods, data collection techniques and data analysis approaches which are applied to the three subsequent empirical chapters.
Moreover, the research on the impairment of assets using Basu's (1997) model for the first two empirical chapters and content analysis for the third empirical chapter was classified through the lens of Burrell and Morgan's (1979) paradigm by comprehending the ontological and epistemological assumptions that underlie each approach. As such, this research can be categorised under Functionalist Paradigm within Burrell and Morgan's (1979) paradigmatic framework aiming to understand the mechanism

and functions of financial reporting of the Impairment of assets in the context of IAS 36.

As empirical research on conservatism requires a metric or scale that can characterize both cross-sectional and time-series variation in conservatism, this study estimates C_Score as developed by Khan and Watts (2009) as a measure of conservatism flow, explores whether UK FTSE all shares demonstrate conditional conservatism and also study the association of Non-operating accruals, Investment cycle, Return on Assets (ROA) and Returns Volatility with conservatism. C-Score measure of conservatism is used to predict future timelines of earnings up to three years ahead. Specifically, the asymmetric timeliness model of good news relative to bad news (Basu, 1997), the Khan and Watts (2009) model for estimating the bad news metric C_Score for conservatism flow, and firm characteristics such as the M/B ratio, Size and Leverage, are used to test for asymmetric timelines.

As auditors specialised in certain industries develop knowledge related to the trends and triggering events that are deemed to cause an asset impairment that affect similar clients for a given period, it is expected that companies that hire more industry specialised auditors would record timelier impairments in comparison to the companies that hire less specialised auditors. To test whether timeliness of impairments varies based on the audit industry specialisation congruent with bed news signals such as negative stock returns, sales change and operating cash flow change, a modified Basu's model of conservatism in accounting is used (section 6.3) having negative impairment as dependent variable (Stein 2019; Banker, Basu, Bysalov 2017; Ball, Shivakumar 2005). To capture the differences in the indicators that affect asset impairments the model used in this research includes a variable NEWS which represents Stock return (Return) changes in operating cash flows (ΔOCF) and changes in sales (ΔSales). To capture audit industry specialisation the variable SPEC is included in the model which is defined as the total audit fee generated by the audit company in a two digit SIC code industry deflated by the total audit revenues for that firm in a given year.

Content analysis method is used to examine the extent to which companies disclose information according to the requirements of IAS 36 and investigates the categories in which disclosure is lacking in providing explanations for such observations using Year, Industry and Audit company as attributes that affect the level of compliance and the quality of financial reporting of the Impairment of assets.

The type of data relevant for this research are determined by the specification of the conservatism model, the econometric techniques used for the estimation, as well as by identifying particular issues within the annual reports that are further categorised under headings, and then analysed for the Content Analysis. This research proceeds next with empirical chapter 5 on the Timeliness of Impairments.

Chapter 5: Timeliness of Impairments

1 Introduction

The concept of accounting conservatism centres around the idea of prudence and caution in financial reporting, particularly in the recognition of uncertain gains and losses. It involves a bias towards recognizing losses and liabilities promptly, while being more cautious in the recognition of gains and assets. To understand the complexities surrounding accounting conservatism and asset impairment, this research utilises the various data collection methods adopted in this domain.

Various studies have researched conservatism and timeliness of impairment in accounting. According to Andre et al. (2016) compared to the actual number of companies exhibiting economic impairment, only a small number 20-25% of companies have impaired their assets. Taking in consideration the importance of asymmetric timeliness of earnings recognition as an essential factor of the reporting quality and the controversy that surrounds the research community about the empirical model of detecting it, Ball, Kothari, and Nikolaev (2013) demonstrate that the asymmetric timeliness coefficient varies with firm characteristics affecting their information environments.

These firm characteristics are used to study conservatism under the proposed Khan and Watts (2009) empirical model to find out whether there is conservatism and timelines of impairment in UK FTSE all shares companies for the period 2005-2019.

Moreover, this chapter will discuss the empirical model and statistical tests used to assess the presence and extent of conservatism in accounting practices and the evaluation of asset impairment.

This research contributes to the debate by clarifying whether UK FTSE all shares demonstrate conditional conservatism hence timeliness of impairment after the implementation of IAS no 36, and the way the asymmetric timeliness coefficient varies with firm characteristics.

Thus, this chapter is structured as follows:

Section 5.2 introduces the empirical model, Section 5.3 gives the descriptive statistics for the selected variables. Section 5.4 presents the empirical results of the 4 test hypothesis. Section 5.5 provides the concluding discussion.

2. Empirical model

To test the defined hypothesis this research studies how asymmetric timeliness coefficient varies with firm characteristics affecting their information environments following the cross-sectional model of Khan and Watts (2009) using Fama-Macbeth (1973) model for the time period 2005-2019. Beaver (2015) argues that the reverse regression places the garbling of earnings into the residual term, and it does not induce bias in the coefficients. Moreover, with earnings as the dependent variable, it is straightforward to also include lagged price changes. Ball, Kothari and Nikolaev (2013) demonstrate that controlling for expected earnings eliminates the systematic variation of bias with several firm characteristics often used as proxies for conditional conservatism (Khan, Watts, 2009), as well as for risk (Fama, French, 1992, 1993). They also confirm that the inclusion of firm fixed effects in the estimation essentially eliminates the bias, which becomes insignificant. However, Peterson (2008) states that although the firm effect was initially specified as a constant in practice, the firm effect may decline and so the correlation between residuals changes as the time between them grows. The fixed effect model produces unbiased standard errors only when the firm effect is permanent.

The Fama-Macbeth (1973) regression is a two-step procedure that accounts for cross-correlations and serial correlation in the error term, making t-statistics more conservative (Choe, Kho, Stulz, 2005). A key assumption of the model is that the expected value of the error term is zero to ensure reliable estimates. Endogeneity can also arise when the specified model is incomplete and important variables are omitted, or when the dependent and explanatory variables are jointly determined. In these cases, the error term may include omitted variables, rendering the estimates unreliable. This is not only an econometric issue, but also a theoretical one.

The Fama-Macbeth (1973) standard errors do not account for serial correlation, although they can be adjusted for cross-sectional dependence. In this research, where the number of cross-sectional units is large and the time series for each unit is relatively small, Newey-West (1987) consistent standard errors are an acceptable solution. According to Petersen (2008), the modified Newey-West (1987) method can be used in panel data sets by estimating correlations between lagged residuals within the same cluster. Additionally, the lag length is simplified in a panel data set, since the maximum lag length is one less than the number of years per firm. In traditional fixed effects, pooled, or random effects panel data models, the coefficients are usually constrained to be the same across all explanatory variables. (Lags are defined using the Newey-West (1987) formula: $L = 0.75T_{1/3} - 1$.)

In a heterogeneous panel data modelling framework, where coefficients may vary across factors (explanatory variables), there is a common underlying process

(versus multiple equations estimated in the Fama-MacBeth (1973) regression). While the adjusted Fama-MacBeth (1973) standard errors remain biased, they are significantly less biased than the unadjusted standard errors. According to Ibragimov and Muller (2007), the Fama-MacBeth (1973) method results in valid inference even in short, heterogeneous panels as long as the year coefficient estimators are approximately normal (or scale mixtures of normal) and independent. The estimation of the timeliness of impairment will be based on the Basu (1997) model firm-year measure of conservatism, which is specified in the cross-sectional regression:

$$X_i = \beta_1 + \beta_2 D_i + \beta_3 R_i + \beta_4 D_i R_i + e_i \qquad (1)$$

In equation *(1), Xi is* earnings before extraordinary items divided by the lagged market value of equity (MVE), while *i* is the firm's index.
R_i is the annual return compounded from monthly returns beginning the fourth month after the fiscal year-end to ensure that that the market response to the previous year's earnings is excluded. It measures the news as in Basu (1997) and Khan and Watts (2009).
D is a dummy variable that is equal to 1 when returns are negative and equal to 0 when returns are positive. According to Basu (1997), it will capture the intercept and slope effects for the negative return sample.

2.1 The modified empirical model

In this research, is used a modified model of Basu (1997) to take into account firm specific factors that are relevant and generally accepted as measures of conservatism. Hence, this is the preferred model as it considers all the important and relevant firm characteristics that could have an impact on earnings.
According to Khan and Watts (2009), *C_Score*[9] can be used to predict asymmetric earnings timeliness changes.

G_Score and *C_Score* will be included as: incremental.

$$G\_Score = \beta_3 + \mu_1 + \mu_2 Size_i + \mu_3 {}^{M}/_{B_i} + \mu_4 Lev_i \quad (2)$$

$$C\_Score = \beta_4 + \lambda_1 + \lambda_2 Size_i + \lambda_2 {}^{M}/_{B_i} + \lambda_3 Lev_i \quad (3)$$

[9] The timeliness of good news (*G_Score*) and the added timelines of bad news (*C_Score*) are linear functions of firm specific characteristics each year.

Empirical estimators are μ_1 and $\lambda_i$where (i=4) is constant across the firms.

The *G_Score* and *C_ Score* are not regressions but will be estimated by the annual cross-sectional regression model by substituting β_3 with Equation 2 and β_4 with Equation 3[10]:

$$X_i = \beta_1 + \beta_2 D_i + R_i\left(\mu_1 + \mu_2 Size_i + \mu_3 {}^{M}/_{B_i} + \mu_4 Lev_i\right) * D_i R_i\left(\lambda_1 + \lambda_2 Size_i + \lambda_3 {}^{M}/_{B_i} + \lambda_4 Lev_i\right) + (\delta_1 Size_i + \delta_2 {}^{M}/_{B_i} + \delta_3 Lev_i + \delta_4 D_i Size_i + \delta_5 D_i {}^{M}/_{B_i} + \delta_6 D_i Lev_i) + \epsilon_1 \quad (4)$$

X_i is the net income before extraordinary items scaled by lagged MVE[11].

2.3 Model variables

1. X_i is earnings before extraordinary items divided by the lagged market value of equity (MVE), while *i* is the firm's index.
2. R_i is the annual return compounded from monthly returns beginning the fourth month after the fiscal year-end to ensure that that the market response to the previous year's earnings is excluded. It measures the news as in Basu (1997) and Khan and Watts (2009).
3. *D* is a dummy variable that is equal to 1 when returns are negative and equal to 0 when returns are positive. According to Basu (1997), it will capture the intercept and slope effects for the negative return sample.
4. *Size*: is the natural logarithm of market value of equity.
   Market value of equity is available in DataStream.
5. *M/B* ratio: is the market value of equity to the book value of equity at the end of the year. Book Value of Equity was calculated in Excel using data from the financial statements that were retrieved from DataStream: Total Assets-Total Liabilities= Total Equity
6. *Lev:* is leverage defined as long term debt plus short-term debt divided by the market value of equity. Leverage was calculated in Excel using data from financial statements that were retrieved from DataStream.

From the equation (1) above β_3 measures the timeliness of good news while β_4 measures the difference in sensitivity of bad news over good news measures of earnings. According to Khan and Watts (2009) the timeliness reflects both good news and bad news and conservatism at the firm level.

[10] As suggested by Kothari and Nikolaev (2013), the firm fixed effects are included in the model.

[11] C_Score are examined to predict asymmetric earnings timeliness up to 3 years ahead. According to the model of Khan and Watts (2009) companies are sorted according to their annual C_Score in year t-3, or t-2, or t-1 in deciles, and then use t data, to estimate the regression of Basu within each decile.

In summary, the Khan, and Watts (2009) modified Basu (1997) model takes into account firm-specific factors relevant to measures of conservatism that may impact earnings. The empirical evidence suggests that Conservatism varies with the M/B ratio and a positive relationship between the M/B ratio and Conservatism is expected, consistent with Roychowdhury and Watts (2007) and Khan and Watts (2009). Additionally, highly leveraged firms under financial distress face increased litigation risk and a greater demand for conservatism, thus a positive relationship between Leverage and Conservatism is also expected.

The operations of large firms often create information asymmetry, which often signals higher litigation risk and increased demand for reducing the present value of tax liability. As a result, larger firms are expected to have lower information asymmetry, leading to a negative relationship between Size and Conservatism (LaFond, Watts, 2003; Khan, Watts, 2009; Banker et al., 2017).

3 Descriptive Statistical Analysis

The original sample consisted of 6,471 company years from the UK FTSE All-Share index. Following the exclusion of company years lacking implementation of IFRS or having missing data, negative total assets or book value of equity, the final sample comprised 6,271 company years.

Table 3 provides an overview of the dataset, presenting the number of companies and company years for each two-digit SIC code, along with the count of impairments for each SIC code.

Table 3

Summary Table			Nr. of Companies	
Nr. of Comp-years		6471	481	
Nr. of Comp-years excluded		200	16	
Nr of Comp-years remained		6271	**465**	
SIC code		Nr. Of Companies	Nr. Of Comp/Years	Impairments
01	Agricultural Production - Crops	2	28	2
02	Agricultural Production - Livestock and Animal Specialties	1	12	4
07	Agricultural Services	3	43	10
13	Metal Mining	26	325	59
14	Coal Mining	3	45	0
15	Oil and Gas Extraction	20	289	94
16	Mining and Quarrying of Non-metallic Minerals, Except Fuels	3	40	3
17	Construction - General Contractors & Operative Builders	15	213	21
20	Contractor	2	22	2

21	Construction - Special Trade Contractors	3	44	4
22	Food and Kindred Products	14	187	37
24	Textile Mill Products	2	26	5
25	Apparel, Finished Products from Fabrics & Similar Materials	1	13	0
26	Lumber and Wood Products, Except Furniture	4	58	11
27	Furniture and Fixtures	1	11	0
28	Paper and Allied Products	4	56	4
29	Printing, Publishing and Allied Industries	14	197	57
30	Chemicals and Allied Products	34	446	98
31	Petroleum Refining and Related Industries	1	14	6
32	Rubber and Miscellaneous Plastic Products	7	92	9
33	Leather and Leather Products	1	14	13
34	Stone, Clay, Glass, and Concrete Products	8	110	17
35	Primary Metal Industries	2	30	12
36	Fabricated Metal Products	7	99	17
37	Industrial and Commercial Machinery and Computer Equipment	10	137	18
38	Electronic & Other Electrical Equipment & Components	13	188	46
39	Transportation Equipment	5	74	32
40	Measuring, Photographic, Medical, & Optical Goods, & Clocks	9	113	21
43	Local & Suburban Transit & Interurban Highway Transportation	3	43	5
44	Motor Freight Transportation	4	54	6
45	United States Postal Service	0	0	0
46	Water Transportation	2	30	3
47	Transportation by Air	5	66	16
49	Transportation Services	4	51	16
50	Communications	7	79	22
51	Electric, Gas and Sanitary Services	7	93	40
52	Wholesale Trade - Durable Goods	15	211	67
53	Wholesale Trade - Nondurable Goods	9	125	28
54	Building Materials, Hardware, Garden Supplies & Mobile Homes	4	53	11
56	Food Stores	4	56	21
57	Automotive Dealers and Gasoline Service Stations	3	42	11
58	Apparel and Accessory Stores	5	67	31
59	Home Furniture, Furnishings and Equipment Stores	3	41	4
60	Eating and Drinking Places	8	105	11
61	Miscellaneous Retail	4	56	19
62	Depository Institutions	2	27	2
64	Security & Commodity Brokers, Dealers, Exchanges & Services	6	77	21
70	Real Estate	25	327	50
72	Holding and Other Investment Offices	18	239	44
73	Hotels, Rooming Houses, Camps, and Other Lodging Places	5	72	33
73	Personal Services	2	29	4
75	Business Services	57	751	185
76	Automotive Repair, Services and Parking	1	14	3
78	Miscellaneous Repair Services	1	14	3
79	Motion Pictures	3	29	10
80	Amusement and Recreation Services	7	90	25
81	Health Services	1	13	1
83	Educational Services	3	42	19
84	Social Services	1	15	1
88	Engineering, Accounting, Research, and Management Services	28	390	89
89	Services, Not Elsewhere Classified	3	44	9
Total		465	6271	1412

Table. 3 describes the data set. The primary sample includes 6471 company years from FTSE all share for the period 2005 to 2019. Only companies that have prepared financial statements according to IFRS are selected. Excluded from the dataset are those company-years that had not yet implemented IFRS or have missing data for our model, have negative total assets or book value of equity. The final sample results in 6271 company years. The total number of companies is 481.

Table.4 shows the descriptive statistics for the full sample of 6271 firm-years between 2005 and 2019. Mean, standard deviation and median are reported for the first and third quartiles.

Table 4

Descriptive Statistics

	Mean	StDev	Q1	Median	Q3
Earnings (Xi)	0.006	0.522	-0.018	0.054	0.098
Returns	0.079	0.533	-0.236	0.021	0.287
Size	11.867	2.523	10.009	11.893	13.686
M/B	1.896	3.102	0.674	1.200	2.281
Lev	0.651	1.132	0.084	0.301	0.718
Volatility	0.025	0.018	0.015	0.020	0.030
NOAcc	-0.041	0.429	-0.078	-0.032	0.008
CFOA	0.043	0.352	0.013	0.070	0.127
Inv.Cycle	0.032	0.069	0.008	0.020	0.039
Age	33.414	15.929	18.000	37.000	48.000

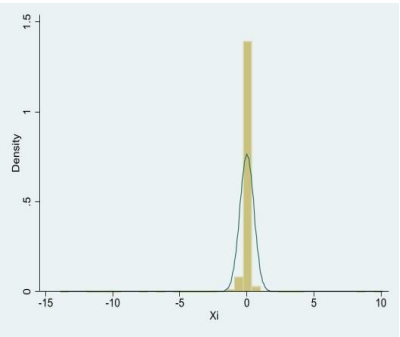
Variable Definitions

Earnings is calculated as net income before extraordinary items, scaled by lagged market value of equity.
Returns are the annual returns compounded from monthly returns beginning the fourth month after fiscal year end. This variable is calculated in excel using the buy and hold formula. The UK companies disclose financial statements in different dates, so they were gathered in batches according to their yearend date and the calculation started in the fourth month after this date.
Size is the natural log of market value of equity.
M/B is the ratio of market value of equity to book value of equity at the end of the year.
Lev is leverage, defined as long-term debt plus short-term debt deflated by market value of equity.
Volatility is the standard deviation of daily stock returns. Daily stocks prices were gathered from DataStream and the calculation of daily returns and standard deviations were performed in excel.
NOAcc is non-operating accruals, scaled by lagged assets. Non-operating accruals are measured as net income before extraordinary items, plus depreciation minus cash flow from operations (CFOA), minus operating accruals, all deflated by lagged total assets (e.g., Givoly, Hayn, 2000). Operating accruals are measured as change in non-cash current assets, minus change in current liabilities excluding short-term debt, deflated by lagged assets.
CFOA is cash flow from operations, deflated by lagged assets. CFOA is obtained from the statement of cash flows (e.g., Givoly, Hayn, 2000).
ROA is earnings before extraordinary items, deflated by lagged assets.
Inv. Cycle is a decreasing measure of the length of the investment cycle and is defined as depreciation expense deflated by lagged assets.
Age is the age of the firm in a given year, measured as the number of years that the company has been listed in the London Stock Exchange.

Earnings are net income before extraordinary items, scaled by the lagged market value of equity. The average earnings are 0.6%, while the median is 5.41%. We can see that in the first quartile, earnings have a negative value (-0.0183) that increases

to a median of 0.0541 in the second quartile, to 0.0977 in the third quartile. Earnings scaled by market value of equity have a left-skewness (mean < median) consistent with the presence of conservatism (Ball, Kothari, Robin, 2000; Basu, 2005). Khan and Watts (2009) and Roychowdhury and Watts (2007) report a similar distribution but with a positive value for the first quartile and a smaller standard deviation than Banker, Basu, and Byzalov (2017). As there is no research to date that covers the period from 2005-2019, it is not possible to compare our results to other empirical evidence. Nonetheless, Givoly and Hayn (2000) point out that skewness and variability of the earnings distribution are additional measures of conservatism. The negative skewness of the earnings distribution (-8.27) is consistent with conservative reporting.

Figure 6: Earnings distribution.



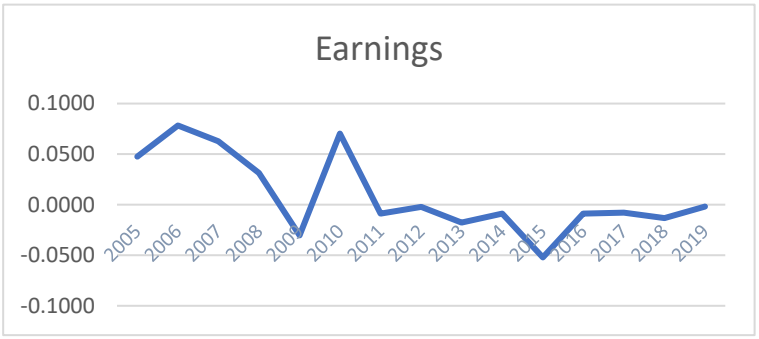


Figure 7: Annual Mean earnings 2005-2019

Source: Author

Returns are buy-and-hold returns, beginning the 4th month of fiscal year t and ending 4 months after the end of year. The distribution of this variable is similar to the literature. On average the annual stock return is 7.85 percent while the median is 2.1 percent. Stock return is negative for 47.37 percent of the entire sample.

Figure 8: Returns distribution.

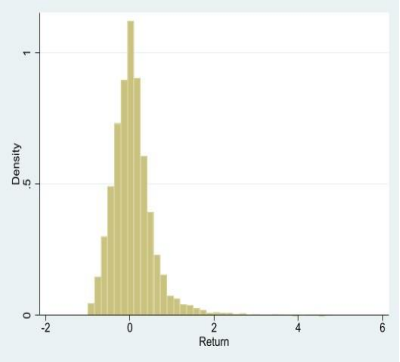


Figure 9: Annual Mean returns 2005-2019

Source: Author

Size is the natural log of market value of equity. LaFond and Watts (2008) argue that size proxies for political costs, aggregation of income and returns across multiple segments and projects, and information asymmetry. Larger companies tend to be more mature and have usually more analysts following which on the other hand contribute to reducing uncertainty. However, larger firms tend to have more segments and also complex operations that are considered to increase information asymmetry. The net effect of this elements of Size determines the relation of size with conservatism. Size has a mean of 11.87 and a standard deviation 2.52 which is similar with previous literature (Khan and Watts, 2009).

Figure 10: Size distribution.

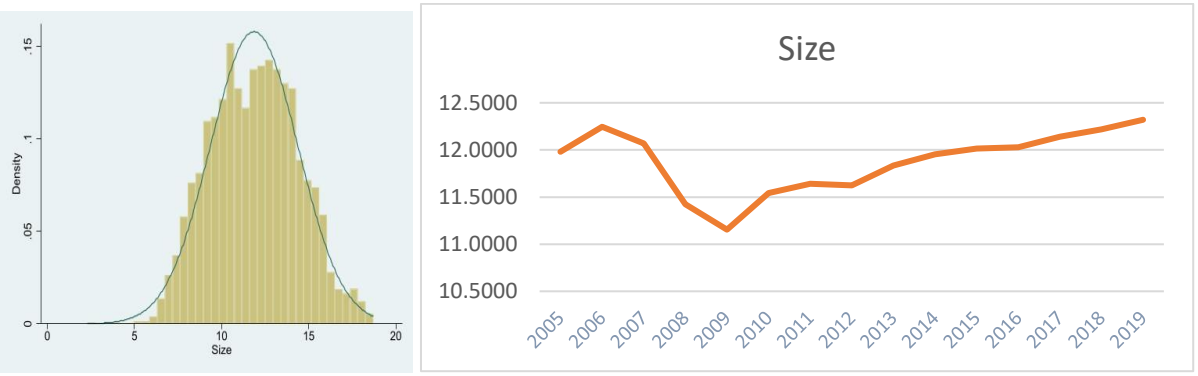


Figure 11: Annual Average Size 2005-2019

Source: Author

M/B ratio reflects the extent to which the book value of equity understates market value (Roychowdhury, Watts, 2007). M/B ratio on average is 1.89 with a standard deviation 3.1. We expect an increase of Conservatism with M/B ratio.

Beaver and Ryan implied that M/B is a perfect measure of the unrecorded goodwill from positive shocks to the market value for tangible assets in this simple setting. (In general, M/B is also a function of unconditional conservatism as well.

Figure 12: Market to Book distribution.

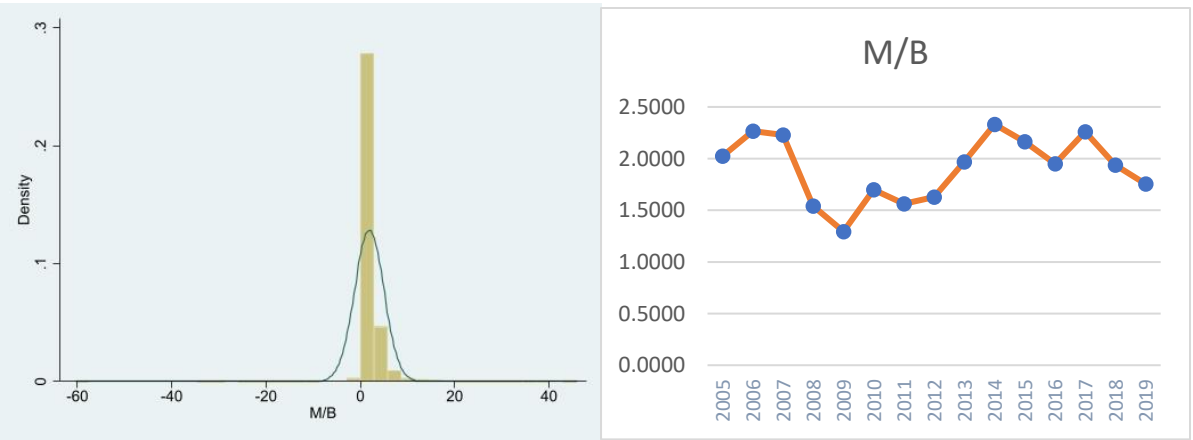


Figure 13: Annual Average M/B 2005-2019

Source: Author

Leverage is the long term and short-term debt scaled by market value of equity. Leverage, LEV, represents lenders' demand for conservatism (LaFond, Roychowdhury, 2008). It has a mean of 65.06 percent and a standard deviation of 1.13. This distribution is similar to the previous literature.

Figure 14: Leverage distribution.

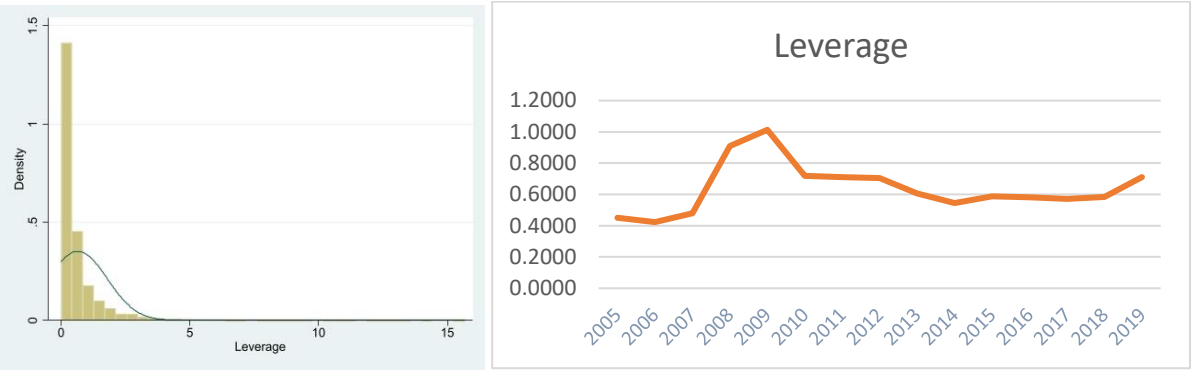


Figure 15: Annual Average Lev 2005-2019

Source: Author

NoACC has e negative mean and median but reverses in the third quartile. That is, net income before depreciation is below cash flows from operations. Givoly, Hayn (2000) and Watts (2003b) argue that the finding of a predominant and significant accumulation of negative nonoperating accruals is consistent with an increase in reporting conservatism. Ahmed at al. (2000) also find that the mean accrual provides an accounting based firm specific proxy for conservatism.

Figure 16: Earnings distribution.

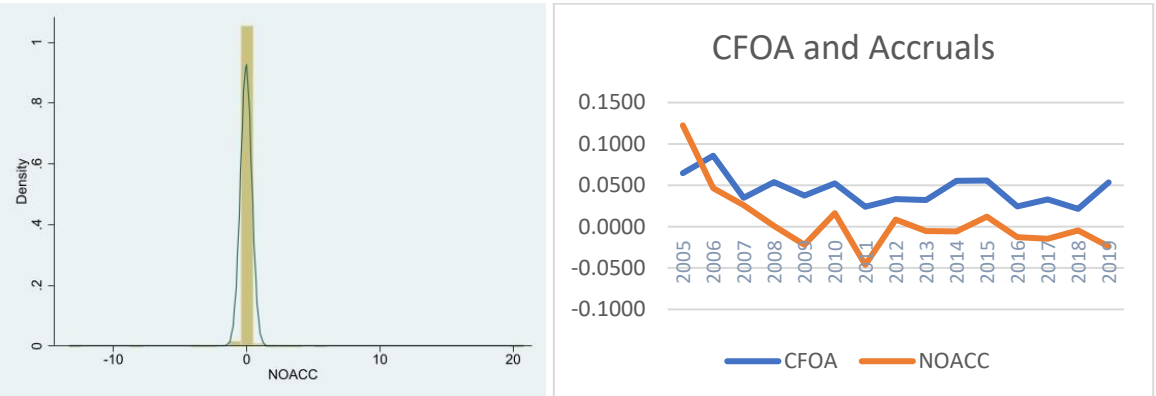


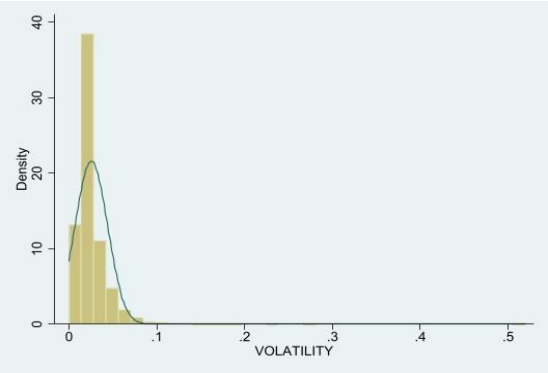
Figure 17: Annual Average of CFOA and Accruals (2005-2019)

Source: Author

Volatility: Future uncertainty causes accounting conservatism to arise, which can clearly be perceived as an act of caution in the reporting of financial statements. An

important aspect of the write-down's timing decision is the uncertain recovery period as well as the amount of recovery that will render the impairment insignificant. It is reasonable to assume that when the impairment's impact on the stock price is approximately equivalent to the stock price daily volatility, then the capital market is indifferent to the impaired value. Bartov et al. (1998) argue that the more volatile a firm's stock is, the shorter its recovery period is. Managers of highly volatile stocks, having a relatively short recovery period, can therefore delay the write-down decision in the face of expected fast recovery. Such option is less available for managers of low volatility stocks with relatively long recovery period.

Figure 18: Volatility distribution.



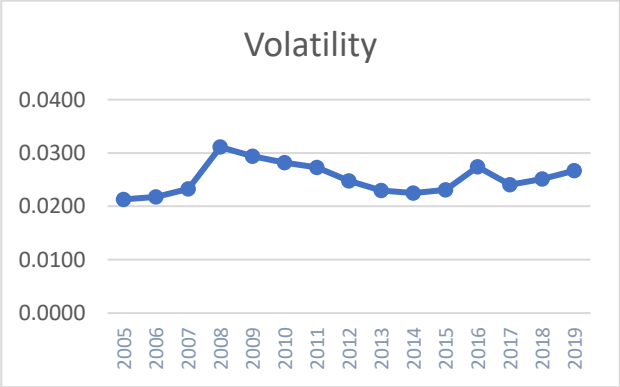


Figure 19: Annual Average Volatility for 2005 2019

Source: Author

Table. 4 shows the correlation matrix for the variables. The upper right triangle shows the Pearson correlations while the lower left triangle shows Spearman correlations. While Pearson correlation captures the association between two intervals or ratio scaled variables Spearman correlation coefficient is a rank correlation and measures the relationship between sets of ranked data (Lind et al. 2012) and it is based on the ranked values for each variable rather than the raw data. All the pairwise correlations are around 30% apart of Volatility, NOACC and CFOA.

Earnings is positively correlated with Return, Pearson (0.244), Spearman (0.076) indicating that the reported earnings reflect at least a portion of the information reflected in returns. The measure of conservatism is thus the excess of the association of stock price movements with the signals in earnings in bad news periods over their association with earnings signals in good news periods (Basu, 1997, Holthausen and Watts, 2000).

Table 5

Correlation matrix (Pearson top and Spearman bottom)										
	Earnings	Return	Size	MB	Leverage	Volatility	NOACC	CFOA	INVCycle	Age
Earnings		0.076	0.196	-0.023	-0.042	-0.263	0.284	0.182	-0.132	0.132
Return	0.244		-0.010	-0.029	0.016	-0.003	0.026	0.054	0.018	0.019
Size	0.269	0.081		0.120	-0.116	-0.388	0.044	0.195	-0.007	0.292
MB	-0.072	0.000	0.302		-0.146	-0.014	-0.045	-0.033	0.024	-0.109
Leverage	0.054	-0.011	0.016	-0.310		0.095	-0.030	0.032	0.006	0.023
Volatility	-0.374	-0.152	-0.397	-0.068	-0.031		-0.145	-0.249	0.056	-0.290
NOACC	0.403	0.039	0.035	-0.035	-0.014	-0.161		-0.177	-0.228	0.030
CFOA	0.423	0.199	0.388	0.229	-0.092	-0.305	-0.324		-0.039	0.158
INVCycle	0.068	0.050	0.120	0.106	-0.022	-0.068	-0.231	0.388		0.019
Age	0.262	0.068	0.296	-0.059	0.084	-0.326	0.094	0.217	0.140	

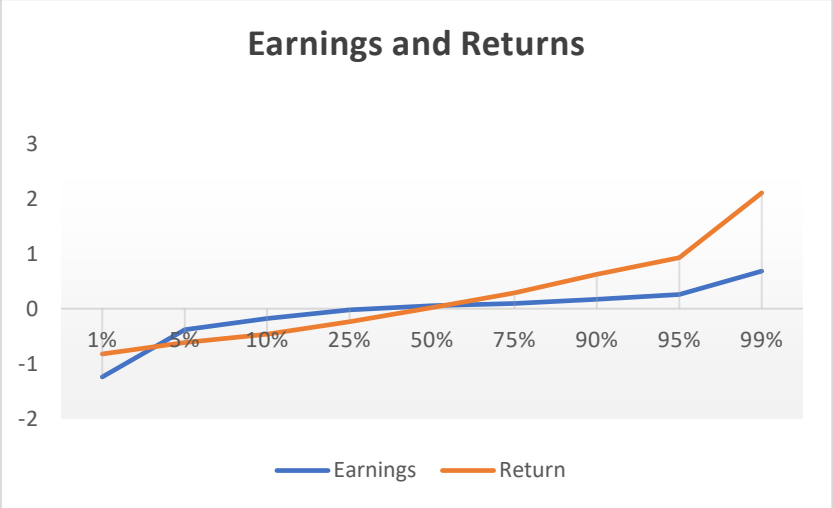


Figure 20: Earnings and Returns according to C_Score deciles

Source: Author

There is a negative relationship between M/B and Leverage with Pearson -0,146 and Spearman (-0.310). Barclay, Smith, Watts (1995) find in their research that companies with large growth opportunities in relation to their assets in place will have in average a higher market to book ratio. Moreover, they provide strong evidence that the companies with higher Market to Book ratio have significantly lower Leverage ratio. This reasoning goes in line with Hovakimian, et al. (2001) who argue that when firms experience higher stock prices, they are more likely to issue equity rather than debt and also retire debt which in the end results in a lower leverage.
Volatility and size also have e negative relationship with correlation coefficients Person (-0.397) and Spearman (-0.388) consistent with the idea that larger firms have lower volatility, less information asymmetry and less idiosyncratic risk (Khan and Watts 2009).

4 Empirical results and C_Score.

4.1 Estimation results

Table. 6 shows the coefficients from the estimation of regression in equation (4). Using Fama and Macbeth (1978), the regressions are estimated annually allowing coefficients to vary annually and then report the mean coefficients over 15 years. Using parameter estimates in equation (3), C_Score is estimated for each firm-year and G_Score equally as defined in the equation 2.

T-statistics are based on the standard errors of the corrected Fama and Macbeth (1997) regression after using Newey-West standard error correction procedure as a more general covariance estimator. Newey West is robust to both heteroskedasticity and autocorrelation of the residuals of unknown covariance form (Newey, West 1994). The HAC coefficient covariance estimator handles autocorrelation with lags up to p. In this regression we used 14 lags[12].

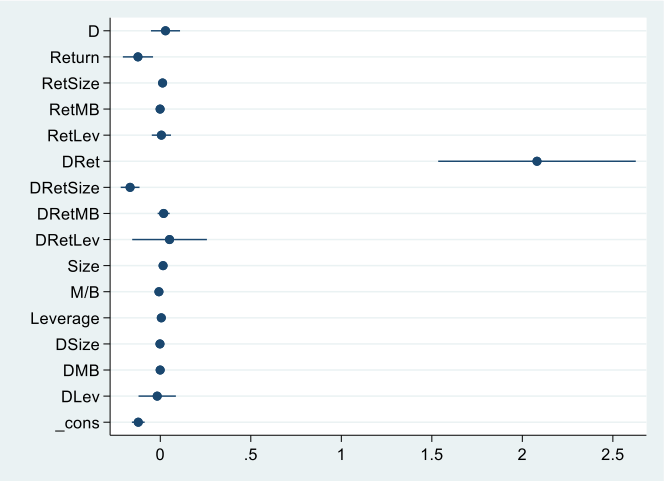


Figure 21: Fama and Macbeth regression estimates.

The intercept -0.121678 in this model with a t-statistics -7.36 (table 3) represents the predicted value of the dependent variable when all the independent variables are equal to zero. If the intercept is negative, it indicates that the predicted value of the dependent variable is negative when all the independent variables are zero. However, it would be unattainable to set all variables to zero because this combination can be an irrational arrangement. Nevertheless, intercept of the model is often treated as a constant term necessary for mathematical reasons which has not always direct real-world interpretation.

[12] Lags are defined using the Newey-West (1987) formula: $L = 0.75T_{1/3} - 1$

Coefficient *Ret* and *DRet* show the relationship between earnings and returns. *D* is a dummy variable equal to 1 if returns are negative and 0 when Returns are positive. This relationship is positive and significant as predicted in the previous literature. Bad news (negative Return) is recognised in earnings more fully than good news (positive returns) in contemporary earnings (Basu 1997).
D x Return is the asymmetric timeliness coefficient.

The estimated results imply that on average there is conservatism in the UK companies for the period under study. *Return* measures the timeliness of earnings with respect to positive returns (or good news), and D x Ret measures the incremental timeliness of earnings with respect to negative returns (or bad news).

The asymmetric timeliness coefficient D x Ret is used to measure the degree of conditional conservatism.

Table 6

Independent Variable	**Pred.sign**	**Coeff.**	***t-stat***	***p-value***
Intercept		-0.121678	-7.360000	0.000000
D		0.028751	0.760000	0.045700
Return	**(+)**	**-0.123432**	**-3.160000**	0.006000
RetSize	**(+)**	0.012634	2.190000	0.045000
RetMB	**(-)**	-0.001002	-0.660000	0.052200
RetLev	**(-)**	0.006056	0.240000	0.081100
DRet	**(+)**	**2.080952**	**8.130000**	0.000000
DRetSize	**(-)**	-0.166778	-6.850000	0.000000
DRetMB	**(+)**	0.018513	1.190000	0.025400
DRetLev	**(+)**	0.051142	0.530000	0.060500
Size		0.015339	12.340000	0.000000
MB		-0.007498	-5.450000	0.000000
Leverage		0.005659	0.830000	0.041700
DSize		-0.001771	-0.410000	0.068400
DMB		-0.000651	-0.310000	0.076200
DLev		-0.017000	-0.350000	0.073000
Avg. R-squared = 0.2283				
Adj. R-squared = 0.1988				

R2 of the Fama and Macbeth (1976) regression for equation (4) is 22.83 percent. R2 is generally used to evaluate the overall timeliness of earnings with respect to economic news.

In this case it suggests that R2, that is relatively immune to the bias.

H 1a: Earnings response to bad news negatively correlated with M/B.

Ret x M/B coefficient is negative as predicted. It indicates that growth firms have lower good news timeliness which indicates that this particular firms are more conservative. Basu (2005) argues that the probability of a write-down increases with the size of the current bad news, as measured by the price decline of the asset, because a permanent impairment is more likely to be triggered. In terms of M/B ratio following Basu (2005) a slack impairment trigger implies that the further market value falls below book value, the more likely it is that a write-down will be recorded in the current period.
D x Ret x M/B is positive 0.0185 but not significant. This is more due to the noise effect of M/B ratio. Growth options are included in the market value, but book value incorporates those growth options only when acquired. This causes M/B to measure the understatement of assets with error (Holthausen and Watts 2001).

H 1b: Earnings response to bad news is positively correlated with Size.

The *Ret x Size* coefficient is positive indicating that larger firms have higher good news timeliness. *D x Ret x Size* on the other hand is negative -0.1667 and significant with (-6.850), *t statistics* suggesting that larger firms have lower asymmetric timeliness. Conservatism decreases with the firm size meaning that larger firms are less conservative, consistent with income aggregation and information asymmetries (LaFond et al. 2008). This result is similar to more recent research, that of Banker, Basu and Byzalov (2017).

H 1c: Earnings response to bad news is negatively correlated with Leverage.

Ret X Lev coefficient is negative but insignificant 0.0061 however D x Ret x Lev is positive indicating that higher leveraged firms demonstrate higher earnings asymmetry thus being more conservative. Beatty, Weber, and Yu (2006) suggest that the ability to modify financial statement numbers in debt contracts does not eliminate the demand for conservatism arising out of shareholder-debtholder conflicts.

The parameter estimates in the *Table. 6* are used to calculate C_Score and G_Score according to *equation 2* and *3*. *Table. 7* shows the descriptive statistics including mean, median and the standard deviation for C_Score and G_Score for the first and third quartile.

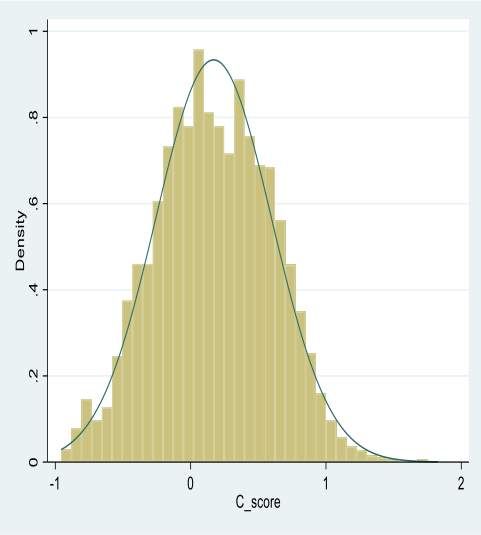
Table 7

Descriptive Statistics

	Mean	StDev	Q1	Median	Q3
C_Score	0.17020	0.42731	-0.13292	0.16373	0.48366
G_Score	-0.01244	0.01987	-0.02635	-0.01294	-0.00007

C_Score represents a firm year measure of conservatism. It has a mean of 0.17 and a median of 0.16 while G_Score has a mean of -0.0124, median -0.0129 indicating that both C_Score and G_Score is not skewed as is also shown in the following histograms:

Figure 22: C_Score distribution.



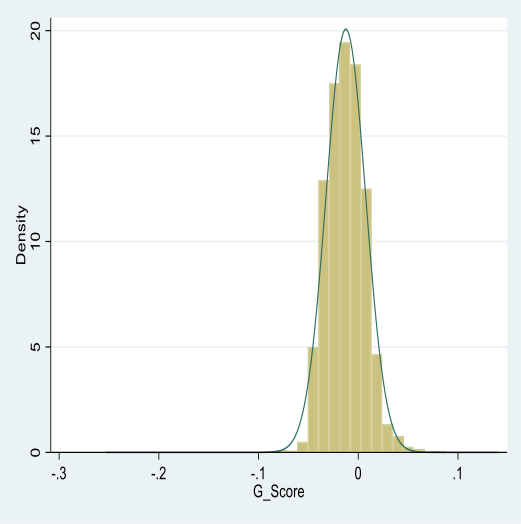


Figure 23: G_Score distribution

Source: Author

C_Score in the first quartile is negative which is different form Khan and Watts (2009) while in the third quartile it is positive (also from the descriptive table of C_Score it turns positive after the 25%) indicating that conservatism is common for the 75% of firm year financial statements.

Table. 8 shows Pearson (top) and Spearman (bottom) correlation coefficients for C_Score and G_Score. Both Pearson and Spearman correlation coefficients are negative and significant indicating higher asymmetric timeliness of bad news over good news which according to LaFond et al. (2008) comes as a result of lower timeliness of good news.

Table 8

Correlation matrix

(Pearson top and Spearman bottom)

	C_Score	G_Score
C_Score		-0.695
G_Score	-0.8105	

Source: Author

H 1: C_Score is a measure of conservatism flow

To test the *H1,* I follow Khan and Watts (2009) model and rank C_Score in deciles each year according to the basic Basu (1997) regression end examine whether the empirical properties of C_Score as a measure of conservatism for the UK companies are consistent with the previous literature which uses other conservatism measures. Basu (1997) regression:

$$X_i = \beta_1 + \beta_2 D_i + \beta_3 R_i + \beta_4 D_i R_i + e_i$$

First pooled Basu (1997) regression is estimated on time series and cross-sectional data for each C_Score decile. Estimated coefficient *Ret x D* that measures the incremental timeliness of earnings is expected to increase monotonically across C_Score deciles. Khan and Watts (2009) state that the Basu's coefficient of the incremental timeliness of earnings is different from C_Score because Basu's coefficient is not a firm year index of conservatism measure while C_Score is firm-year index.

Table 9 presents the estimated coefficients of the Basu (1997) coefficients for each C_Score decile.

Table 9

Coefficients from Basu regression by C_Score decile

C_Score decile	Intercept	D	Ret	Ret x D
1	0.104	0.016	-0.063	0.229
2	0.108	-0.017	0.023	-0.070
3	0.086	-0.020	-0.005	0.017
4	0.100	-0.016	-0.018	0.196
5	0.070	0.039	0.037	0.093
6	0.090	-0.017	-0.063	0.298
7	0.074	-0.005	-0.047	0.444
8	0.033	0.053	-0.030	0.563
9	0.043	0.031	-0.062	0.845
10	-0.104	-0.152	0.010	0.288
Rank. Corr.			-0.1221	0.7178
(predicted sign)			*(-)*	*(+)*
Hi-Lo			*0.073*	*0.058*

The table shows the Basu's coefficients estimated according to C_Score deciles. A pooled regression is estimated for each decile $X_i = \beta_1 + \beta_2 D_i + \beta_3 R_i + \beta_4 D_i R_i + e_i$ The sample consists of 6271 firm-years for the period 2005 and 2019. Columns show C_Score deciles, intercept, D that is a dummy variable equal to1 for negative returns and 0 for positive ones, Return is the good news timelines while Ret x D is the asymmetric timeliness. Rank correlation is the correlation coefficient between C_Score and Ret x D ranking and is a measure of monotonic ranking in the table. Hi-Lo is the difference between the value of Ret x D in the highest decile and the respective value in the lowest decile.

Ret x D is the Basu's measure of conservatism. It is increasing almost monotonically. Hi-Lo is the difference between the *Ret x D* coefficient in the higher decile with the *Ret x D* coefficient in the lowest decile. Consistent with the findings in the equation 4 asymmetric timeliness measure of conservatism *Ret x D* increases after the 25% of firm years specifically after the second decile to the ninth decile. The difference between *Ret x D* of the highest decile with the lowest one is positive 0.058. This difference is not significant because the *Ret x D* estimated coefficient decreases significantly from 9th to the tenth decile.
The rank correlation between C_Score decile ranking, and Basu's coefficient of asymmetric timeliness *Ret X D is* positive and significant 0.7178.
The Basu's good news coefficient *Ret* is also correlated as expected in opposite direction with C_Score decile rank (-0.1221) but is not significant.

This means that firms with good news demonstrate conservatism which means that good news is reflected on a less timely bases because more verifiable information is required before recording good news.

In general results affirm the H1: that C_Score is effective in measuring the flow of conservatism and also distinguishes between firms with varying degrees of conservatism consistent with the findings of Khan and Watts (2009).

4.2 Other empirical properties

Taking in consideration that C_Score is effective in measuring the flow of conservatism, rather than relying primarily on market-based measures of conservatism (such as the M/B ratio, size and leverage) this research acknowledges that conservatism is an issue of the timing and sequencing of revenues and expenses relative to the accruals. Therefore, distributional properties of earnings and accruals are examined below.

> *H2a: Accounting Conservatism captured by C_Score varies with ROA in the opposite direction.*

A basic characteristic of a conservative reporting system is the early and full recognition of unfavourable events in the financial statements, as well as the delayed and gradual recognition of favourable ones (Givoly, Hain, 2000). This would cause the earnings distribution to be negatively skewed. Fig. 24 illustrates the change in the skewness of the ROA distribution across C_Score deciles. The negative skewness of ROA is consistent with conservative reporting and the decrease in the negative skewness indicates an increase in conservatism. Conservative firms tend to have

more write-offs (impairments), causing negative earning changes in the form of large spikes in the ROA distribution. This also tends to cause the variable to be more negatively skewed, since write-offs capture all expected future losses on the asset.

Table 10

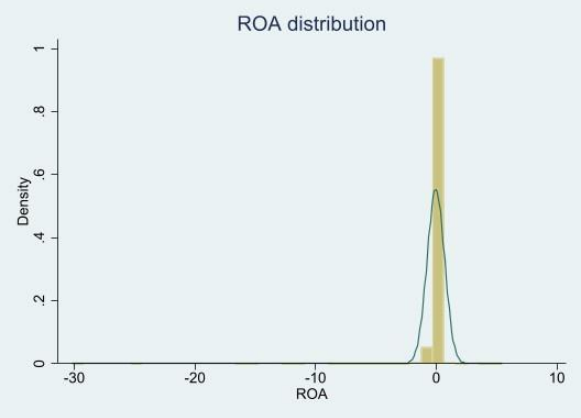
Distributions of ROA and non-operating accruals, by C_Score decile

C_Score decile	**ROA**			**NOACC**		
	Mean	StdDev	Skew	Mean	StdDev	Skew
1	0.075	0.111	4.006	-0.028	0.121	6.420
2	0.089	0.150	3.077	-0.010	0.166	3.534
3	0.067	0.087	2.033	-0.010	0.166	3.534
4	0.060	0.087	-2.153	-0.029	0.091	2.577
5	0.051	0.084	2.033	-0.030	0.091	2.577
6	0.006	0.183	-6.907	-0.048	0.114	-3.405
7	-0.030	0.208	-0.892	-0.034	0.186	2.816
8	-0.105	1.248	-2.153	-0.030	0.111	13.686
9	-0.158	0.783	-11.773	-0.033	0.895	20.259
10	-0.401	1.638	-9.085	-0.110	0.742	-11.123
Rank. Corr.	-0.8639	0.7913	-0.838	-0.6737	0.6692	0.0101
(predicted sign)	***(-)***	***(+)***	***(-)***	***(-)***	***(+)***	***(-)***

Results in the Table. 10 show that the rank correlation coefficient between C_Score decile ranking and the mean of ROA (-0.8639), and Skewness (-0.838) are negative and significant as expected. These results show that the mean ROA is negative for most of the conservative firms monotonically decreasing across C_Score deciles as described in the Fig.25.

C_Score decile and the standard deviation rank correlation of ROA is positive as expected and significant meaning that ROA is more variable for conservative firms.

Figure 24: ROA distribution.



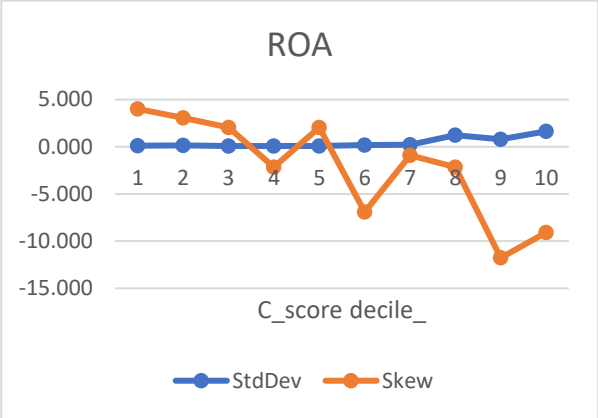


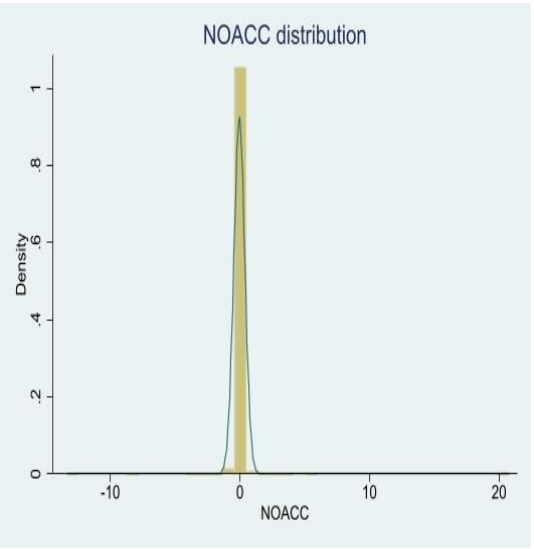
Figure 25: Standard deviation and Skewness of ROA

Source: Author

H2b: Accounting Conservatism captured by C_Score varies with NoACC in the same direction.

Non-operating accruals refer to accruals that are not directly related to company`s core operating activities. Conservatism accounting encourages recognising these losses as soon as there is evidence of impairment or decline in value, even before the cash transaction takes place. Results in the Table. 10 show that the rank correlation coefficient between C_Score decile ranking and the mean of NOACC (-0.6737) is negative and significant as expected indicating that NOACC varies with conservatism.

Figure 26: 13 NOACC distribution.



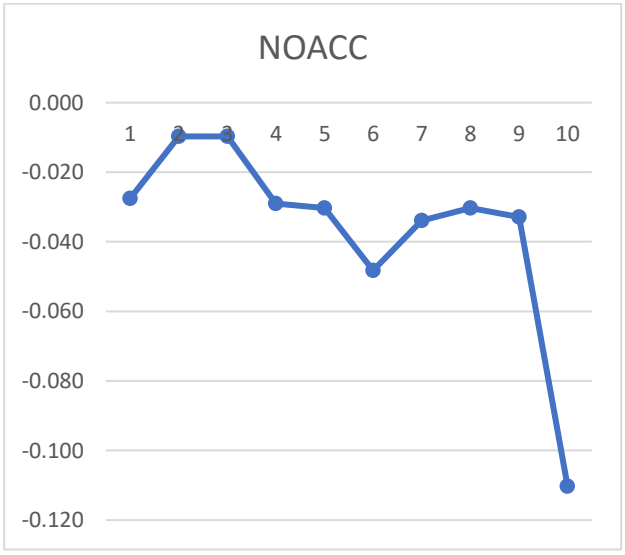


Figure 27: NOACC means for each C_Score decile

Source: Author

These results show that the mean NOACC is negative for most of the conservative firms as described in the Fig.27.

C_Score decile and the standard deviation rank correlation of NOACC is positive as expected and significant 0.6692 meaning that NOACC is more variable for conservative firms.
However, the skewness of NOCC is positive (the mean of positively skewed NOACC is greater than the median (0.0101) although not significant which is not consistent with the prediction. A positive skewness of NOACC may indicate that the time taken to convert operating activities into cash flow, takes longer than the average.
Results affirm *H2b,* that Conservatism captured by C_Score varies with NoACC in the same direction.

4.3 Cross-sectional hypotheses

In order to expand on the understanding of conservatism, we adopt the approach of Khan and Watts (2009) by utilizing the C-Score to demonstrate its practical applications. Then we proceed to formulate and examine hypotheses that fall under the category of cross-sectional hypotheses. This allows us to gain additional insights into the nature of conservatism. That said, the relationship of C_Score will be examined with Firm's Age, Volatility, Investment Cycle Length, Corporate Governance, and Credit rating.

Table. 11 shows the means of C_Score, G_Score, M/B, Size, Leverage, Investment cycle Volatility and Age sorted according to C_Score deciles.
This table helps us capture how good news timelines G_Score is correlated to C_Score. They have a significant negative rank correlation of (-0.995) meaning that more conservative firms have lower good news timeliness. More conservative firms have smaller size (rank correlation coefficient is negative and significant -0.994), higher leverage which represents the lenders' demand for conservatism with a positive and significant rank correlation coefficient between C-Score decile and leverage 0.736.

Volatility is the standard deviation of daily returns for each firm level. More conservative firms demonstrate higher volatility (C_Score decile has a significant positive correlation with volatility 0.921). Firms in the most conservative deciles demonstrate higher return volatility.

Age decreases monotonically across deciles with a significant negative correlation coefficient (-0.957). The difference between Age in the highest decile with that in the lowest decile is 14.5 years.

M/B ratio demonstrates a negative correlation coefficient with C_Score decile (-0.206) as expected. Lafond and Roychowdhury (2007) find that the M/B is correlated with the existence of growth options as firms with substantial future investment opportunities tend to have higher M/B and lower debt ratios.
Investment cycle is a decreasing measure of the length of the investment cycle. C_Score decile has positive relationship with investment cycle with a rank correlation coefficient 0.197 meaning that more conservative firms have longer investment cycles than less conservative ones.

Table 11

C_Score decile	C_Score	G_Score	M/B	Size	Lev	InvCycle	Volatility	Age
1	-0.5671	0.0125	1.6775	16.2090	0.4722	0.0294	0.0164	40.5965
2	-0.2891	0.0027	1.9026	14.5490	0.4137	0.0269	0.0186	39.2392
3	-0.1331	-0.0009	2.2242	13.6818	0.5199	0.0314	0.0210	38.4537
4	-0.0114	-0.0062	2.0796	12.9269	0.4908	0.0371	0.0217	35.8756
5	0.1038	-0.0098	2.0077	12.2679	0.6198	0.0364	0.0220	36.7748
6	0.2284	-0.0151	1.9131	11.4966	0.5755	0.0302	0.0230	30.6029
7	0.3560	-0.0211	1.7630	10.6893	0.4910	0.0321	0.0256	28.9219
8	0.4835	-0.0249	1.6784	9.9647	0.6531	0.0362	0.0298	27.9442
9	0.6338	-0.0292	1.6868	9.1129	0.8101	0.0391	0.0335	29.7034
10	0.8972	-0.0325	2.0262	7.7708	1.4611	0.0252	0.0430	26.0080
Rank. Corr.		-0.995	-0.206	-0.994	0.736	0.197	0.921	-0.957
Hi-Lo	1.464	*-0.045*	*0.349*	*-8.438*	*0.989*	*-0.004*	*0.027*	*-14.589*
(predicted sign)	*(+)*	*(-)*	*(-/+)*	*(-)*	*(+)*	*(-)*	*(+)*	*(-)*

The findings from the cross-sectional hypothesis are presented in Table. 12 through multiple regression tests. This table displays coefficients and t-statistics derived from pooled cross-sectional and time series regressions of the C-Score against various factors such as age, the length of the investment cycle, volatility, credit rating and corporate governance.

H3a: Accounting conservatism decreases with the firm's age.

Conservatism is expected to decrease with firms' age, because younger firms tend to have higher growth options relative to assets in place compared to older firms. Moreover, information asymmetry between managers and investors is more pronounced during the growth period because predicted cash flows are less verifiable thus producing more agency costs. This leads to an increased conservatism. Assets in place on the other hand require less verifiable efforts.

In Table. 11 the difference between Age in the highest decile with that in the lowest decile is 14.5 years.

As predicted, there is e negative relationship between C_Score and Age with a coefficient -0.0015 and t-statistics -3.04 significant at the 95% confidence level.

Results are consistent with the hypothesis.

H3b: Accounting conservatism increases with volatility.

Volatility is expected to increase in times of assets write offs for conservative firms as returns will reflect the negative signal by increasing the return volatility.
In this case as predicted there is a positive and significant relationship between C_Score and Volatility with a coefficient of 14.046 and a t-statistics 18.26 at the 95% confidence level.

It means that for every 1 time increase in volatility, conservatism proxied by C_Score increases with 14.046 times in a confidence interval of 95%.

Results are consistent with the hypothesis.

H3c: Accounting conservatism increases with investment cycle length.

Firms with high uncertainty regarding *long investment cycles* increase the demand for conservatism because of the uncertainties the investment cycle length raises related to the accuracy regarding the amount and timing of the future cash flow estimation. Investment cycle is calculated as depreciation divided by lagged assets which is decreasing in the length of investment cycle. In this case we predicted a negative relationship between C_Score and the Investment length cycle.

The results in Table. 12, show a negative relationship between C_Score and the Investment length cycle as predicted with a coefficient -0.1599. However, this relationship is not significant at the 95% confidence level as the t-statistics is -1.24.
Results are consistent with the hypothesis.

H3d: Accounting conservatism decreases with corporate governance.

We hypothesized that the level of conservatism in accounting arising from the demand for less information asymmetry between management and stakeholders is lower for better performing CG companies. Results in Table. 12 affirm this negative relationship between Corporate Governance and conservatism C-Score with a coefficient -0.0042 and a t-statistics of -17.28 at the 95% confidence level.

This result is similar to the literature (Anagnostopoulou, Tsekrekos, Voulgaris 2021; Burke, Chen, Lobo 2020; Gao, Jia, Lee 2018) who also find a negative relationship between CG performance and conditional accounting conservatism.
Results are consistent with the hypothesis.

H3e: Accounting conservatism increases with credit rating.

Accounting conservatism may have an impact in the risk perception of the credit ratings agency toward default risk because companies that employ conservatism in accounting are expected to reduce information asymmetry thus providing a clearer and more accurate view of their financial position leading potentially to higher credit ratings.

In general, it is expected that companies characterized by greater information asymmetry tend to receive more conservative ratings.
Results in Table. 12 affirm this positive relationship between Credit Ratings and conservatism C-Score with a coefficient 0.1241 and a t-statistics of 5.43 at the 95% confidence level.
Results are consistent with the hypothesis.

Table 12

Cross-sectional hypothesis

Ind. Variable	Predicted sign	Dependent variable is **C_Score** Coefficient	t-statistics	p- value
Intercept		-0.2238	-8.54	0.000
Volatility	(+)	14.046	18.26	0.001
Investment cycle	(-)	-0.1599	-1.24	0.021
Age	(-)	-0.0015	-3.94	0.000
Corp Governance	(-)	-0.0042	-17.28	0.000
Credit Rating	(+)	0.1241	5.43	0.000
R2		0.3892		

Table 12 shows estimated coefficients and t statistics for the pooled regression of (cross sectional and timeseries for 6271 firm-years for the period 2005 and 2019) C_Score on Volatility, Investment cycle Age, Corporate governance score and credit rating.

All the variables exhibit a significant relationship in the anticipated direction, consistent with initial cross-sectional hypothesis.
The Investment Cycle also aligns with the predicted direction although it is not statistically significant.

4.4 The predictive ability of C_Score

The predictive ability of C_Score in forecasting asymmetric timeliness for up to three years in advance is examined in this section as developed in Hypothesis 4:

> *H4: C_Score can predict changes in asymmetric timeliness of earnings up to 3 years ahead.*

Here we examine whether C-Score predicts asymmetric timelines of earnings up to three years ahead. We first sort firms yearly according to C_Score decile in year t–3, t-2, and t-1. Then we perform the Basu (1997) regression using year t data within each decile. Table 13. shows the results for firm years with both positive and negative returns and have C_Score for three consecutive years. This condition reduces our sample size to 1344 firm years. We perform regressions only for the year t, ranked differently according to three years earlier. Our sample size decreases to 446 firms. To accept the hypothesis, we expect positive and high rank correlation for the three observed years.

Rank Correlation assesses the correlation between the C_Score decile ranking and the Basu coefficient, serving as an indicator of the C_Score's predictive capacity for the Basu coefficient.

Table 13

Predictive ability of C_Score for Basu coefficient

Decile of C_Score in year *t-1*	Basu coefficient in year *t*	Decile of C_Score in year *t-2*	Basu coefficient in year *t*	Decile of C_Score in year *t-3*	Basu coefficient in year *t*
1	-0.5938	1	-0.717	1	-0.556
2	0.2799	2	0.265	2	0.176
3	-0.0605	3	-0.063	3	0.043
4	0.1706	4	0.156	4	0.175
5	0.0734	5	-0.041	5	0.368
6	-0.0289	6	-0.092	6	0.137
7	-0.1374	7	0.432	7	0.366
8	-0.5056	8	-1.890	8	-0.511
9	0.7694	9	0.213	9	-0.426
10	-0.6166	10	-0.021	10	0.294
	(+)		(+)		(+)
Rank. Corr	0.1394		-0.2727		-0.4182

Table. 13 shows the estimated Basu (1997) coefficients for each decile and the rank correlation between C_Score ranking and the Basu (1997) coefficient.
Rank correlation coefficient between year t and t-1 is positive 0.1394 meaning that C_Score predicts vaguely Basu (1997) coefficients one year ahead. It has a negative correlation with t-2, (-0.2727) and for the year t-3 it has a rank correlation of (-0.4182). Overall, according to table 9, C_Score cannot predict Basu (1997) coefficients and the hypothesis is rejected.

5 Conclusion

According to Watts (2003b) conservatism in accounting addresses the agency theory concerns regarding information asymmetry between management and the third interested parties. The demand for conservatism in accounting arises from stakeholders' disposition for financial statements that are more likely to incline on the side of caution, thereby reducing the risk of overestimating assets or income. As such conservative accounting principle result in more prudent recognition of revenues and more aggressive recognition of expenses, leading to potentially lower reported profits.

Moreover, in the context of signalling theory the demand for conservative accounting policies may be chosen by management as a signal of the company's financial stability and long-term feasibility.

Conservative accounting practices may be viewed positively by investors in an efficient market as they provide more reliable information, reducing the impact of information asymmetry and potentially enhancing market efficiency.

On the other hand, Behavioural finance recognizes that market participants may not always act rationally and may be influenced by psychological biases. In the presence of information asymmetry, investors may overreact to changes in reported earnings, leading to excessive volatility in stock prices. However, Conservative accounting practices can help mitigate this by providing a more stable and less volatile stream of reported earnings, reducing the likelihood of market overreactions driven by incomplete or misleading information.

Additionally, conservative accounting practices facilitate income smoothing by allowing management to create reserves during periods of high profitability to offset potential future losses.

A basic feature of a conservative reporting system is the early and full recognition of unfavourable events in the financial statements and the delayed and gradual recognition of favourable events (Givoly and Hain 2000).

As β_4 measured *the difference in sensitivity of bad news over good news* this asymmetric timeliness of earnings was examined to estimate the firm-year measure of conservatism C_Score.

Our results show that that conservatism captured by C_Score is common for the 75% of firm year financial statements indicating for timely recognition of an asset impairment loss. The number of company years that have recorded an impairment (impairment of tangible and intangible assets) is 1412 out of 6271 total company years under study during 2005-2019. We find that 360 firm years out of 6271 in total have recorded an impairment for Property Plant and Equipment (PPE).

From a research perspective, results show an increased conservatism in financial reporting indicating a cautious approach to recognising and reporting financial information mitigating the *agency costs*. It suggests that companies prefer to err on the side of prudence when making accounting estimates reducing the likelihood of overstatement of the financial results.

As ROA (Return on Assets) measures a company's profitability it provides insights into how efficiently a company generates earnings from its assets. Companies with higher C-Scores (higher conditional conservatism) tend to recognize losses more quickly, which could lead to lower reported net income. As a result, their ROA is negatively impacted.
Results infer that those firm years with high C_Score have higher asymmetric timelines indicated by Basu (1997) coefficients and have more negative ROA demonstrating for conservatism in accounting.
The negative impact of lower earnings in ROA due to conservatism can also be interpreted through signalling theory, where it serves as a signal of conservative accounting practices, to convey stability and mitigate negative perceptions from stakeholders. On the other hand it is important to note that it could also signal operational challenges.

NOACC refer to accruals that are not directly related to the company`s operating activities being adjustments made to recognise revenues and expenses in the period that they are earned or incurred regardless when the cash is received or paid. These accruals help to *smooth out* the impact of cash flows on reported income. Conservatism encourages recognising losses as soon as there is evidence of an asset impairment. Results show that the mean of NOACC is negative for most of the conservative firms affirming the hypothesis that firm years with high C_Score have higher asymmetric timelines and have more negative NOACC.

We find a positive association between reporting conservatism and leverage. This suggests that reporting conservatism may be required to meet the lenders' demands for conservatism.
The M/B ratio also has a positive association with conservatism reporting. As Basu (2005) argues, the probability of a write-down increases with the size of the current bad news, as measured by the price decline of the asset, because a permanent impairment is more likely to be triggered. According to the study's results, conservatism increases with stock return volatility.

These results are consistent with conservatism being a response to information asymmetry.

Cross-sectional hypotheses are examined to gain additional insights into the nature of conservatism.

Conservatism decreases with firms' age because younger firms tend to have higher growth options relative to assets in place compared to older firms while Volatility of returns captures firms' idiosyncratic risk.

Volatility increases in times of asset write-offs for conservative firms as returns reflect the negative signal by increasing the return volatility. Conservatism proved to be positively related to volatility because agency costs increase with these variables.

The Investment cycle length captures investment uncertainty and according to Khan and Watts (2009), it is a subset of the total firm's uncertainty. During longer investment cycles, companies may be more cautious in recognising gains, preferring to delay until the gains are more certain and verifiable. The results indicate a negative relationship between C_Score and the Investment length cycle as predicted. However, this relationship is not statistically significant.

Further examined in this research is the extent to which conservatism in accounting is related to Corporate Social Responsibility. As the demand for conservatism varies with the degree of managerial opportunism the level of conservatism is lower for better-performing CG companies. Results affirm this negative relationship between Corporate Governance and conservatism C-Score.

The impact of accounting conservatism on the company's credit rating is also examined in this research.
As conservatism in accounting involves a cautious approach toward the recognition of losses and risk by recognising the impairment of assets in timely manner companies that adopt conservative accounting may be viewed as less risky potentially contributing to higher credit ratings. Results indicate that Conservatism has a positive effect on credit ratings.

In general, results demonstrate that all the variables exhibit a significant relationship in the anticipated direction, consistent with the initial cross-sectional hypothesis. The Investment Cycle also aligns with the predicted direction although it is not statistically significant.

On the other hand, results indicate that C-Score cannot predict the Basu (1997) coefficient of asymmetric timeliness.

Earnings are the primary output of the accounting system which is used in valuation and contracting. This research provided a better understanding of the various data sources (accruals and cash flow) combined in the earnings construct and how earnings are informative to investors.

This research contributes to the literature for the estimating of a firm-year measure of conservatism for the UK FTSE all shares. Moreover, it demonstrates that 75% of these companies exhibit conservatism in accounting for the period 2005-2019 for in line with relevant theories.

This research provides new insights into the nature and effects of conservatism and impairments and in examining the relationship between conservatism as measured by C-Score, with firm's Age, Volatility, Investment Cycle length, corporate governance, and Credit Ratings.

Chapter 6: Enhancing the Timeliness of Impairment Recognition: The Influence of Audit Industry Specialisation

1. Introduction

The literature on auditing generally assumes that audit industry specialisation is associated with higher auditing quality. According to Audousset-Couiler, Jeny, and Jiang (2016), specialist auditors possess specialized expertise that allows them to provide a higher quality service to their clients. This study investigates whether audit industry specialisation has a positive impact on the timeliness of asset impairments. Specifically, it examines whether audit quality, as measured by industry specialisation, is associated with the timely recording of impairment losses.

Much of the extant literature focuses on the incentives that managers have to overstate earnings, such as the link between managerial compensation and reported earnings. Audit quality is seen as a way to restrict the degree to which managers can manipulate earnings. While there is no general definition of earnings quality, Gaynor, Kelton, Mercer, Yohn (2016) suggest that complex estimates can be used to manage earnings, thus reducing the quality of financial reporting. Various measures of earnings quality have been examined in previous literature (Balsam, Krishnan, Yang, 2003). For instance, Balsam, Krishnan, Yang (2003) claim that companies audited by industry specialists tend to have a lower level of discretionary accruals. According to research by Balsam, Krishnan, Yang (2003), companies audited by industry-specialized auditors tend to exhibit lower levels of discretionary accruals. Additionally, the assessment of asset impairments is a critical and intricate accounting estimate that directly influences earnings' quality. Consequently, it is anticipated that there exists a correlation between audit industry specialisation and the timely recording of impairment losses, which could indicate potential concerns.
Furthermore, Hogan and Jeter (1999) and Solomon et al. (1999) argue that as audit firms undergo structural shifts towards greater industry focus, it implies that industry specialisation may assume a progressively vital role in ensuring audit quality.

However, whether *auditor industry specialisation* is positively associated with the timeliness of the recording of the asset impairment loss is an empirical question. It seems reasonable to expect that an auditor specialised in the industry and its accounting, moreover familiar with the discretion of such a complex accounting estimate as the impairment of assets, will have a greater ability to detect anomalies, verify consistencies across companies and also minimize unintentional errors. Thus,

again we expect the auditor's industry specialisation to be positively associated with the timing of the impairment loss recording compared to firms with less specialised auditors.

This study contributes to the literature because it concentrates on asset impairments as a specific measure of accruals, which are likely to exhibit earnings management and are quite important in evaluating the earnings quality for the UK FTSE all shares and UK Audit firms. On the other hand, taking into consideration the complexity of the impairment process, investigating the role of auditor competencies for the UK companies using the portfolio share approach is a study that to our knowledge is not yet done in the UK. This research proceeds by discussing the theoretical background of this study in Section 2, while the methodology and research design are presented in Section 3. Sections 4 and 5 discuss the empirical results. Section 6 provides additional analysis and section 7 outlines the conclusions.

2. Audit quality and Audit specialisation

When exploring the impact of audit quality on financial reporting quality, it becomes essential to grasp the concept of audit quality itself and the various methods employed to measure it. Balsam, Krishnan, Yang (2003) describe audit quality as a multidimensional and unobservable construct, making it too intricate and diverse to be captured by a single distinct proxy.

However, according to Watts and Zimmerman (1980) and DeAngelo (1981), there is a general rationale that defines audit quality as the combined likelihood of two factors:

a) The ability to identify financial reporting errors or breaches in the accounting system, which relies on the auditor's professional expertise.

b) The willingness to report these identified errors or breaches, which serves as a measure of the auditor's independence from the client in question (DeAngelo 1981).

While we consider the effect of Audit quality on the quality of the financial reporting, it is necessary to understand what audit quality is in the first place and which are the ways that it can be measured. As Balsam, Krishnan, and Yang (2003) put it, audit quality is an unobservable and multidimensional construct, too diverse and complex to be measured by one distinct proxy.
This session discusses the second part of the audit definition which refers to auditor independence, while auditor knowledge and expertise will be discussed in the subsequent session, as an attribute of audit industry specialisation.

The auditor's independence is an important aspect of audit quality. According to Mautz and Shraf (1961), auditor's independence is generally viewed as an indication of the auditor's disposition to resist client pressure. Audit firms might as well strive to diversify their client base so as to not become too heavily focused on one client within one industry (Dunn, Mayhew 2004). As such, higher-quality auditors are expected to be less willing to accept dubious accounting methods and are more likely to detect and report errors and irregularities.

On the other hand, large clients tend to create economic dependence on the audit firm, and also increase their risk of exposure in cases of neglect or questionable performed audits, due to the visibility of their high-profile clients (Raynold, Francis (2001). Moreover, Mautz and Sharaf (1961) argue that the financial dependence of the auditor remains an inherent anti-independence factor of the audit company. However, DeAngelo (1981) states that larger audit firms tend to have larger client's portfolio compared to smaller audit firms, mitigating their dependence on single clients. As such, audit firm size can be used as a proxy for audit independence and thus audit quality (DeAngelo 1981). Watts and Zimmerman (1981) argue that the size of an audit firm is reflective of its audit quality. Thus, larger audit firms are capable of offering higher quality audits due to their advantage of being able to monitor and regulate the behaviour of individual auditors, advocating for the idea that being a big audit firm is an indicator of audit independence.

While auditing remains valuable in controlling managerial discretion regarding asset impairment decisions and complex accounting estimates, a naturally occurring question arises about the auditor's incentives to acting that way. Becker et al. (1998) argue that higher-quality auditors will tend to reduce the occurrence of income-increasing earnings management. A valuable reason is mentioned by St. Pierre and Anderson (1984) who report that they find auditors frequently sued for allowing income overstatements, while they find no cases of auditors being sued for allowing income understatements. Therefore, according to St. Pierre and Anderson (1984), auditors are more at risk of harming their brand name if they accept wrong management decisions when it comes to choices regarding *income-increasing* discretionary accruals. Recording an asset impairment does not include an overstatement of earnings, rather it refers to the recording of a loss due to the incidence of an asset impairment. The application of prudence ensures that gains should be reported only if they are highly probable or reasonably certain while (expected) losses should be recognised as soon as they are identified. However, Li, and Sloan (2017) and Ramanna and Watts (2012) identify in their respective research inflated goodwill balances and untimely impairments, providing thus evidence of managers that avoid timely goodwill write-offs.

In such circumstances, the recording of asset impairment and the timeliness of such recordings faces two main challenges:

1) The impairment loss is highly likely to be associated with valuation uncertainty and managers could delay the asset write-down for another period until the uncertainty is resolved. If that is the case, the auditor is expected to offer their professional expertise which qualifies them to challenge each of the key assumptions used in the cashflow forecast in the impairment models and make proper recommendations.

2. On the other hand, managers could decide to delay the recording of an asset impairment loss as a means of earning management, while shareholders instead, for reasons (such as maintaining their shares value) different to those of managers, are not interested in such a recording. If that is the case, while management needs to decide because the financial report is the company's responsibility, the *independent* auditors who have identified this fact are expected, as part of their professional responsibility, to have concern for all interests and to provide professional consideration. Professional scepticism and rigorous challenge of management are especially important in such audits. However, Humphrey et al. (1993b, p. 56) have concluded that maintaining a good relationship with management has been given a higher priority than meeting the expectations of the public.

On the other hand, in addition to the reputation effects of auditors' actions and their professional responsibility, it is necessary to mention that litigation exposure and litigation costs act as incentives for larger audit companies to report objectively regarding their clients' decisions. Nevertheless, as DeFond and Jiambalvo (1993) provide evidence in their research, among 58 analysed disagreements that arose between managers of public owned companies and their auditors, the disputes arose in cases of earning decreasing practices proposed by management only in 2 cases, while 40 disagreements arose for management's proposals that would report higher earnings. Becker et al. (1998) also find that auditors are more likely to be sued when they are associated with financial statements that overstate earnings (as compared to understate earnings). Both this research indicates a pattern that disagreements between auditors and managers are more likely to occur regarding an earning increasing procedure rather than the opposite, which is usually the case of recording an impairment loss in a timely manner.

Following this argument, Mautz (1972) adds another dimension to auditor's competence, describing it as "social competence" maintaining that the auditors must constantly balance their responsibility to the shareholders toward the responsibility to society, and also as an obligation to potential shareholders. Sikka (2009) while referring to the financial crisis of 2008, argues that auditors lack the claimed expertise to render an independent and objective account of companies. Humphrey, Mozier, and Turley (1993) while emphasizing the importance of the independence of auditors

from their major clients, also persist in increasing the accountability of auditors towards potential shareholders and existing and potential creditors.
This is especially relevant, when auditors may perceive audit quality as being achieved if they have performed and documented the auditing process to a standard sufficient to defend itself against legal challenges, or regular inspection, (Gray et al 2017, p.55) not providing the required assurance to the stakeholders.

Taking into consideration the complexities of the asset impairment process, and the challenges of the management's decision-making for recording an impairment loss, and the complex role of the audit in such a process, it is quite appealing examining whether audit quality (proxied by industry specialisation) has a positive impact on the timeliness of the recording of the asset impairments for the FTSE all shares.

The next session elaborates on the proxies used in literature about audit quality, particularly Audit Industry Specialisation as an indicator of auditor knowledge and expertise and its relation to audit fees.

3. Audit Quality Proxies

Auditor brand name has been used in most prior work as a proxy for audit quality to examine the association between brand name and earnings quality. DeAngelo (1981) has presented a theoretical argument emphasising the fact that big firms are larger than their competitors, which makes them less dependent, and consequently of higher quality. Reynolds and Fransis (2001) argue that having a large client portfolio mitigates the risk of auditors' independence, sustaining that the auditor's size matters. DeFond and Jiambalvo (1993) for instance, show that auditor-client disagreements result from incentives to manage earnings and are more likely to occur when firms have big auditors who challenge management's decisions, indicating auditor independence. DeFond and Jiambalvo (1993), Francis and Wilson (1998), Feltham, Hughes and Simunic (1991), and Becker et al. (1998), follow DeAngelo (1981) in their respective research using the brand name as a proxy for audit quality.

Craswell et al. (1995) on the other hand, identify an additional dimension of audit quality based within *big firms,* which is industry specialisation. As mentioned by Knetchel et al. (2013) auditor knowledge and expertise have a direct impact on the audit quality. Auditors develop industry specialisation for various objectives (Gramling, Stone 2001). As such, industry specialisation is expected to increase the barriers of entry from competitors in a particular industry, which could affect the market performance regarding audit fees and audit quality *in both ways*.
Regarding *audit fees*, there is not a consensus on how audit industry specialisation affects audit fees. Industry specialisation might for instance increase audit efficiency

that could result in lower fees or might be an element for which the client is willing to pay a premium, or both (Ettredge, Greenberg 1990).

Craswell et al. (1995) use the classification of big firm industry specialists and find that audit fees of big firm industry specialists are systematically higher than those of non-specialist big auditors. DeFond, Francis, Wong (2000), Ferguson, Francis, Stokes (2006), also agree that industry expertise is valued by audit clients resulting in premium fees. However, Ferguson, Stokes 2002, and Palmrose (1986) in their respective research do not find a significant relationship between audit specialisation and audit fees. Ettredge and Greenberg (1990) on the other hand, find a substantial variance in fee cuts for industry-specialised auditors. This might be due to the fact that Industry specialised firms can potentially improve their efficiency through economies of scale by concentrating their resources and technology within a certain industry (Gramling, Stone 2001).

On the *audit quality* side, Industry specialisation for instance acts as a differentiation factor enabling auditors to compete on another dimension apart from audit fees to acquire new clients. This differentiation strategy allows the audit to provide service to a group of clients with similar characteristics. There is a growing literature that links audit specialisation with the quality of financial reporting. For instance, Behn et al. (1997) demonstrate that expertise in a particular industry is essential to client satisfaction and that clients appreciate auditor advice which goes beyond simple compliance with GAAP.

Solomon, Shields, Whittington (1999), and Owhoso, Messier, Lynch (2002) in their experimental research conclude that direct experiences obtained by industry specialists largely enhance the accuracy of error detection.
Industry specialised firms could also enhance the quality of the auditor's risk assessment as indicated by Taylor (2000) while auditors' knowledge of the client's industry would remain a crucial input for the risk assessment process.

Moreover, Dunn and Mayhew (2004) provide evidence that industry-specialised auditors are chosen as part of companies' disclosure strategy signalling the decision to provide higher-quality financial reports. This is due to the fact that the accumulation of industry-specific knowledge can improve audit quality as auditors are presumably more familiar with industry accounting practices and also have an incentive of protecting their reputation as industry specialists (Craswell, Francis, Taylor 1995). The acquired knowledge allows auditors to build industry expertise through knowledge-sharing practices which enables them to design standardized industry-specific tailored audit programmes as internal benchmarking of best practices reaching this way individual auditors to extend their industry-specific knowledge which on the other hand, is converted as high-quality service for the client company (Reichelt, Wang 2010). This is more relevant as more complex exposures are related to less timely accounting write-downs (Vays 2011).

However, as Stein (2019) argues the development of expertise may act as a potential mediator of the difficulty in auditing accounting complex estimates.
This research analyses companies that have been audited by the Big 4 and also audit companies with a significant presence in the UK. It is generally argued that these auditors provide a higher audit quality than non-big auditors due to larger incentives and better competency (Watts, Zimmerman 1981) since they can draw in and sustain high-grade audit inputs, such as personnel and experience (Dopuch, Simunic 1982). Additionally, their bigger size provides them with bigger economies of scale in comparison to smaller auditors, leading to more effective monitoring of the quality of audits they deliver.

Hence, auditor industry specialisation which is associated with industry expertise has been vastly used as a proxy for audit quality in the literature to date. (Balsam, Krishnan, Yang, 2003; Reichelt, Wang, 2010; Minutti-Mezza, 2013; Stein, 2019; Dunn, Mayhew, 2004; Bratten, Causholli, Mayers 2017; Audousset-Couiler, Jeny, Jiang, 2016; Chen et al. 2018; Bae Choi, Li, 2019).

For the reason that industry specialisation is an unobservable attribute, there has not been a general consent in the literature on how to properly capture its complexity. As a consequence, audit industry specialisation has been measured in multiple ways.
Therefore, the following session discusses the methods used in the literature for measuring the industry specialisation of the audit firm as a proxy for audit quality and also elaborates on the method used in this research.

4. Measuring the Industry specialisation

Although audit industry specialisation has increasingly been used as a proxy for audit quality in previous literature, there is still not a general agreement on its measurement. Neal and Riley, (2004, p. 170) define a specialist auditor as a firm that has “differentiated itself from its competitors in terms of market share within a particular industry”. This definition implies that audit firms are satisfying their client's requirements by providing tailored industry-specific services.

Neal and Riley, (2004) summarise two main categories of methods used to capture the auditor industry specialisation:

1. *the market share approach* (within industry differentiation competing with other audit firms) and,
2. *portfolio share approach* (within audit firm differentiation across industries).

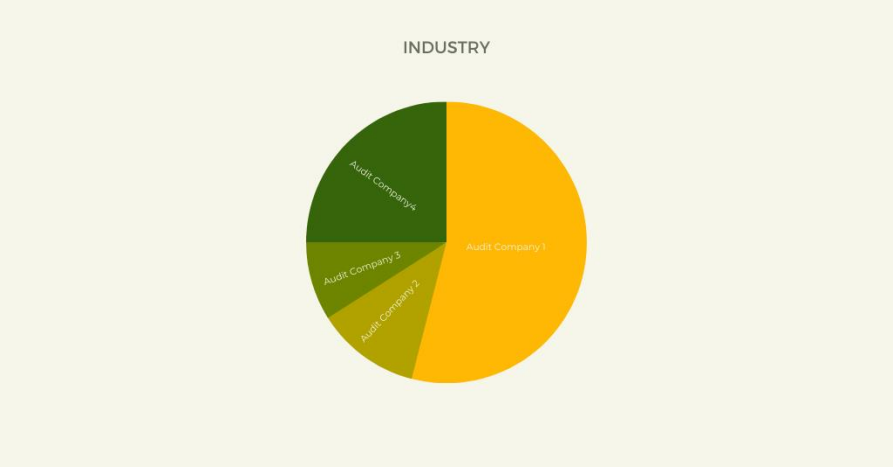
4.1 The market share approach

When researchers use *the market share approach,* they assume that by observing the market share of a particular audit firm within one industry, they can deduce the specialised industry knowledge of that audit firm (Neal, Riley, 2004).

Palmrose (1986) also defined auditor industry specialists as the largest supplier in each industry. This definition implies that the auditors that have considerable market shares within a particular industry have dedicated significant resources to develop and acquire larger industry knowledge (Audousset-Couiler, Jeny, Jiang, 2016). This approach permits the audit firm to spread the cost of knowledge acquirement and other resources to several clients operating in that particular industry. Although this method is extensively used in literature, it poses some limitations.

As this approach does not take into account the industry size according to Neal and Riley (2004) and Audousset-Couiler, Jeny and Jiang (2016) it is possible to not adequately recognise that some industries are too small to encourage audit firms to invest resources and technologies to specialise within that industry or the opposite, when industries are too large and audit firms dedicate vast resources to develop industry specialisation. According to Minutti-Meza (2013) applying the market share approach for measuring the audit industry specialisation may result in differences in the client characteristics between specialised and non-specialised auditors. Auditors with larger market share have larger clients in comparison to non-specialised ones.
As Gramling and Stone (2001) argue, holding this position in the market, makes audit firms appear as passive reactors to or vague receptors of the market share, rather than creators of the market position through industry specialisation. Therefore, the market share approach would not be the best method to apprehend the industry's specialisation in all its dimensions.

Figure 28: The Market Share Approach



Source: Author

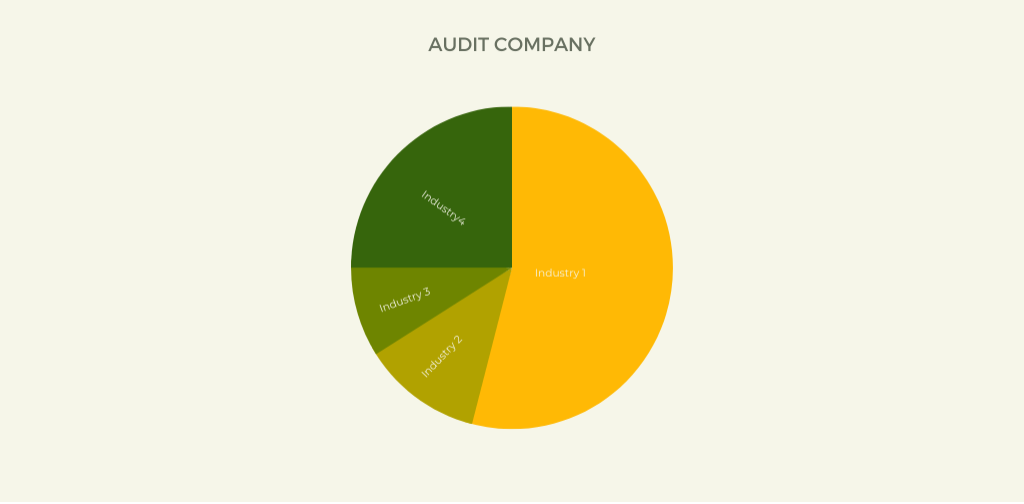
4.2 The portfolio share approach.

This method assumes that by observing the audit firm portfolio of clients operating in various industries, it is possible to deduce the level of industry specialisation from the largest industries that the audit firm has dedicated its resources to acquiring industry-specialised knowledge. That said audit firms are considered specialists in those industries from which they generate higher revenues (Neal, Riley 2004). This method can also be influenced by the industry size. The audit firm might be generating considerable revenues from an industry for which it might not have invested dedicated resources to acquire industry-specific knowledge while the large revenues reflect the size of that industry. This is more relevant for large industries which are more targeted by big audit firms for their expectation of generating large revenues (Audousset-Couiler, Jeny, Jiang, 2016).

Moreover, using the portfolio share approach may result in a lack of variation within several industries as big audit firms would be identified as industry specialist auditors in many of them. The portfolio share approach is elaborated by many researchers (Francis et al. 1999; Reynolds, Francis, 2000; Reichelt, Wang, 2010; Audousset-Couiler, Jeny, Jiang, 2016; Stein 2019; Chen et al., 2018) who have refined it even more by suggesting that the measurement of the audit industry specialisation be carried out at the local audit office level as the fundamental unit of analysis.

Moreover, as Reichelt, and Wang (2010) and Ferguson, Francis, Stokes (2003) argue, auditor industry specialisation may incorporate both office-specific characteristics as well as a national firm-wide dimension because office professionals gain deeper knowledge primarily out of working in locations near their clients. On the other hand, the amount of firm-wide knowledge gained from deep local office expertise depends on the sharing practices within the firm (Francis, Maydew, Sparks 1999; Reynolds, Francis, 2000).

Figure 29: The Portfolio Market Approach



Source: Author

4.3 The weighted market share approach

Krishnan (2001) compared industry market shares with industry portfolio shares using continuous and dichotomous audit specialisation variables and concluded that there was no correlation between the two measurement methods.

However, according to Neal and Riley, (2004), the choice between these two approaches is especially important, because according to their research using 1989-1997 data can significantly impact the research results. To mitigate these differences, they have proposed a new approach that combines the market share approach and portfolio approach in the weighted market share approach where the market share of an audit firm is weighted by its portfolio share for that industry.

4.4 The most appropriate method

Despite all efforts of the many researchers to date, choosing the right approach to measure the auditor industry specialisation still remains a challenging task. According to the Market share approach an audit firm is considered an industry specialist when it dominates the largest share in that particular industry which differentiates it from the other competitors.

On the other hand, the portfolio share approach emphasises the individual audit firm and captures the distribution of audit services provided by that company to clients that operate across various industries. It portrays the resources dedicated to each industry by the audit office toward building industry-specific knowledge (Stein, 2019). A part of recent literature has used an audit firm's portfolio share approach as an indirect proxy for industry specialisation, which in turn is assumed to be associated with industry expertise. Following Stein (2019), this research uses a portfolio share approach as a more suitable method of capturing audit industry specialisation at the audit firm level.

Previous research (Francis et al. 1999; Reynolds, Francis, 2000; Reichelt, Wang, 2010, Audousset-Couiler, Jeny, Jiang, 2016; Stein, 2019) examine audit industry specialisation at *the local office level* for the USA audit big firms. Since the USA is a larger market than the UK, the level of specialisation may vary significantly among local offices for the same audit company across the country. Nevertheless, Francis, Stokes, and Anderson (1999) provide evidence that there is not necessarily a correlation between firm-level industry market share and city office market share. Ferguson, Francis, and Stokes (2006) also find that audit fee premiums due to the audit firm characteristics, result as a joint national and local industry leadership.

That said, it is reasonable to analyse the industry specialisation at the firm level to explore the breadth and depth of the firm's industry expertise resources because the audit firm might have invested in substantial industry expertise such as specific industry databases, specialised auditors for that industry and specific industry training that are available at the firm level regardless of the local office (Gramling, Stone 2001).

Moreover, as the data available from Audit Analytics for the audit fees are available only at the national level for the auditing companies operating in the UK, in this research, audit industry specialisation will be analysed at the audit firm level.

4.5 Industry

One concern related to the use of industry as the domain within which the client is operating, and the auditor is specialised remains defining what industry is. There are many industry classifications available although the most often used in literature are two, three and four-digit SIC codes.

And yet, SIC code definitions remain subjective and differ among various databases. Guenther and Rosman (1996) for instance find large differences between SIC codes (at two, three, and four-digit levels) assigned to companies by COMPUSTAT and CRSP. Two-digit SIC codes also ignore the variability of activities included within large companies such as conglomerates which makes the measurement of industry specialisation dependent on the accuracy of the categorisation of SIC codes (Gramling, Stone 2001). Additionally, many small firms are involved in multiple activities, but most questionnaires designed to gather SIC data only allow for one primary classification and a limited number of secondary classifications (Papagiannidis et al., 2018).

Using two-digit SIC codes, despite their limitations, can still provide valuable insights and benefits for certain applications. For instance, two-digit SIC codes group similar industries together, allowing for a higher-level overview of economic activities while when dealing with large datasets, it reduces the complexity making the dataset more manageable and accessible. Moreover, the use of two-digit SIC codes has been prevalent for decades, and many historical datasets are based on this classification. Maintaining continuity in research and data comparisons over time becomes easier when sticking to the established standard. This research uses two-digit SIC codes as in most of the recent audit industry specialisation research published in the Audit Analytics database. This selection would make the comparison of the findings with the literature more valuable.

5. Auditor Industry specialisation measurement variables

In the previous sections, we discussed different approaches used in the literature for measuring audit industry specialisations. However, regardless of the chosen approach (market share, portfolio share, weighted market share), the variables used in measuring the audit industry specialisation are not consistent (Audousset-Couiler, Jeny, Jiang, 2016). Gramling and Stone (2001) provide detailed evidence in their research about the different variables used in previous studies like client size proxied by sales revenue or total assets and client's number.

These variables are mostly used as alternatives to the audit fees which in general have not been available for the researchers to use at the time of their research. DeFond et al. (2000) suggest using audit fees to measure the audit firm's market share. Nevertheless, there are contradicting views in the literature regarding the relation between audit fees and audit industry specialisation like Pearson and Trompeter (1994) who do not find a relationship between audit fees and audit industry specialisation, while O'Keefe et al. (1994) argue that audit firms with high market share charge lower audit fees. They measure audit industry specialisation as a continuous variable. Palmrose (1986) on the other hand does not find a consistent relationship between audit fees and audit specialisation while the latter is measured as a binary variable. Other research like Ettredge and Greenberg (1990), Ward et al. (1994), Shapiro (1983b), Ferguson, Francis and Stokes (2006) however, find a positive relationship between audit expertise and audit fees.

Gramling and Stone (2001) suggest greater attention to be given to the cost of the production processes of the audit firms as factors that determine fees for the services provided. However, such information is not available about audit firms specifically about audit cost information.

This research uses audit fees as the variable for measuring audit industry specialisation following the most recent research to date as Audousset-Couiler, Jeny and Jiang (2016) argue because audit fees are a function of the client's size, riskiness and complexity which would better capture the audit firms efforts instead of using simply client's sales revenues or total assets.

Hence, the portfolio approach analysed at the audit firm level measured by audit fees will be used in this research to evaluate the Audit Industry specialisation as a proxy for audit quality. We expect a positive effect of the audit industry specialisation in the timeliness of asset impairment recording.

6. Measuring the auditor industry specialisation

Specialist auditors would detect the impairment trigger and would influence the management's decision of recording an impairment loss in a timelier manner compared to client firms that have engaged non-specialist auditors.

Based on these arguments the developed hypothesis as mentioned in Stein (2019) is defined as follows:

H 0*:* Client firms engaging industry specialist auditors record more timely asset impairments relative to client firms engaging auditors with less industry specialisation.

H 0: There is no significant difference in the timeliness of asset impairments recorded by client firms engaging specialized auditors compared to client firms engaging auditors with less specialisation.

7. Methodology

7.1 Empirical model

As mentioned in chapter three conservatism is measured as the degree to which negative returns are reflected in reported earnings more rapidly than positive returns.

Basu (1997) 's model firm-year measure of conservatism is specified as follows:

$$X_i = \beta_1 + \beta_2 D_i + \beta_3 R_i + \beta_4 D_i R_i + e_i \qquad (1)$$

As Ball and Shivakumar (2006) argue, earnings respond asymmetrically to multiple indicators.

As this research follows the modified Basu model (1997) by Stein (2019) IMPAIR_NEG/Pt-1 is used as the dependent variable. Banker, Basu and Bysalov (2017) also use asset write-downs as a dependent variable in a similar model in their research. This variable corresponds to the total impairments per share (as a negative value) deflated by price per share at the beginning of the year. This variable is coded as a negative value so that the regression coefficients can be interpreted similarly to existing research using a Basu (1997) model. Following Riedl (2004) and Stein (2019), the impairment variable used in this research comprises the total impairment value recorded for a company in a given year including impairment for tangible and intangible assets because the company's decision to impair one type of asset is not independent to the other types of assets in the company.

To capture audit industry specialisation the variable SPEC is included in the model. This variable is calculated according to the portfolio share approach as a continuous variable defined as the total audit fee generated by the audit company in a two-digit SIC code industry deflated by the total audit revenues for that firm in a given year.
This data is retrieved from the Audit Analytics database for the UK companies FTSE all shares excluding financial sector and utilities.

D is a dummy variable related to News (Return, ΔOCF, ΔSales) which is equal to 1 if News is less than 0 and 0 otherwise. This coefficient refers to the most commonly used measure of conservatism Basu's (1997) DT coefficient. A positive and significant coefficient indicates that client firms with specialist auditors are more likely to record asset impairments simultaneously with bad news signals relative to client firms engaging less specialised auditors.

7.2 Model variables

To control for firm characteristics as determinants of conservatism, the model includes control variables like firm size, leverage and book-to-market ratio as in LaFond and Roychowdhury (2008) and LaFond and Watts (2008), Khan and Watts (2009) Ettredge Huang and Zhang (2012), Banker, Basu and Bysalov (2017). The control variables are measured at the beginning of the fiscal year.

Data types relevant to conservatism analysis include company-level data from financial statements and also another variable that captures the auditor industry specialisation (Spec).

1. D is an indicator variable equal to 1 if the related NEWS variable (Return, ΔOCF and ΔSales is less than 0, and 0 otherwise.

2. *SPEC*: is the audit industry specialisation.
   This variable is defined as the total audit fee generated by the audit company in a two digit SIC code industry deflated by the total audit revenues for that firm in a given year.

The resulting model, including the control variables is:

$$\delta * D_{i,t} + \lambda_{18} Lev_{i,t-1} * News_{i,t} + \lambda_{19} Lev_{i,t-1} * D_{i,t} * News_{i,t} + Industry\ effects + Year\ fixed\ effects + \epsilon_{i,t}$$

This equation is estimated using OLS as in previous literature using robust standard errors clustered at the company level. Fixed year effects and industry fixed effects are

included in this model to better estimate the actual data structure controlling for year effects and industry effects characteristics.

7.3 Two digit SIC codes industry and year Fixed Effects

As this model uses two Digit SIC industry codes and Year fixed effects, we can interpret every industry denoted by its SIC code that does not vary across time meaning the time effect is constant across industries.
Controlling for fixed effects is useful because there could be many other factors specific to each period and industry beyond the selected variables that impact the average value of the outcome variable in each period.

7.4 Sample and descriptive statistics

The sample after excluding companies that have not been audited by Big 4, BDO LLP, Grant Thornton UK LLP, and PKF UK LLP is 4187. After excluding companies/years that have missing information for our variables the final sample results in 4162 company years.

Table 14

Sample selection Procedure	
FTSE all shares comp-years 2009-2019	5559
Audited by chosen Audit companies	4187
Missing Information for control variables	25
Final l Sample	4162

Table. 14 presents the descriptive statistics for the full sample of company years, the subsample of impairment company years and the subsample of non-impairment company years. Table. 15 presents the correlation matrix of the main variables used in the empirical model.

Table 15

	Total				Impairments = 1				Impairments = 0			
Variables	n	Mean	Median	Std. dev.	n	Mean	Median	SD	n	Mean	Median	SD
NegImpairm	4,162	0.027	0.000	0.0061	953	-0.116	-0.097	0.827	3,207	0	0	0
SPEC	4,162	0.061	0.027	0.078	953	0.072	0.033	0.086	3,207	0.057	0.075	0.075
Spec_Dum	4,162	0.146	0.000	0.353	953	0.184	0	0.388	3,207	0.133	0.000	0.340
Return	4,162	0.180	0.047	2.651	953	0.086	0.025	0.574	3,207	0.205	0.050	3.000
ΔOCF	4,162	0.012	0.002	0.280	953	0.008	0.002	0.193	3,207	0.012	0.002	0.297
ΔSales	4,162	0.020	0.016	1.371	953	-0.096	0.014	2.547	3,207	0.054	0.016	0.717
Leverage	4,162	0.872	0.301	4.270	953	1.044	0.334	5.848	3,207	0.881	0.826	4.409
Size	4,162	12.300	12.446	2.427	953	12.910	11.102	2.521	3,207	12.083	0.295	2.357
BTM>1	4,162	0.413	0.000	0.492	953	0.400	0.000	0.490	3,207	0.417	0.000	0.493

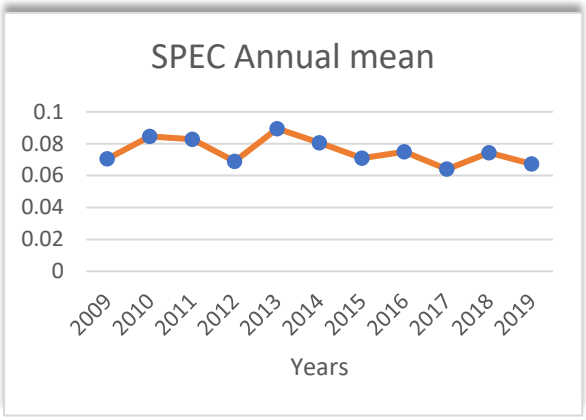
The descriptive statistics reported in Table. 15 are generally consistent with those in literature. Table. 15 indicates that there is an evident difference in financial characteristics among the sample that includes companies that have recorded an impairment with companies that have not recorded one. When compared both groups, Returns are larger for companies that have not recorded an impairment (0.205 versus 0.086), which also have a higher leverage (1.04 versus 0.881) and are bigger in Size (12.91 versus 12.087) and have lower BTM ratio (1.63 versus 1.684). The difference in ΔOCF (0.011 versus 0.012) is minor while the most significant difference appears for the ΔSales variable (-0.097 versus 2.276). This is consistent with the relevant literature which indicates that the sales change has a significant impact on the impairment of assets (Banker, Basu and Bysalov 2017, Stein 2019).

The Spec_Dum variable has a mean of 0.146 which indicates that the majority of the observations (85.4%) take the value of 0, while a smaller proportion that takes the value of 1 is 14.6% in the overall sample.
The proportion of observations with a Spec_Dum equal to 1 is 18.4% in the sample that includes only company years that have recorded an impairment loss while for the non-impairment sample, it is 13.3% indicating that the number of industry-specialised auditors is more frequent in the sample of company years that have recorded an impairment in comparison to the other sample.

The mean value for SPEC for the total sample is 0.061 which represents the total audit fee generated by the audit company in a two digit SIC code industry deflated by the total audit revenues for that firm in a given year. This variable indicates that client companies in a given industry comprise 6.1% of the total revenues for each audit company on average. This coefficient differs from that of Stein (2019) which is double the UK market figure indicating that typically 12.3% of the audit firm revenues are generated by its clients in a given industry in the USA. This is more likely to the fact that the audit market might be more dispersed in the UK.

7.5 Audit specialisation

Figure 30: SPEC Annual mean.



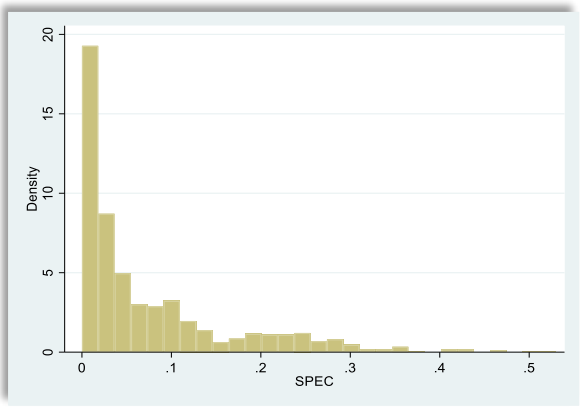


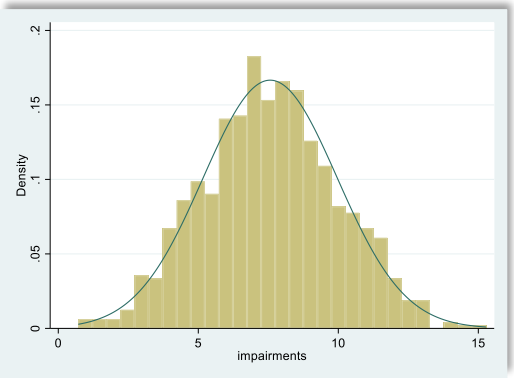
Figure 31: SPEC Density

Source: Author

7.6 Impairments

As asset impairment reduce earnings they are coded as negative in this research following Banker, Basu and Bysalov (2017), and Stein (2019).
On average impairments write downs comprise 2.7% of the lagged market value of the company year while for the subsample of only those companies that have recorded an impairment loss it comprises 11.6% indicating a considerable impact on the company's performance.

Figure 32: Impairments Density



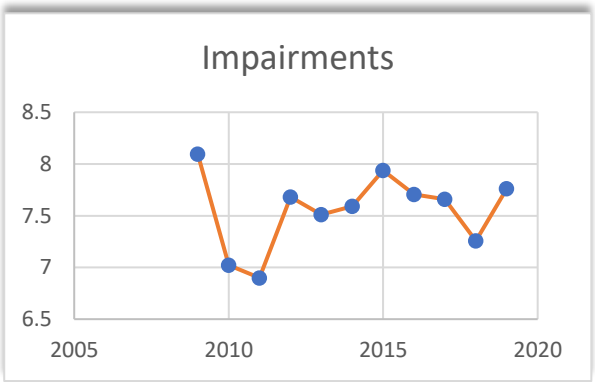


Figure 33: Impairments

Source: Author

7.7 ΔOCF

The average operating cash flow change is 1.2% of the lagged market value. Consistent with prior research companies that demonstrate an asset impairment loss also display poorer financial performance compared to the companies that have not recorded an asset impairment, reflected thus in lower Δ*OCF.*

Figure 34: ΔOCF Density.

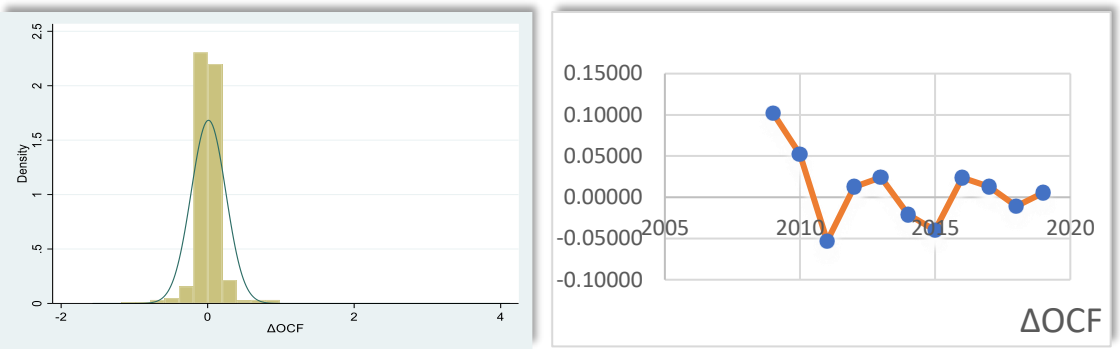


Figure 35: ΔOCF

Source: Author

7.8 ΔSales

Average sales change is 2% of the lagged market value while the median is 1.6%. Again, companies that demonstrate an asset impairment loss also display poorer financial performance compared to the companies that have not recorded underwent an asset impairment, reflected thus in lower ΔSales. According to Ertimur et al. (2003), the sales surprise is an important indicator to investors in their decision-making because through this variable they can identify cases of earnings management. They further argue that usually, companies with e negative sales surprises will have a negative reactions from the market. Moreover, while examining the pair correlations table we can realise a positive relationship between ΔSales and return that capture this relationship between ΔSales as a measure of News and market reaction Return.

Figure 36: ΔSales Density.

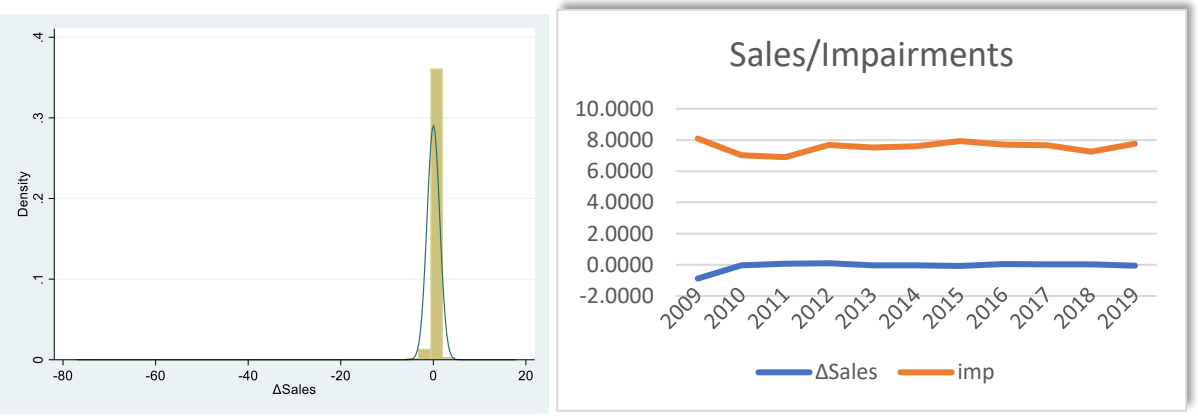


Figure 37: Sales/Impairments

Source: Author

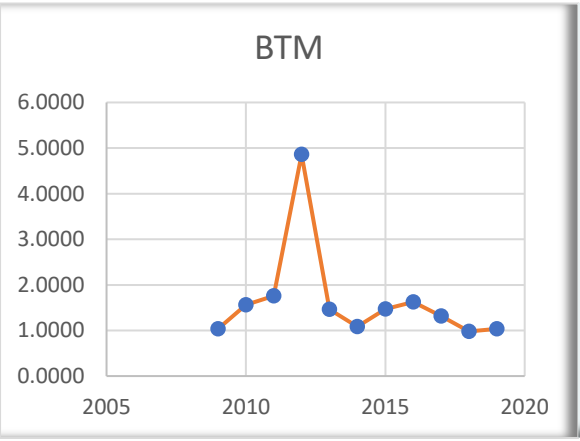
7.9 BTM ratio

According to Fama and French, (1992) and Rosenberg et al., (1985), the BTM ratio has a predictive ability for stock returns suggesting that companies with higher BTM ratios have higher expected average returns. Moreover, Donnelly (2014) argues that the BTM ratio can predict the way the market would react to earnings distress. Given that higher returns are necessary to encourage investors to purchase a riskier investment, a positive relationship between BTM and return results. The table indicates a positive relationship between BTM with earnings (Xi), and stock returns (Return) and a reasonable negative relationship with impairments.
However, the ratio of book-to-market can be interpreted as a proxy for some underlying risk. As such, low BTM stocks are affected by optimistic expectations embedded in their prices and the prices of high BTM stocks are less optimistic.

The reporting of asset impairments is theoretically a function of economic factors and reporting incentives (Riedl 2004). Therefore, as the audit expertise constrains earnings management Spec would exhibit a negative relationship with BTM as an indication of a risk-reducing factor because of the Audit expertise as we can see in the pair correlation table as well for both Spearman and Pearson correlations.

The graph below also shows how the curve of the BTM ratio as continuous variable is steeply high for the years 2009-2014 an immediate period after the financial crisis.

Figure 38: BTM.



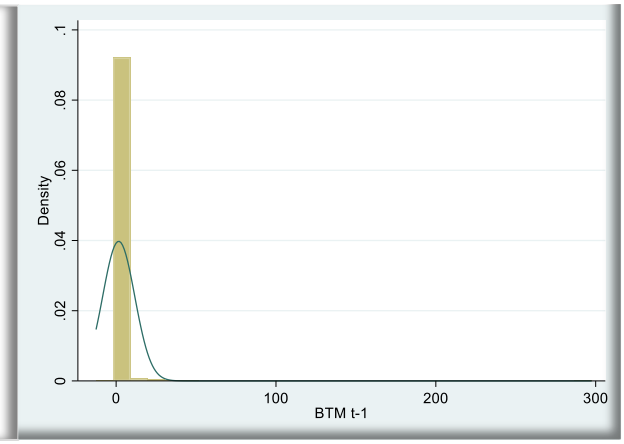


Figure 39: BTM t+1

Source: Author

For this model, BTM is equal to 1 if BTM is above the value of 1, and 0 otherwise to examine the characteristics of company years with higher book-to-market ratios

separately as a means to gain insights on the specific features of undervalued or overlooked companies in the market as in Stein (2019).

All the pairwise correlations between variables including Return, ΔOCF and ΔSales as presented in Table. 16 are less than 30% suggesting that these indicators capture different aspects of the company's performance and all three have a positive relationship with earnings.

Table 16

Correlation matrix (Pearson top and Spearman bottom)	Earnings	NegImpair	SPEC	Return	Size	Leverage	ΔOCF	ΔSales	BTM
Earnings	1	0.1656	-0.0971	0.2304	0.2607	0.0358	0.1178	0.257	0.0911
NegImpair	0.0494	1	-0.0722	0.0406	-0.1105	-0.0522	0.0208	0.0698	-0.0105
SPEC	0.0039	-0.0118	1	-0.0178	0.0724	0.0808	0.0016	-0.0236	-0.0505
Return	0.0055	0.0089	0.0045	1	0.0439	-0.0144	0.129	0.1684	0.0295
Size	0.0756	0.0413	0.0399	-0.0297	1	0.0057	0.0016	0.087	-0.2314
Leverage	-0.0125	-0.0168	0.0832	0.038	-0.1136	1	-0.0116	-0.0503	0.1985
ΔOCF	0.0222	-0.0044	0.0068	-0.0176	-0.0206	-0.0533	1	0.1774	0.0055
ΔSales	0.009	0.0097	0.0176	-0.0185	0.0295	-0.1221	0.0134	1	-0.0079
BTM	-0.0346	-0.0202	-0.0643	0.0082	-0.2182	0.096	0.0258	-0.0209	1

Audit Specialisation on the other hand has a negative correlation with returns and Impairments which as expected means that audit expertise has an impact on the loss recognition in earnings. (When audit specialisation increases, impairments in their absolute value increase).

However, to check on the effect of the audit specialisation on the timely impairment loss recognition we need to check the Basu's 1997 DT coefficient which in this research is *D * Spec * News* (Return, ΔOCF and ΔSales).

The next session discusses the extent to which all the above characteristics correlate with the industry specialised auditors in the multivariate model.

8. Estimation results

Estimation results are presented in Table. 17

Dependent variable: $Impair\_Neg_{i,t/}\ P_{i,t-1}$

Table 17

		Measure of News					
		Return		**ΔOCF**		**ΔSales**	
	Pred.	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
D	?	1.435	1.76	0.235	0.49	-0.377	-0.58
News	?	1.068	1.82	-0.268	-0.13	0.011	0.85
D*News	?	-0.249	-0.1	-5.493	-1.56	-0.299	-0.29
SPEC	?	-3.457	-2.29	-2.320	-1.72	-2.755	-2.01
D*Spec	?	-1.213	-0.49	-2.931	-2.23	-3.155	-1.85
Spec * News	?	-0.130	-0.27	-3.045	-0.66	0.010	1.17
Spec*News*D	(+)	**0.789**	0.12	**10.021**	1.19	**2.256**	-1.40
Size	?	-0.172	-3.07	-0.224	-4.77	-0.250	-5.13
D*Size	?	-0.121	-1.8	-0.019	-0.47	0.014	0.25
Size*News	(+)	-0.104	-1.81	0.013	0.06	-0.002	-1.01
Size*News*D	(-)	0.146	0.67	0.616	1.65	0.099	0.96
BTM	?	-0.020	-0.7	-0.001	-0.06	0.005	1.26
D*BTM	?	0.036	1.31	0.019	0.53	-0.006	-0.46
BTM*News	(-)	0.029	1.18	-0.012	-0.25	0.000	-0.31
D*BTM*News	(+)	0.010	0.21	-0.035	-0.28	-0.026	-0.90
Lev	?	-0.056	-0.79	0.024	1.26	0.007	0.39
Lev*D	?	0.014	0.19	-0.099	-1.42	-0.034	-1.68
Lev*News	(-)	0.001	0.28	-0.079	-2.95	0.007	1.10
Lev*News*D	(+)	-0.121	-1.34	0.051	1.03	-0.020	-2.09
Industry Fixed Effects			Included		Included		Included
Year Fixed effects			Included		Included		Included
n			4159		4159		4159
Model p-value			0		0		0
R2		R-squared=	0.1228		0.1207		0.2284
Two digits SIC Code		**Coefficient**	**t-stat**	**Coefficient**	**t-stat**	**Coefficient**	**t-stat**
2		-0.756	-9.16	-0.645	-7.27	-0.616	-8.44
7		-0.944	-1.68	-0.952	-1.63	-0.910	-1.54
10		-1.102	-2.58	-1.230	-3.07	-1.133	-2.70
12		-0.222	-1.47	-0.292	-1.37	-0.193	-1.16
13		-2.705	-3.64	-2.854	-3.81	-2.704	-3.64
14		0.023	0.05	-0.210	-0.49	-0.010	-0.03
15		-0.292	-0.63	-0.219	-0.48	-0.199	-0.43
16		-0.832	-2.41	-0.752	-2.21	-0.825	-2.42

17		-0.552	-2.35	-0.588	-2.24	-0.482	-2.32
20		-1.615	-2.71	-1.572	-2.66	-1.593	-2.62
22		-1.206	-2.46	-1.111	-2.04	-0.973	-2.71
23		-0.723	-4.76	-0.726	-4.57	-0.531	-3.27
24		-1.434	-1.76	-1.441	-1.66	-1.388	-1.64
25		-0.355	-3.51	-0.417	-5.02	-0.434	-4.86
26		-1.221	-2.62	-1.251	-2.60	-1.239	-2.58
27		-1.771	-2.88	-1.791	-2.94	-1.668	-2.73
28		-1.188	-3.2	-1.209	-3.24	-1.213	-3.24
29		-3.140	-26.58	-3.261	-30.03	-3.249	-30.11
30		-1.147	-1.96	-1.143	-1.90	-1.088	-1.88
31		-5.722	-39.52	-5.766	-41.95	-5.699	-39.82
32		-0.515	-1.26	-0.571	-1.39	-0.461	-1.16
33		-2.333	-1.54	-2.290	-1.50	-2.219	-1.43
34		-1.264	-3.87	-1.279	-3.71	-1.204	-3.62
35		-1.821	-3.49	-1.847	-3.47	-1.796	-3.40
36		-2.251	-4.3	-2.306	-4.38	-2.187	-4.15
37		-3.244	-2.53	-3.330	-2.64	-3.300	-2.59
38		-1.177	-2.84	-1.215	-3.01	-1.198	-2.90
41		-0.047	-0.09	-0.158	-0.31	-0.033	-0.05
42		-0.006	-0.01	0.019	0.04	0.153	0.30
44		-0.493	-1.11	-0.598	-1.21	-0.580	-1.22
45		-0.722	-1.27	-0.735	-1.22	-0.641	-1.15
47		-2.289	-1.86	-2.293	-1.76	-2.214	-1.79
48		-2.990	-6.63	-3.186	-7.40	-3.116	-7.04
49		-3.769	-4.51	-3.879	-4.72	-3.830	-4.69
50		-3.035	-3.67	-3.086	-3.82	-3.046	-3.77
51		-1.611	-4.16	-1.646	-4.41	-1.641	-4.45
52		-1.639	-27.18	-1.655	-22.39	-1.550	-14.93
54		-2.661	-1.56	-2.672	-1.56	-2.664	-1.56
55		-1.753	-3.13	-1.599	-3.78	-1.454	-3.68
56		-2.758	-9.55	-2.871	-10.90	-2.791	-8.62
57		-0.689	-5.84	-0.737	-6.13	-0.780	-5.21
58		-0.282	-1.55	-0.326	-2.08	-0.294	-1.62
59		-1.089	-0.84	-1.173	-0.93	-1.105	-0.88
60		-1.139	-3.08	-1.137	-3.37	-0.950	-3.63
62		-2.049	-3.96	-2.226	-4.07	-2.179	-4.07
65		-0.744	-2.41	-0.703	-2.34	-0.690	-2.28
67		-1.053	-2.71	-1.098	-2.80	-1.033	-2.61
70		-3.756	-2.05	-3.682	-1.97	-3.531	-1.81
72		-0.227	-3.2	-0.257	-2.07	-0.253	-1.62
73		-1.512	-4.75	-1.539	-4.79	-1.555	-4.90
75		-1.299	-2.3	-1.235	-2.41	-1.353	-2.29
76		-2.076	-18.91	-2.081	-28.79	-2.035	-28.17
78		-1.582	-1.9	-1.521	-1.71	-1.040	-1.05
79		-2.179	-2.24	-2.196	-2.37	-2.179	-2.36

80		-0.439	-3.08	-0.636	-5.07	-0.633	-5.28
82		-5.324	-70.13	-5.387	-62.33	-5.122	-58.13
83		-0.650	-6.23	-0.659	-6.07	-0.553	-5.45
87		-1.491	-5.61	-1.489	-5.44	-1.417	-5.23
89		-1.511	-2.47	-1.519	-2.31	-1.509	-2.48
Year		**Coefficient**	**t-stat**	**Coefficient**	**t-stat**	**Coefficient**	**t-stat**
2010		0.761	3.89	0.728	3.66	0.650	3.27
2011		0.802	3.59	0.808	3.58	0.611	2.69
2012		0.667	2.9	0.603	2.6	0.533	2.28
2013		1.067	4.96	1.022	4.66	0.983	4.52
2014		1.027	4.39	0.982	4.13	0.925	3.91
2015		0.670	2.69	0.569	2.27	0.504	1.99
2016		0.535	2.27	0.465	1.93	0.402	1.67
2017		0.766	3.1	0.646	2.63	0.560	2.26
2018		0.705	2.83	0.611	2.43	0.477	1.9
2019		0.600	2.24	0.260	0.98	0.268	1.01

Before analysing the regression results it is important to discuss the explanation power of the model.
The F statistic is 11.06 for Return, 12.89 for ΔOCF and 35.81 for ΔSales indicating that at least one of the independent variables explains some of the variances in the dependent variable. The p-value is 0 for all regressions indicating that there is strong evidence for the existence of an explanatory relationship in the model. The R-squared which indicates the amount of explained variance, is 0.128 for Return, 0.1207 ΔOCF and 22.84 for ΔSales.

Although this model seems as correctly specified in terms of including the appropriate explanatory variables, yet it may encompass some functional form of misspecification which can be assessed by performing Ramsey's RESET. This test re-estimates the original equation, augmented by powers of $\hat{y}$ (usually squares, cubes, and fourth powers are sufficient) and conducts an F-test for the joint null hypothesis that those variables have no significant explanatory power.

The results of Ramsey's RESET for the three OLS regressions are presented in Table 18:

Table 18

Ramsey RESET test for omitted variables			
	Return	ΔOCF	ΔSales
F	6.71	7.81	9.2
Prob > F	0.0002	0	0

This test is used to identify omitted variables in a model by looking at the powers of the fitted values of the variable named Negimpair. The F statistics is significant and the p-value very low in all the three cases, indicating that there is evidence for the existence of a form of misspecification in the model.

Moreover, according to Wooldridge (2013), Ramsey's RESET should not be considered a general test for omission of relevant variables but as a test for misspecification of the relationship between the values of y and the x in the model. In Minutti-Mezza's (2017) study, it is highlighted that drawing casual inferences from cross-sectional regressions can be problematic due to potential model misspecification. This misspecification can arise from the use of correct variables but an incorrect functional form assumption, as well as the exclusion of unobservable variables in the analysis. Moreover, previous research, as mentioned by Kothari, Leone and Wasley (2005), Francis (20111) and Lawrence, Minutti-Mezza, and Zhang (2011), suggests that variables of significance like client size and performance, exhibit a non-linear relationship with the proxies for audit quality.

9. Two digit SIC code and Year Fixed Effects coefficient interpretation

Random effects model can be affected by the omitted variable bias problem. In the presence of dynamic misspecification, fixed-effects estimates could also be biased and inconsistent (Harris et al. 2009; Lee 2012). Moreover, Plümper and Troeger (2019) argue that the use of the fixed-effects model is applicable to situations in which researchers can reasonably argue that the dynamic specification of the empirical model is correct. This is also argued by Wooldridge (2002, 442) stating that the fixed-effects estimator is unbiased under a strict exogeneity assumption on the explanatory variables. The two digits SIC code and year fixed effect model is the main model used in literature for similar studies (Minutti-Mezza, 2013; Shipman et al., 2017; Reichelt, Wang 2010; Stein, 2019).

Thus, to decide which model fits the data best between a random effect model or a fixed effects model it is necessary to perform the Hausman test to decide which model is a better fit. The results are displayed in Table. 19:

Table 19

Hausman fe test			
	Return	ΔOCF	ΔSales
chi2(19)	148.93	130.88	77.49
Prob > chi2	0	0	0

Under the current specification, the null hypothesis for the random effects model is clearly rejected implying that the fixed effects model is a better fit for this research for the three regressions.

Table 18 presents the OLS regression results as specified in Equation 1. The results reveal positive relationship but not significant for **Spec*News*D** for *Return* and Δ*OCF* and Δ*Sales.*

We would expect positive significant coefficients for these indicators to demonstrate that client firms engaging auditors with greater specialisation show a stronger association between impairment losses and each of the bad news signals relative to firms engaging auditors with less Specialisation in the UK (Stein 2019).

Spec*News*D for ΔSales on the other hand is positive but still not significant with a t-stat 1.4 and p-value 0.131 indicating that there is no evidence for a meaningful relationship between impairment losses and ΔSales bad signals relative to companies engaging auditors with less Specialisation.
Size and Spec are significant for the three regressions.

The estimated coefficients for two digit SIC codes represent the differences in the dependent variable between each SIC code industry while the fixed year effects capture average effect for each year.

The *News* coefficient represents a one-unit change in the outcome variable (Negimpairments), on average, within a two digit SIC code industry for each additional unit increase in *News*. Ten industries that have the strongest impact in the Impairments of assets when the news indicator variable is Return, ***ΔOCF and Δ***Sales respectively keeping the time effect constant across industries as presented in Table 20 are:

Return	
82	Educational Services
31	Leather and leather products
52	Building materials and hardware
29	Petroleum refining and related services
76	Repair services
56	Apparel and accessory stores
2	Agriculture production
48	Communications
83	Social services
57	Home furniture and furniture stores

ΔOCF	
82	Educational Services
31	Leather and leather products
29	Petroleum refining and related services
76	Repair services
52	Building materials and hardware
56	Apparel and accessory stores
48	Communications
2	Agriculture production
57	Home furniture and furniture stores
83	Social services

***Δ*Sales**	
82	Educational Services
31	Leather and leather products
29	Petroleum refining and related services
76	Repair services

52	Building materials and hardware
56	Apparel and accessory stores
2	Agriculture production
48	Communications
83	Social services
80	Health Services

Table 20

10. Conclusion for the OLS regressions

As a conclusion according to the OLS regression results there is a positive but not significant relationship between Spec*News*D and Negimpair for the three measures of News indicated by Return, Δ*OCF* and Δ*Sales.* These findings are in line with a similar study conducted by Stein (2019) for the USA market regarding the positive relationship but not about the significance of the relationship. We would expect positive significant coefficients for these indicators to demonstrate that client firms engaging auditors with greater specialisation show a stronger association between impairment losses and each of the bad news signals relative to firms engaging auditors with less Specialisation in the UK (Stein 2019).
On the other hand, the Ramsey test for omitted variables indicates that regression results suffer from the form of misspecification hence its estimates are biased and inconsistent.
The Propensity Score Matching as a method used to mitigate the problems arising from this form of misspecification, will be discussed in the next section.

11. Additional tests

11.2 Propensity Score Matching

Based on the Ramsey's RESET test, the functional form of the relationship between the dependent variable and explanatory variables were mis specified. As such according to Shipman, Swanquist, and Whited (2017) we can infer that the regression results could be biased. The propensity score matching (PSM) method can mitigate these concerns when the treatment and the control groups become similar across ''relevant observable factors relating to outcome and treatment'' (Shipman et al., 2017). According to Rosenbaum and Rubin (1983), using the balancing scores like for instance the propensity score probability to be treated given observed characteristics functions of the observed variables are independent of the treatment assignment.

That said, the probability of a company-year engaging an industry specialised audit is not random. It is rather a function of company's characteristics and its choice of the audit firm. The selection effect can create an imbalance between the group of company-years that were audited by industry specialised auditor and those that were not audited by one, resulting in different outcomes for the timeliness recording of an asset impairment.

To mitigate this uncertainty and allow for unbiased comparisons of a company-year that was audited by an industry specialised auditor versus a company-year that was not audited by an industry specialised auditor (not treated), propensity score matching can be used to pair company-years from each group who share a similar probability of being audited by an industry specialised auditor, conditional on the observed variables. Any subsequent difference in timeliness recording of an asset impairment between the two groups are thus assumed to be a result of the treatment (engaging an Industry specialised Audit).

The propensity score matching model offers e more robust approach to obtain an unbiased estimate of the treatment effect. Unlike other methods, it does not rely on assuming a specific functional form of the relationship between the outcome variable and the control variables (Armstrong, Jagolinzer, Larcker 2010).

11.3 The model used to estimate the propensity score.

The propensity score model facilitates the matching of company-years audited by industry specialised auditors with those that were not audited by such auditors. This matching is based on the propensity score derived from the characteristics of the companies. The objective is to minimize disparities in the matching characteristics, commonly known as “covariate balancing,” to ensure that these differences do not account for variations in industry audit specialisation.

11.4 Treatment variable

To predict the propensity score it is necessary to define the treatment variable. For this purpose, following Stein (2019) and also the relevant literature the treatment variable refers to the engagement of an Industry specialised Audit which in this case is Spec_Dum defined as a binary variable. Spec_Dum takes the value of 1 for an industry with the top portfolio share of the audit office during a year based on the previously defined continuous variable SPEC and 0 otherwise.

11.5 Variables included in the Propensity Score Model

According to Sianesi, (2004) and Smith and Todd, (2005) the propensity score model should include those variables that affect the treatment status simultaneously. Moreover, according to Rubin and Thomas (1996) all the relevant variables should be included in the propensity score estimation. Furthermore, Shipman et al. (2017) argues that the variables included in the propensity score model should be motivated by theory. They also state that the estimated scores are dependent on the choice of the variables included, which in turn influences the composition of the sample and

potentially impacts statistical interpretation. Hence, careful consideration needs to be given to the selection of the variables aligning this choice with theoretical justification.

The PSM model in this research uses the same variables used in the OLS model because as Shipman et al. (2017) argue, the underlying rationale for including a control (or matching) variable remains fundamentally consistent in both Propensity score Matching and Matching regression approaches. In both cases, the inclusion of a variable is justified based on its association with both the treatment and the outcome variables. The exclusion of a variable from the Matching Regression analysis would otherwise suggest that there is no relationship between the variable in both the treated and outcome variables.

Following Black and Smith (2004) the rationale behind the propensity score matching model that will be used in this research implies that we have on outcome y_1 for the company-years that have engaged and industry specialised auditor (the treated) while $y_0$would be the outcome for those observations (company-years) that are untreated. However, both groups receive a treatment because y_1 corresponds to the potential outcomes for those company-years that have engaged a specialised industry auditor while y_0 refers to the potential outcomes for company years engaging a less industry specialised auditor. These are called potential outcomes because only one outcome could be observed for each company-year. Spec_Dum =1 indicates the company year that engaged an industry specialised audit while Spec_Dum=0 indicates otherwise. The set of variables X are the independent variables that affect the choice of an industry specialised auditor by the company and the outcome on the timelines of the impairment loss recognition.

Before analysing the data, it is useful to compare all of the variables between the treated and untreated and check the differences (Table. 21)

Table 21

	Mean in treated	Mean in Untreated	Standardised diff.
D1	0.40	0.45	-0.10
Return	0.29	0.16	0.04
D1Return	-0.11	-0.12	0.02
SPEC	0.20	0.04	1.61
D1Spec	0.08	0.02	0.76
SpecReturn	0.05	0.01	0.15
D1SpecReturn	-0.02	0.00	-0.57
Size	12.76	12.22	0.20
D1Size	4.98	5.39	-0.07
SizeReturn	3.20	1.82	0.04
D1SizeReturn	-1.32	-1.33	0.00
BTM	2.63	1.51	0.08

D1BTM	1.61	0.76	0.07
BTMReturn	0.68	0.15	0.04
D1BTMReturn	-0.53	-0.24	-0.05
Leverage	1.35	0.79	0.09
D1Lev	0.75	0.39	0.08
LevRet	0.68	0.57	0.01
D1LevRet	-0.31	-0.11	-0.09

Table. 21 shows that *SPEC*, *D1Spec* and *D1SpecReturn* have a difference among treated and untreated samples while the other variables are more similar (less than 0.25 standardised difference). The matched sample is balanced for 16 out of 19 variables.

Given the large number of potential specifications in propensity score matching and the subjective nature of selecting the best option, an iterative approach is utilized in this research. This technique randomly assigns design choices to achieve covariate balance and generates a distribution of the resulting treatment effects across a range of reasonable research design combinations. By employing this analysis, it is possible to observe the distribution of treatment effects without relying on specific set of design choices. This approach is particularly valuable when no single design choice clearly outperforms others, as the distribution from the iteration provides more robust inferences.

Thus, the logit model is run to predict the propensity scores including all the relevant variables with Spec_Dum as dependent variable to define the common area of support without replacement.

Matching without replacement ensures that each treated observation is only matched once with a control observation to preserve the sample size, to avoid duplication leading thus to more reliable efficient estimators. By matching each treated observation with a similar control observation, the potential bias caused by differences in observable characteristics is minimized. It also allows for a larger proportion of controlled observations to be used in the model providing more precise estimates of the treatment effects.

This model is run iteratively using different distance *callipers* with the goal of achieving covariate balance. The best achieved balance resulted with no calliper for Return and Sales while for OCF a calliper of 0.004 provided the best results regarding bias.

Following Hosmer and Lemeshow (2000), (ROC) *Receiver Operating Characteristic* is also assessed to examine the accuracy of the propensity score model. ROC for the three regressions is remarkably high indicating that the model has

a good predictive power while the small standard errors also indicate that the ROC areas are relatively precise.

Table 22

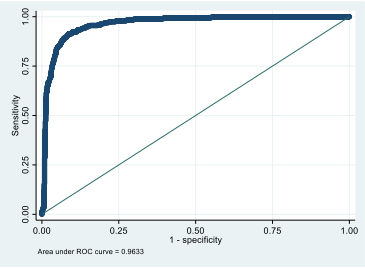


Figure 40: ROC.

	Obs	**ROC area**	St. Err.
Return	2,592	0.9687	0.0035
ΔOCF	2,592	0.9633	0.0038
ΔSales	2,592	0.9688	0.0035

11.6 Propensity score matching relies on two assumptions:

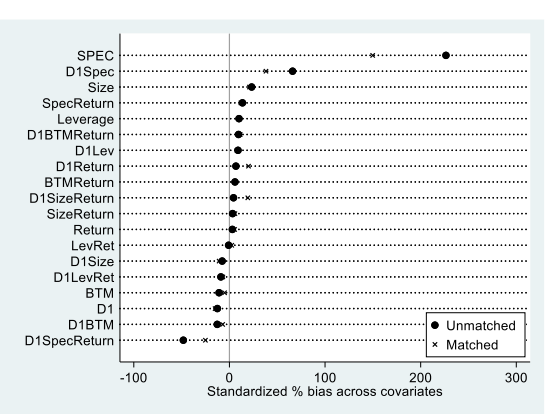
As defined by Rosenbaum and Rubin (1983), first, PSM assumes that all relevant differences between treatment and control groups are appropriately matched.

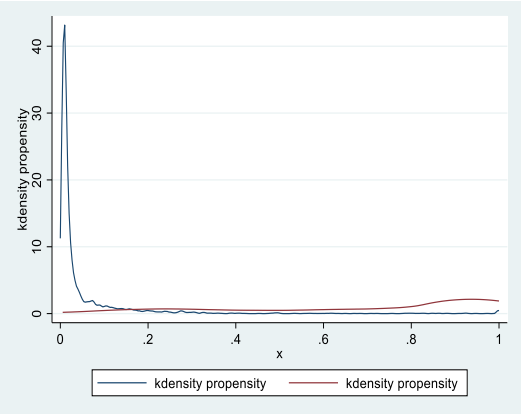
Second, it requires a certain degree of overlap or “common support” between the treatment and control observations.

These assumptions are crucial for ensuring the validity of the matching method and obtaining reliable estimates of the treatment effects. The overlapping graphs for the propensity score using Returns, ΔOCF and ΔSales as measurement of News are displayed in the following Graphs together with the graphs for standardised bias across the variables. There is very good overlap as indicated by these graphs and also a good bias reduction a concept that is explained below.

Return

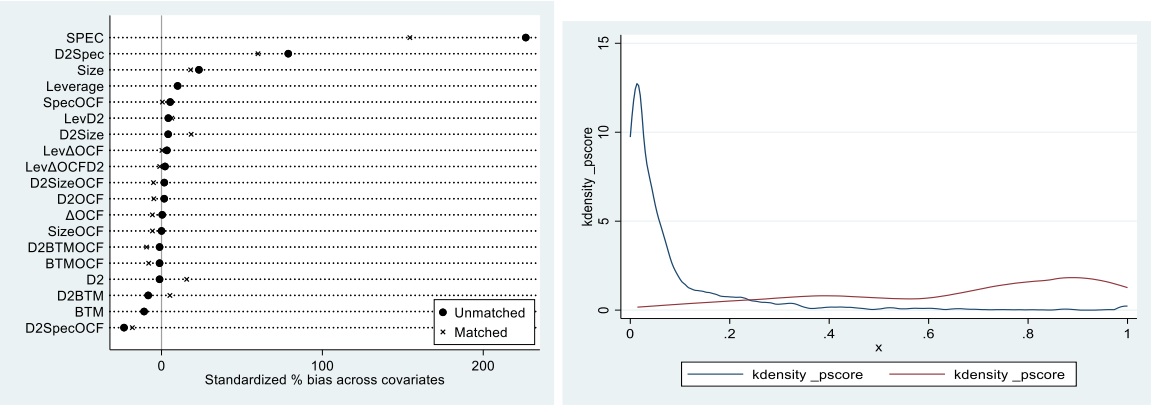
Figure 41: Return.





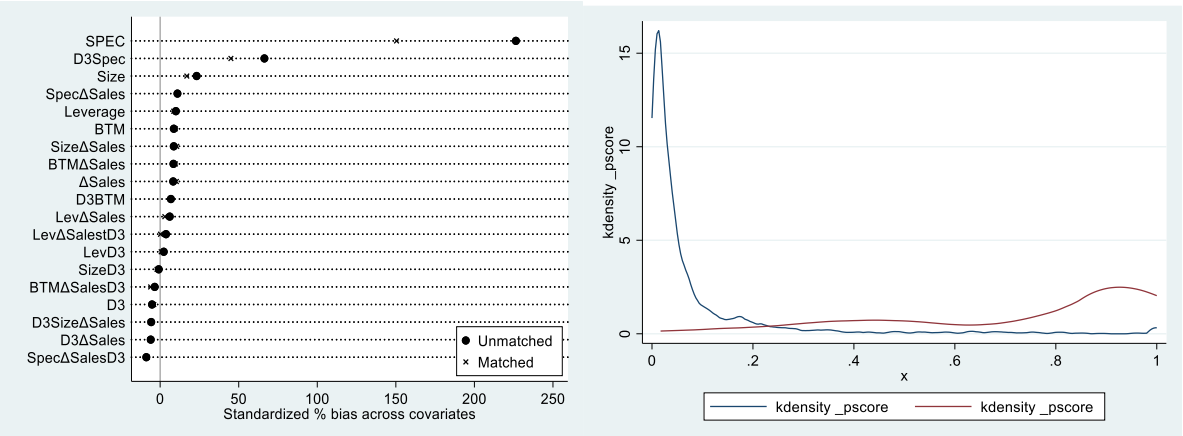
ΔOCF

Figure 42: ΔOCF.



ΔSales

Figure 43: ΔSales.



11.7 The number of control observations matched to each treated observation.

Matching on the propensity score, subclassification on the propensity score and covariance adjustment on the propensity score are expected to yield unbiased estimates of the treatment effect.
Table 23 shows the number of the matched sample and the respective values of the treated and untreated observations that are matched according to the propensity score.

The final subsample comprises 2592 company-years with similar characteristics. The model will than use this sample estimates which will make it possible to achieve some balance on the variables. (Graph shows the balance achieved based on the propensity score for 2592 company-years sample.

Table 23

	Common	
Treatment	support	Total
assignment	On support	
Untreated	1,986	1,986
Treated	606	606
Total	2,592	2,592

11.8 The quality of the match (covariate balance)

One key objective of PSM is to achieve balance in observed covariates between the treated and control groups. Comparing the Mean Bias and Med Bias values can give an indication of the covariate balance. Checking the matching quality can also help to determine the propensity score specification after an iterative process has been performed. As DeFond et al. (2017) state, the best matched samples are those with the lowest imbalance for a given sample size. Table. 24 provides information for the final matched sample size.

Table 24

Return	Sample	Ps R2	LR chi2	p>chi2	Mean Bias	Med Bias	%Var
	Unmatched	0.504	1421.04	0	25.4	9.5	75
	Matched	0.281	471.39	0	19.9	10.8	94
ΔOCF	Sample	Ps R2	LR chi2	p>chi2	Mean Bias	Med Bias	%Var
	Unmatched	0.502	1414.11	0	21.5	4.1	88
	Matched	0.278	467.24	0	18.8	8	88
ΔSales	Sample	Ps R2	LR chi2	p>chi2	Mean Bias	Med Bias	%Var
	Unmatched	0.501	1410.9	0	22.1	8.3	89
	Matched	0.279	469.53	0	16.6	8.1	94

Lower values suggest improved balance. In this case, the Mean Bias decreases from 25.4 in the unmatched sample to 19 in the matched sample for Return, indicating improvement in covariate balance. The percentage of the outcome variance explained by the variables in the unmatched sample is 75 for Return suggesting that the variable explain 75% of the outcome variance while in the matched sample the %Var is reported 94% indicating that the variables explain 94% of the outcome variance after matching.

11.8.1 The model used to estimate the ATT.

Table 25

	Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
Return	NegImpairments~1	Unmatched	-2.350	-1.748	-0.602	0.16285	-3.7
		ATT	-2.350	-1.989	-0.361	0.21545	1.98
ΔOCF	NegImpairments~1	Unmatched	-2.326	-1.748	-0.578	0.16275	-3.55
		ATT	-2.326	-1.965	-0.361	0.21454	-1.98
ΔSales	NegImpairments~1	Unmatched	-2.350	-1.749	-0.601	0.16289	-3.69
		ATT	-2.350	-2.001	-0.349	0.2143	-1.93

Table. 25 provides information on the outcome variable NegImpairments for the sample of treated and control observations. The "Unmatched" row presents the average values of the variable for the treated and control groups separately for each of the News measures. The "Difference" column displays the difference in the means between the treated and control groups. In this case, the difference in the means of "NegImpairments" between the treated and control groups is -0.682. The standard error (S.E.) of this difference when we control for Return is 0.1628. We expect to have

a small difference between the Treated and control groups in order to achieve the covariate balance and hence reduce bias.

The "ATT" which corresponds to the average treatment effect on the treated (ATT), compares the average value of "NegImpairments" for the treated group with a theoretical scenario where the treated group is not treated. The difference between means for ATT is -0.3611, with a standard error of 0.2145 and a t-statistic of -1.98 which were the best values that could be achieved for this model after conducting several tests. These results represent the estimated effect of the treatment on the treated group specifically. Although the difference and standard errors are important when analysing the quality of treatment, the significance of Average Treatment on the Treated is measured by its t-statistics which would on the other hand indicate a stronger effect of the treatment. All these values indicate a significant t-statistics and an improved covariance balance after the propensity score matching which allows us to run the OLS regressions for the matched sample.

11.9 OLS regressions using the matched sample.

The sample after matching by the propensity score is reduced from 4169 company years to 2592 company years. Although the sample is reduced significantly, the treated and control groups created by Propensity Score Matching have comparable characteristics which on the other hand will improve the validity of the estimated results. The OLS regressions are run for the matched sample, with industry and year-fixed effects with robust standard error clustered at the company level.

Table. 26 presents the OLS regression results for the three measurements of News controlling for the audit industry specialisation *Spec* including the two-digit SIC codes and Year fixed effects using matched sample:

Table 26

Test Variable	Return		ΔOCF		ΔSales	
Spec	Coefficient	t	Coefficient	t	Coefficient	t
D	0.711	0.69	0.655	0.90	0.163	0.21
News	0.002	0	-0.528	-0.29	-0.808	-0.77
D*News	-2.283	-0.89	-3.666	-1.14	-0.715	-0.41
SPEC	-2.691	-2.09	-1.714	-1.45	-2.045	-1.87
D*Spec	-2.296	-0.98	-3.799	-2.08	-3.200	-1.73
Spec * News	0.294	0.3	-4.549	-0.96	0.026	0.02
Spec*News*D	0.148	0.02	0.549	0.06	0.894	0.3
Size	-0.222	-4.61	-0.248	-6.28	-0.268	-6.55
D*Size	-0.045	-0.55	-0.042	-0.70	-0.020	-0.32
Size*News	-0.001	-0.01	0.064	0.33	0.063	0.65
Size*News*D	0.279	1.23	0.482	1.32	0.092	0.57
BTM	-0.367	-1.76	-0.229	-1.07	-0.181	-0.91
D*BTM	0.261	0.65	0.075	0.24	-0.131	-0.43
BTM*News	-0.019	-0.27	-0.022	-0.03	0.237	0.78
D*BTM*News	0.867	0.79	1.493	1.14	0.364	0.86
Lev	0.001	0.04	0.022	1.85	0.006	0.33
Lev*D	0.026	0.48	-0.032	-0.63	-0.026	-0.65
Lev*News	0.002	0.55	-0.019	-0.18	0.055	1.85
Lev*News*D	0.015	0.15	-0.004	-0.04	-0.074	-2.32
Industry Fixed Effects		Included		Included		Included
Year Fixed effects		Included		Included		Included
n		2592		2592		2592
Model p-value		0		0		0
R2		0.101		0.1029		0.1107

This table presents the regression results for tests of asset impairment timeliness for firms engaging industry specialist auditors. The dependent variable (IMPAIR_NEG/P) represents total impairments per share (as a negative value) divided by price per share at the beginning of the fiscal year. Consistent with prior research, the control variables (Size, BTM, Lev) are measured at the beginning of the fiscal year. t-statistics are calculated based on robust standards errors clustered at the firm level.

Regressions parameters are robust controlling for the functional form of specification for the three regressions. RESET tests for the three regressions checking for the F statistics are similar to these values: F(3, 2540) = 1.57) and p-value (prob >F = 0.1937) indicating that there is no evidence to suggest that the model has omitted variables and R squared is 0.101 for Return, 0.1029 for *ΔOCF* and 0.1107 for *Δ*Sales which represents the amount of the variance in the dependent variable explained by the independent variables included in the regression.

t-statistics are calculated based on robust standard errors clustered at the firm level which means that robust standard errors already count for heteroscedasticity by providing valid inference under the assumption of heteroscedasticity or other forms of residual correlation (White 1980, Cameron and Trivedi 2005, Wooldridge 2010, Greene 2017).

*Spec*News*D* is positive but insignificant for the three regressions indicating that there is no evidence that industry specialist auditors have a significant impact on the impairment of assets for the dataset in the UK when controlling for SPEC using the portfolio share method for calculating the audit industry specialisation. The evidence suggests that, after controlling for company year characteristics this research design does not identify any significant impact of auditor industry specialisation on the timely recognition of the impairment of assets.

Instead of the continuous variable SPEC as e measurement of audit industry specialisation, the binary Spec_Dum is used to run again the three OLS regressions to check whether audit industry specialisation does influence the timely recognition of the impairment of Assets using the propensity score matched sample. Here we are interested in the significance of the Spec_Dum*News*D coefficient.
Table 27 presents the OLS regression results for the three measurements of News controlling for the audit industry specialisation Spec_Dum including the two-digit SIC codes and Year fixed effects using the matched sample:

Table 27

	Test Variable					
		Spec_Dum				
	Return		**ΔOCF**		**ΔSales**	
	Coeff	t	Coeff	t	Coeff	t
D	0.456	0.45	0.609	0.84	0.029	0.04
News	-0.038	-0.05	-0.979	-0.57	-1.176	-1.47
D*News	-2.189	-0.85	-3.725	-1.27	-0.035	-0.02
Spec_Dum	-0.240	-0.98	-0.210	-0.86	-0.368	-1.64
D*Spec_Dum	-0.723	-1.36	-0.224	-0.58	-0.028	-0.07
Spec_Dum * News	0.025	0.14	-0.593	-0.55	0.216	0.76
Spec_Dum*News*D	-0.506	-0.37	3.202	1.96	0.947	1.98
Size	-0.228	-4.76	-0.249	-6.27	-0.269	-6.65
D*Size	-0.030	-0.37	-0.057	-0.96	-0.032	-0.51
Size*News	0.004	0.05	0.084	0.45	0.095	1.24
Size*News*D	0.274	1.21	0.486	1.38	0.023	0.16
BTM	-0.381	-1.71	-0.251	-1.18	-0.198	-0.99
D*BTM	0.282	0.69	0.043	0.14	-0.079	-0.26
BTM*News	-0.024	-0.13	-0.027	-0.04	0.221	0.67
D*BTM*News	0.822	0.73	0.488	0.41	0.388	0.91
Lev	-0.006	-0.21	0.018	1.46	0.004	0.24
Lev*D	0.027	0.5	-0.035	-0.72	-0.022	-0.65
Lev*News	0.002	0.74	-0.033	-0.3	0.046	1.65
Lev*News*D	0.019	0.2	0.016	0.14	-0.063	-2.12
Intercept	0.966	1.960	1.219	2.110	1.665	2.70
n	**2591**		**2591**		**2591**	
Model p-value	**0.000**		**0.000**		**0.00**	
R squared	**0.100**		**0.104**		**0.109**	

This table presents the regression results for tests of asset impairment timeliness for firms engaging industry specialist auditors. The dependent variable (IMPAIR_NEG/P) represents total impairments per share (as a negative value) deflated by price per share at the beginning of the fiscal year. Consistent with prior research, the control variables (Size, BTM, Lev) are measured at the beginning of the fiscal year. t-statistics are calculated based on robust standards errors clustered at the firm level.

*Spec_Dum*News*D* is insignificant towards the association between the impairment losses and the bad *Return* signals relative to firms engaging specialised auditors. However, this coefficient is positive and statistically significant for *ΔOCF* and *ΔSales* indicating that firms that engage industry-specialised auditors (Spec_Dum = 1) record timelier impairments as a consequence of bad news signals for ΔOCF and ΔSales than companies that engage less specialised auditors (Spec_Dum =0). This is more likely because even a positive change in the operating cash flow or sales could be perceived as a bad indicator when it is lower than expected. Moreover, shareholders perceive a decrease in the operating cash flow as an indicator of future decreases (Tversky, Kahneman 1973), while Banker et.al (2017) also argue that the auditors might prefer that their client record an impairment loss even when the change in OCF is moderate, to avoid shareholder lawsuits.

11.10 Conclusion for the Propensity Score Matching tests (Binary treatment variable)

In conclusion, the Propensity Score Matching (PSM) method used in this research has certain limitations that need to be considered. While efforts were made to address the "selection bias" issue by including relevant variables used in OLS regressions into the propensity score matching model, there is still a possibility of bias in the matched sample due to potential omission of important variables. Another challenge arises from the requirement of "common support," which necessitates a sufficient overlap between the treatment and control groups. Limited overlap can lead to difficulties in finding suitable matches, resulting in biased estimators or a reduced sample size. In this study, sufficient overlap was observed in the final sample, but the matching process led to a reduction of 37% in the original sample size.

Despite these limitations, the PSM technique effectively reduced "covariate bias" for most variables, although there was still some remaining bias for the variable SPEC. However, the overall reduction in bias was consistent with findings from comparable research studies, indicating that the technique achieved its objectives.

It is important to recognize that the choice of matching algorithm, such as "nearest neighbour matching" or "Kernel matching," can influence the outcomes, as well as the selection of an appropriate calliper. The researcher conducted several tests to strike a balance between sample size reduction and bias reduction, ultimately settling on matching without replacement based on previous literature in accounting research using propensity score methods.

Considering the results obtained, the researcher concludes that the final matching achieved in this study is the most appropriate for the dataset, and the findings are robust. The evidence suggests that firms employing industry-specialized auditors (Spec_Dum = 1) tend to record timelier impairments in response to bad news signals for ΔOCF and ΔSales, compared to companies using less specialized auditors (Spec_Dum = 0).

12. Alternatives to the binary treatment

The literature utilizing Propensity score analyses has mainly focused on using a binary treatment following the original study of Rosenbaum and Rubin (1983).
However, Hirano and Imbens (2004) examine an extension of the propensity score matching by using a continuous treatment variable thus generalizing the binary treatment propensity score (GPS). Hirano and Imbens (2004), argue that the GPS has a balancing property similar to that of the standard propensity score that can be used to assess the adequacy of particular specifications of the score, implying some credibility that consists of more robust estimates when using this methodology in comparison to simple regressions.

12.1 Methodology

Moreover, Bia and Mattei (2008), and Cerruli (2014) after reviewing the methodology presented by Hirano and Imbens (2004) have provided Stata extensions to estimate the General Propensity Score, making it possible to assess whether this model satisfies the balancing property and the dose-response function. To differentiate treatment groups, cutoff points are assigned according to quantiles. The SPEC variable is than divided into three treatment intervals as suggested by Hirano and Imbens (2004), Bia and Mattei (2008) and Cerruli (2014). The cutting points are defined as treatment intervals.

The values of the general propensity score evaluated at the representative point of each treatment interval are than divided into five intervals (quantiles) according to the sample distribution of the treatment variable SPEC (Bia, Mattei 2008).

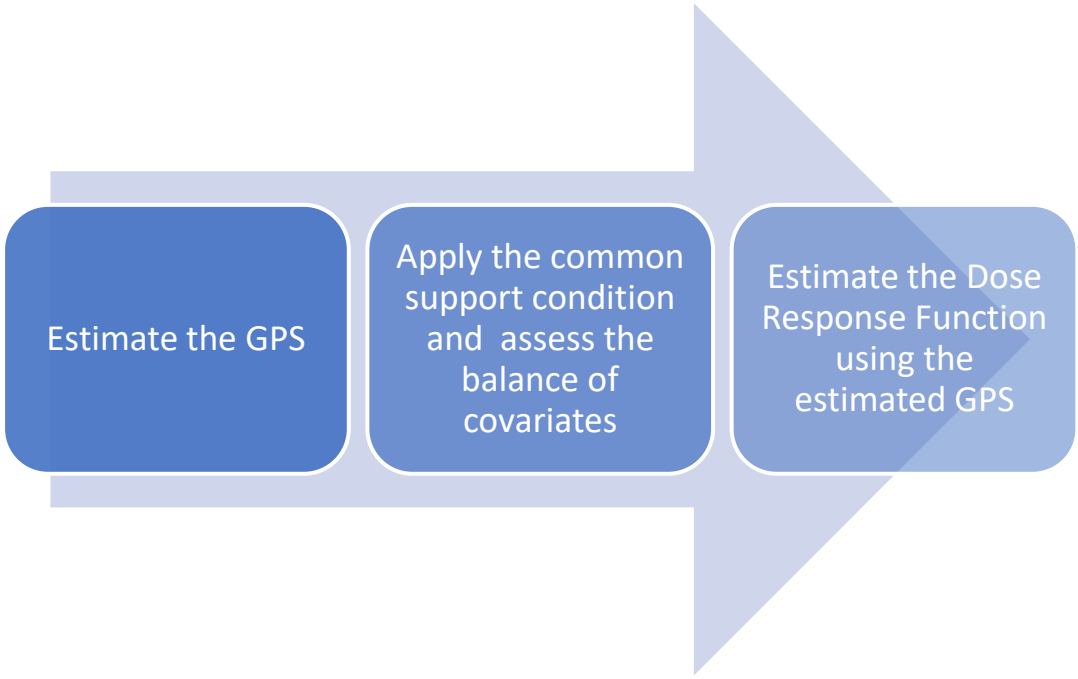
What we are doing here is using audit industry specialisation as a treatment continuous variable focusing on the dose response function as technique that would be useful to mitigate the functional form of misspecification in comparison to simply estimating OLS regressions. Following Hirano and Imbens (2004) for each company-year *i* there is a vector X_i of the selected variables and the level of treatment received T_i. This study investigates the vector X_i, the treatment received $[t_0 : t_1]$ and the potential respective outcome Y_i (Negative impairment) for that level of treatment. The average effect of the Audit specialisation is than estimated for differences in the company-year

characteristics X_i using the propensity score methodology on the outcome. The generalised propensity score is evaluated at the respective level of treatment.

12.2 Dose Response model (Bia and Mattei 2008)

By using the algorithm developed by Bia and Mattei (2008) the regressions were estimated using General Propensity Score (GPS) for the three News measurements for the whole sample. This method implies the following steps:

Figure 44 General Propensity Score Method



Source: Author

The algorithm does allow to control for industry two-digit sic codes and years fixed effects. However, one of the reasons of including fixed effects in a model is to account for time or industry invariant unobserved factors thus reducing the risk of omitted variables bias and also addressing for endogeneity that refers to the casual relationship between the independent variables and the error term. The main focus when using the dose response model is to analyse the relationship between the dose treatment level (Industry audit specialisation) and the outcome variable (the impairment of assets) in a continuous or semi-continuous manner. Therefore, the dose response model estimates the treatment effect separately for each dose level without assuming a constant effect.

The results are presented in Table. 28 and 29. respectively controlling for both test variables SPEC and Spec_Dum.

Table 28

SPEC	Return		ΔOCF		ΔSales	
T	Coefficient	z	Coefficient	z	Coefficient	z
D	0.175	0.74	0.105	0.59	0.095	0.52
News	0.216	1.26	0.280	0.65	0.664	2.38
D*News	-1.221	-2.11	0.168	0.25	-0.786	-2.31
SPEC	15.527	53.51	15.009	54.59	15.691	61.5
D*Spec	-0.150	-0.27	0.390	0.92	-1.198	-2.88
Spec * News	-0.548	-1.72	-0.371	-0.32	-0.403	-0.99
Spec*News*D	1.655	1.45	0.945	-0.52	0.205	0.31
Size	0.061	6.01	0.046	4.99	0.046	5.01
D*Size	-0.012	-0.67	-0.008	-0.56	0.007	0.52
Size*News	-0.018	-1.11	-0.005	-0.13	-0.037	-1.68
Size*News*D	0.076	1.57	-0.054	-0.78	0.038	1.34
BTM	0.052	1.2	0.072	1.57	0.146	3.45
D*BTM	-0.013	-0.15	-0.012	-0.18	-0.152	-2.24
BTM*News	0.046	1.83	-0.114	-0.59	-0.331	-3.8
D*BTM*News	-0.110	-0.5	0.415	1.5	0.346	2.95
Lev	-0.003	-0.33	-0.011	-1.7	-0.014	-1.93
Lev*D	0.005	0.48	0.011	1	0.020	2.13
Lev*News	-0.001	-1.14	0.014	0.65	-0.012	-0.72
Lev*News*D	0.028	1.49	-0.014	-0.62	0.016	0.95
_cons	-5.436	-42.14	-5.207	-42.49	-5.284	-42.53
Industry Fixed Effects		Not Included		Not Included		Not Included
Year Fixed effects		Not Included		Not Included		Not Included
n		3,889		3,889		3,889
Model p-value		0		0		0
Wald chi2(19)		6645.03		6594.75		6689.38

The regressions are run based on Hirano and Imbens (2004) method using a continuous treatment effect and the algorithm written from Bia and Mattei (2008) for the whole sample estimated using General Propensity Score (GPS) for the three News measurements where the test variable for audit industry specialisation is SPEC.

Table 29

Spec_Dum	Return		ΔOCF		ΔSales	
NegImpairments~1	Coefficient	z	Coefficient	z	Coefficient	z
D1Spec_DumNews	0.53	1.07	-0.48	-0.65	0.05	0.21
Control variables		included		included		included
Fixed effects		not included		not included		not included
n		3,889		3,889		3,889
Wald chi2(19)	=	1066.6		1058.87		1091.96
Prob > chi2	=	0.00		0.00		0.00

The regressions are run based on Hirano and Imbens (2004) method using a continuous treatment effect and the algorithm written from Bia and Mattei (2008) for the whole sample estimated using General Propensity Score (GPS) for the three News measurements where the test variable for audit industry specialisation is the binary variable Spec_Dum.

The sample size after applying the common support is reduced to 3889 observations. The dose response model divided the sample in two strata descriptive statistics of which are presented in Table 30.

Table 30

Variable	Obs	Mean	Std. dev.	Min	Max
gps_1	3,889	0.315123	0.182318	5.11E-09	0.4723165
gps_2	3,889	0.133744	0.152001	0.000708	0.4723162

Table 31 provides the respective information for the three news measures for both strata of the gpscore. The output for standardized differences according to gpscore is as balanced as the output after running pscore using the binary variable Spec_Dum.

Table 31

		strata 1			**strata 2**	
Standardised diff.	Return	ΔOCF	ΔSales	Return	ΔOCF	ΔSales
D	0.03	-0.01	-0.058	0.03	0.01	-0.058
News	0.03	0.00	0.007	0.03	0.00	0.007
D*News	0.07	0.01	-0.011	-0.07	0.01	-0.011
SPEC	2.00	-2.00	-1.995	2.00	2.00	-1.995
D*Spec	0.85	-0.84	-0.759	0.85	0.84	-0.759
Spec * News	0.10	-0.04	-0.031	0.10	0.04	-0.031
Spec*News*D	0.64	0.21	0.178	-0.64	0.21	0.178
Size	0.13	-0.12	-0.124	0.13	0.12	-0.124
D*Size	0.04	-0.04	-0.082	0.04	0.04	-0.082
Size*News	0.04	0.00	0.013	0.04	0.00	0.013
Size*News*D	0.07	0.01	-0.009	-0.07	0.01	-0.009
BTM	0.05	0.05	0.049	-0.05	0.05	0.049
D*BTM	0.01	0.03	-0.018	0.01	0.03	-0.018
BTM*News	0.01	-0.03	0.006	0.01	0.03	0.006
D*BTM*News	0.03	-0.04	-0.017	-0.03	0.04	-0.017
Lev	0.02	0.02	0.023	-0.02	0.02	0.023
Lev*D	0.00	0.00	0.02	0.00	0.00	0.02
Lev*News	0.03	-0.03	-0.037	-0.03	0.03	-0.037
Lev*News*D	0.04	-0.03	-0.038	-0.04	0.03	-0.038

As the above regressions indicate, Wald chi2(19) is rather high while the model's p-value is 0, thus suggesting a significant overall model fit. Moreover, there is a significant improvement in the standardized differences after applying the dose

response model. Our variable of interest Spec**News*D* is still insignificant even when using General Propensity Score and Dose Response model for the three News measures and both audit industry specialisation control variables (continuous SPEC and binary Spec_Dum).

12.3 Dose Response model (Cerruli 2014)

Cerruli (2014) has also developed another Dose response model applicable in Stata which if compared to the one developed by Hirano and Imbens (2004) and implemented by Bia and Mattei (2008) has the advantage of not needing the assumption of full normality and also is appropriate when a number of observations receive a zero level of treatment (Cerruli 2014). This model has also the advantage of specifying the OLS regression option under Conditional Mean Independence within the developed algorithm which would retrieve consistent estimation of all parameters.

Moreover, ATE that indicates the overall average treatment effect can be estimated from the regression together with ATET the average treatment effect on the treated.

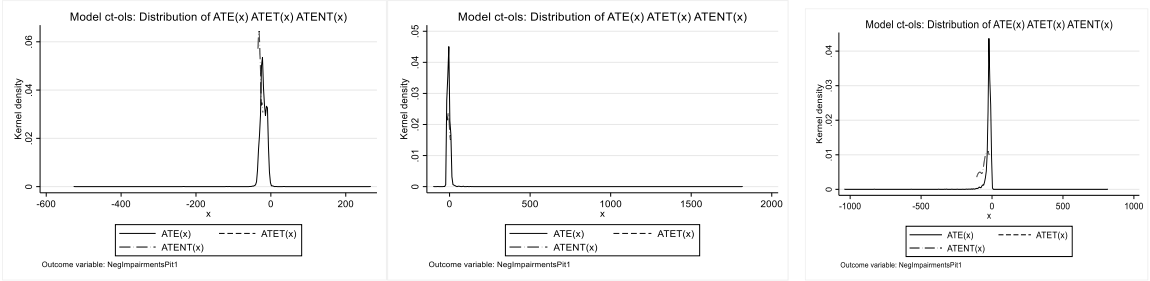
$$\text{ATE } \mathrm{t}_i = ATE(t_i)t_{i>0}$$

Table. 32 provides some descriptive statistics for the Average Treatment Effects while the estimated results using Cerruli (2014) algorithm for the three News measures, controlling for audit specialisation as a continuous variable are presents in Table 33. Still, it was not possible to control for two digit sic codes and year fixed effects while implementing this model.

Table 32

News	Variable	Obs	Mean	Std.dev.
Return	ATE_s	3,889	-1.56155	0.01
ΔOCF	ATE_s	3,889	0	0.0
ΔSale	ATE_s	3,889	0	0.0

Figure 45: The Average Treatment effect.



Return ΔSales ΔOCF

The regression results are presented in table 33 and 34 respectively controlling for both test variables SPEC and Spec_Dum.

Table 33

SPEC	**Return**		**ΔOCF**		**ΔSales**	
NegImpairments~1	Coefficient	t	Coefficient	t		t
D1SpecNews	11.243	-1.42	16.601	0.84	14.97	0.59
Control variables		included		included		included
Fixed effects		not included		not included		not included
F (26, 3858)	=	8.16		5.69		25
Prob > F	=	0.00		0.00		0.00
R-squared	=	0.0521		0.054		0.0546
Adj R-squared	=	0.0457		0.449		0.0455
Root MSE	=	3.2535		3.2552		3.2543
N	=	3,889		3,889		3,889

Table 34

Spec_Dum	Return		**ΔOCF**		**ΔSales**	
NegImpairments~1	Coefficient	t	Coefficient	t	Coefficient	t
D1Spec_DumNews	21.89073	0.49	22.54	2.65 (0.008*)	-1.377884	-0.11
Control variables		included		included		included
Fixed effects		not included		not included		not included
F (26, 3858)	=	6.38		8.53		50.066
Prob > F	=	0.00		0.00		0.00
R-squared	=	0.0583		0.0597		0.059
Root MSE	=	3.2496		3.2476		3.2488

According to the dose-response model developed by Cerruli (2014), Spec*News*D is not significant at the 95% confidence level for Return, *Δ*OCF and ΔSales.

However Spec_Dum*News*D is significant for *Δ*OCF (Spec* *Δ*OCF *D) with a coefficient of 22.54 with a t-statistics 2.65 and p-value 0.008, implying that specialised auditors influence the timely recording of asset Impairments when the bad news arises from a change in the Operating Cash Flow of the company-year. Spec_Dum*News*D on the other hand is still insignificant for Return and ΔSales.

12.4 Conclusion for the Alternatives to the binary treatment tests

Both models used in this section are additional estimates to control for the impact of the Audit Industry specialisation on the timelessness of impairment recording as a continuous variable using the General propensity score and the Dose-Response model on the timeliness recording of the asset impairments.

Ceruli's (2014) applied model delivers low explanatory power (R-squared for Return 5.2%, *Δ*OCF 5.4%, ΔSales 5.5%) when using SPEC as the test variable although the models' significance as indicated by the F-test and its p-value suggests that the model is statistically significant for the three regressions. When the same model is applied to test for the binary variable Spec_Dum, the explanatory power of the model increases slightly and our variable of interest Spec_Dum*News*D is significant for *the Δ*OCF measure of news. The Dose-Response model developed by Cerruli (2014) derives however, insignificant results for Return and ΔSales. According to Bia and Mattei's (2008) model Spec_Dum*News*D was insignificant for the three News measures.

According to Ceruli's (2014) model, specialised auditors have an impact on the timely recording of asset impairments when the bad news arises from a change in the Operating Cash Flow of the company year.

13. Chapter 6 Conclusion: Auditor Industry Specialisation

This research investigates the role of industry specialist auditors in addressing whether there exist companies' tendencies to delay recognizing asset impairments. The results indicate that companies that engage industry-specialized auditors demonstrate a stronger relationship between negative news indicators (OCF and Sales) and impairment losses when the specialisation variable is calculated as a *binary variable*. This suggests that the impairment losses are recognized in a timelier manner aligning closely with underlying economic events such as changes in the operating cash flow or adverse changes in sales.

This study finds that the occurrence of such changes (ΔOCF and *Δ*Sales) triggers an asset impairment, which with the influence of the auditor industry specialisation (Spec_Dum*News*D) gives rise to the timely recording of the asset impairment loss.

This is more likely because even a positive change in the operating cash flow or sales could be perceived as a bad indicator when it is lower than expected.
Moreover, shareholders perceive a decrease in the operating cash flow as an indicator of future decreases (Tversky and Kahneman 1973), while Banker et al. (2017) also argue that the auditors might prefer that their client company record an impairment loss even when the change in OCF is moderate, to avoid shareholder lawsuits.

This research did not, however, find an association between Return as news measurement and timelier impairment losses recognition when companies engaged industry-specialized auditors.

The relationship between auditor industry specialisation and timely recording of asset impairments is not significant when audit specialisation is measured as a *continuous variable* when the regression is estimated using the Dose-Response Model defined by Hirano and Imbens (2004), Bia and Mattei (2008) and Ceruli's (2014) testing for the continuous variable SPEC.

However, while testing for the binary variable Spec_Dum, the results derived by the Ceruli's (2014) model indicate that specialized auditors have an impact on the timely recording of asset impairments when the bad news comes from a change in the Operating Cash Flow of the company year. This model has the advantage of not needing the assumption of full normality and also is appropriate when a number of observations receive a zero level of treatment.

This study is subject to some limitations. Although propensity score matching was used as a technique to mitigate the misspecification function form of the used model, it could not reduce the concern due to the Audit Industry Specialisation measurement method.

Audit specialisation is a multidimensional construct which is not likely to be straightforwardly measured. Moreover, there is much controversy in the literature for using audit fees as a proxy for measuring the audit quality and on the subject of the methodology to be used in measuring audit industry specialisation.

As Cahan et al. (2011) argue, when specialised auditors capture significant market share by auditing a small number of clients within a specific industry, both the audit quality and audit fee tend to be higher while in some cases the specialized auditors may also be low-end producers.

The findings of this research are more in line with Ward, Elder and Kattelus (1994) who do not find a relationship between audit market share and audit fees as a continuous variable but do find a relationship when this variable is binary as is Spec_Dum in this research.

Moreover, these findings pertain specifically to the portfolio share measure method within the UK market context. Therefore, caution should be exercised in generalizing the results beyond this specific setting.

Notwithstanding these limitations, the findings of this study contribute to our understanding of the influence of specialized auditors in companies' decisions regarding timelier asset impairments recognition.

These results are relevant as they highlight the potential significance of industry-specific expertise in the impairment estimates that involve substantial managerial discretion.

Chapter 7: Analysing Disclosure on Asset Impairment in Financial Statements: A Content Analysis Approach

1. Introduction

In the realm of financial reporting quality, the assessment of information disclosed in financial reports regarding asset impairments takes on significant importance, particularly in light of the increasing demand for transparency in the performance of listed companies (Healy and Palepu 2001). Management is tasked with providing comprehensive information about performance outcomes and organizational events, as the accounting procedures should accurately reflect the company's underlying economics, duly disclosed in the financial reports. This disclosure aims to furnish investors with valuable information to facilitate their investment decisions.

The significance of accounting, auditing, and the structure of corporate governance in disseminating information to participants in capital markets is emphasized by Imhoff (2003). These components play a crucial role in achieving well-structured capital markets globally. As Beattie (2014) points out, the information disclosed in financial reports can encompass both quantitative and numerical data as well as qualitative text. Consequently, disclosures are deemed pivotal in driving the desired enhancement in the quality of corporate reporting, a goal advocated by regulators (Beattie 2004).

As per the IASB definition of the qualitative characteristics of information, Botosan (2004) contends that high-quality information refers to information that holds utility for users in making economic decisions. In line with this notion, Barron, Kile, and O'Keefe (1999) discovered through their research those forward-looking disclosures concerning capital expenditures and operations, along with historical disclosures on the same subject, significantly influence earnings prediction. Nevertheless, the extent of disclosure is subject to various economic constraints, which limit full disclosure. For example, the potential loss of competitive advantage, exposure to litigation, and the direct costs associated with collecting, processing, and disseminating information (Elliott and Jacobson, 1994) all play a role in determining the level of disclosure.

Regarding the quality of disclosure, Bertta and Bozzolan (2008) propose that the extent of disclosure serves as a suitable measure. Furthermore, Kent and Stewart (2008) argue that comprehensive disclosures are more likely to provide valuable insights compared to brief disclosures, making them an indicator of greater transparency.

Conversely, various asset pricing models propose that increased disclosure can lead to a reduction in the cost of equity. Botosan (1997) examines the relationship between the level of disclosure and the cost of equity, highlighting that the extent to which firms benefit from increased disclosure remains a subject of debate. Furthermore, Lambert et al. (2006) outline conditions wherein an improvement in information quality unequivocally results in a decrease in the cost of capital.
Regarding the perception of accounting quality by analysts, Imhoff (1992) provides evidence that analysts' perceptions of "accounting quality" are positively influenced when disclosures offer information about the predictability of earnings, firm size, and the stability of the relationship between earnings and sales. Conversely, these perceptions decrease in the presence of negative news in annual earnings announcements and higher debt-to-equity ratios.

In assessing disclosure quality, Heflin et al. (2005) review various factors, including the average scores of disclosures in annual reports, quarterly reports, and other written communications, as well as management interactions with analysts.
However, the Financial Executives Institute (Berton 1994) presents a contrasting view, arguing that enhanced disclosures might target stock traders, resulting in increased share price volatility, heightened risk, and subsequently, a higher cost of equity capital. In contrast, Lang and Lundholm (1993) identify several motivations for disclosure, including overcoming adverse selection, reducing transaction costs in the market, and pre-emptively reducing expected legal costs by anticipating significant negative stock price reactions to earnings announcements.

While opinions vary concerning the quantity and quality of financial disclosures, Lundholm (1993) contends that the SEC's mandatory disclosure requirements establish a fundamental framework and minimum standard for financial disclosures. Nevertheless, there remains considerable flexibility in determining the information provided. Some firms go beyond the mandatory disclosures in their annual reports, while others keep their disclosures minimal.

Despite the varied approaches, prior literature indicates that regulated financial reports do indeed provide investors with fresh and pertinent information (Oliver, 1987).

Oliver (1987) emphasizes that accounting, as a service discipline, should prioritize effective communication. Consequently, the level of communication among involved parties plays a crucial role in the effectiveness of decision-making based on that information and in fostering better relationships between them, although this does not guarantee flawless communication, as per the views of Oliver (1987). Nonetheless, explanations provided in annual financial reports typically employ specific technical terminology within the framework of accounting language (Aerts, 1994).

Furthermore, accounting explanations possess intertwined performative characteristics of rationalization and inherent ambiguity, making them particularly suitable for addressing and appeasing a negative performance environment. According to Hopwood (1990), it is important to recognize that the ambiguous, general,

and abstract nature of these concepts implies that there is no direct one-to-one correspondence between the concepts and the specific forms of operational evaluation they entail. In the perspective of Eisenberg (2006), the use of varying degrees of ambiguity itself is neither inherently good nor bad, effective nor ineffective. The ethical nature of a strategy depends on the purposes to which it is applied, and its effectiveness is determined by the communicators' goals. The organization utilizes the data rationally, but not necessarily within the confines of economic rationality.

Beretta and Bozzolan (2004) assert that effective disclosure should portray the firm's situation and perspectives from the management's standpoint. They emphasize that the quality of disclosure relies on both the quantity of information disclosed and the richness of its content. The richness is determined by the type of content disclosed, the measures used to present the expected impacts of relevant factors, and the approach adopted by management in divulging information (Beretta, Bozzolan 2004). Drawing a parallel with language, Carruthers (1995) highlights that accounts serve as a means to communicate a representation of the world. Consequently, the study of accounting revolves around evaluating how well the accounts paint this picture and whether it is an accurate depiction.

Various methods have been employed to assess the quality of accounting information, such as accrual models, value relevance models, specific items in the financial statement, and methods using qualitative characteristics. These approaches aid in evaluating the effectiveness and reliability of the accounting information provided.

The purpose of this chapter is to investigate and analyse the effect of the requirements of International Accounting Standard 36 “Impairment of assets” **on the disclosure** regarding the impairment of PPE (Property Plant and Equipment) as a tenet of the quality of the financial statements. While the previous empirical chapter analysed conservatism and the timeliness of impairments for the FTSE all share companies as elements that improve the quality of financial statements, this chapter investigates the end result of the impairment process which is the disclosure of such information in the financial reports.

This research further proceeds with a review of the disclosure quality and its dimensions in an attempt to provide a rationale, regarding disclosures as a communication form between management and stakeholders. Section 3 explores the role of the Accounting Standards in the quality of financial information by evaluating the legitimacy of the Accounting Standards, the theories upon which the standards are based, how various interests are represented in the standard-setting process and how accounting information as a requirement of these standards, IAS 36 included, influences stakeholders decision making. Section 4 outlines the methodology and also reviews the use of content analysis in the Financial Information literature. Section 5 discusses the results about the extent to which companies disclose information

according to the requirements of IAS 36 and investigate the categories for which disclosure is lacking and explains such observations. Section 6 concludes this chapter.

2. Disclosure Quality: meaning and its dimensions

The role of accounting is to produce information on the economic behaviour resulting from the activities of the company within its environment (Belkaoui 2012). The accountant is the one who authors the discourse they have chosen to report to the users of accounting information, for whom the reports are prepared for. In that sense, Francis (1990) argues that accounting can be a virtuous practice in the Aristotelian tradition. The key to realising virtue lies in the recognition that accounting is both a moral and discursive practice. Moreover, as accounting can have influence in our choices, it is a transformative practice that has consequences that require moral discernment on the part of its practitioner. Discursive accounting on the other hand does not simply mean reporting the facts. Thus, the discursive character of accounting practice is inextricably linked to its moral character. Prakash, Prem, and Rappaport (1975) provide us with a frame of reference for treating information as an external communication, offering a foundation for organizing issues and concerns in accounting in terms of "message choices", "disclosure" to its environment, and "meaningful" information.

That said, users need not only understand the information disclosed but also should be able to assess its reliability and compare the information with alternative opportunities or previous experiences.

However, information is more useful when it stresses economic substance over form. While it is undeniable that quality is a complex, multidimensional concept, the number and type of dimensions to be considered are debatable, as well as their relative importance. These dimensions are subjective as they depend on the perspective through which the disclosure is observed and evaluated. Due to their conflicting interests, different users of the same measure will rarely reach a consensus about how to rank the object of interest. However, a few important dimensions of accounting characteristics are discussed for the purpose of this research, such as understandability and freedom from bias of the accounting information.

2.1 Relevance and Understandability

The financial reporting objectives, correspondence between accounting numbers and the events those numbers purport to represent, are not always followed in practice (Revsine 1991). Instead, according to Revsine (1991), financial reporting is sometimes better characterized by the phrase *selective financial misrepresentation* where participants are motivated to support standards that selectively misrepresent economic reality when it suits their purpose. As such, management is more likely to report truthfully when their misrepresentations impose costs on the receivers of their reports. The stakeholders on the other hand may discern the sender's reporting strategies but do not provide any economic reward for truthfulness. Hopkins (1996) suggests that in the realm of psychology research, the "structure" of written documents affects the way how individuals interpret information (Voss and Bisanz 1985). Because financial accounting rules prescribe the form and content of financial disclosures, where experienced users of financial statements may rely on the location of information within the statements and make inferences about that information (Hopkins 1996).

Specifically, knowledgeable users of accounting information may rely on the categories of accounts clearly listed in the financial statements such as for instance, notes on the Impairment of assets. If this occurs, psychology research suggests these individuals will use balance sheet classification to activate categories of prior knowledge and to interpret the explicitly provided textual information (Bransford and Johnson (1972). Bransford and Johnson (1972) also argue that contexts are important for processing incoming information.

However, although many sentences provide indication that allows the perception of contextual structures, there are other cases where additional information is needed to build up the perceptual context to comprehend. Oliver (1974) acknowledged in his study that communication problems may emerge when concept meanings differ and in cases of communication problems, misunderstanding and inefficiency are usually present. It is, therefore, necessary, that the communication network with the non-accountant users of financial reports should be taken into consideration as a prerequisite for accounting information to maintain and enhance its role as a financial information provider. Oliver (1974) stresses the importance that should be given to the way accounting information is presented instead of altering the abstract or theoretical position of that information.

Moreover, to become an integral component of the existing decision network, preparers of financial reports should give careful consideration to how to send and receive accounting messages which are expected to be reasonably accurate communications. Ewert and Wagenhofer, (2005) for instance argue that there is no clear evidence of whether the investors fully understand the reporting situation and can infer the equilibrium earnings management policies. Chapman, Coope, and Miller

(2009) argue that much more effort is spent in formulating official statements of procedure than subsequently adhering to them. Accounting information can be characterised by vagueness, a term that is used in association with some sort of linguistic phenomena such as ambiguity, context sensitivity or lack of specificity in content. It is a kind of indeterminacy that may affect not only how we represent reality in language but also the reality itself (Dietz 2011). Rather than being entirely secretive or clear, organizational communicators often employ strategic ambiguity as a form of deniable discourse. Even the most literal-appearing statement can become highly ambiguous given a certain relational context. Chapman, Coope, and Miller (2009) conclude that is highly likely that trained accountants are the ones who can best appreciate the malleable, ambiguous, and political nature of accounting rules. It is non-specialist audiences that have had little experience with accounts the ones most likely to be "fooled" into believing that accounts provide a truly neutral and rational picture of organizational finances. They are more easily convinced by the rational appearance and are less likely to discover the extent of dissociating. Eisenberg (2006) argues that an evaluation of the degree of "shared meaning" is practically impossible and that concerns for this kind of alignment should yield to an approach that emphasizes the achievement of sufficient cognitive alignment to facilitate coordinated actions.

That said, as Eisenberg (2006) puts it, people in organizations encounter multiple situational requirements, develop multiple and often conflicting goals, and respond with communicative strategies which do not always minimize ambiguity but may nevertheless be effective.

This study investigates whether companies disclose quantitative and qualitative information as required by IAS 36 that adds to the understandability and usefulness of impairment information.

2.2 Faithful representation and Freedom from bias

Biasing involves the process of selecting the signal most likely to be acceptable and favourable to the sender (Belkaui 2012; Birnberg et al.1983). Aerts (1994) argues that the explanations disclosed in annual financial reports are usually expressed through a specific technical terminology within the accounting language framework. As such, the accounting explanations reduce identifications with the motives and behaviour of the individual preparer in favour of identifications with the various objectives of a more general process within the firm. In that case, assigning the responsibility becomes problematic and vague as it separates personal influences and responsibilities from direct normative responsibility judgments. Moreover, the rational capacity of the accounting model which avoids assigning responsibility and its inherent ambiguity, can be seen as a defensive verbal behaviour, whereby management suppresses an aura of defensiveness by corroborating a generally accepted illusion of rationality (Aerts 1994).

Hopwood (1990) also argues that it is useful to remember that the ambiguity, generality, and abstractness of the concepts themselves imply that there is no one-to-one relationship between the concepts and the specific forms of operational outcome to which they give rise. One is not a mere reflection of the other while discretion and choice exist. The technical language thereby is partly independent of the abstract and the conceptual.

Boland and Pondy (1983) assert that accounting information performs roles consistent with both the “rational” and “natural” perspectives that view the organization as an open system, while the rational perspective is focused on how organizations can function rationally given the uncertainty in the environment. The organization uses the data rationally but not necessarily in accordance with tenets of economic rationality. Whereas symbolic and other instrumental uses represent an alternate form of rationality (Euske, Euske, 1991). According to Burchell et al. (1980), the technical components of accounting regulation are embodied within a complex institutional influence and the technical solutions are complemented by research on institutional and political support. However, Eisenberg (2006) argues that the use of more or less ambiguity is in itself not good or bad, effective or ineffective; whether a strategy is ethical depends upon the ends to which it is used, and whether it is effective depends upon the goals of the individual communicators.

Moreover, Scott and Lyman (1968) argue that the content of accounts in their social context may be classified as excuses and justifications which serve for mitigating or relieving responsibility when conduct is questioned. Whereas in the case of Justifications, the responsibility is accepted but the pejorative quality associated with it is denied (Scott, Lyman 1968). Thus, the argument being advanced here is that the use of accounting explanations can be systematically biased (Aerts 1994). Although accounting systems are highly rationalized, when they are the major language within an organization (Burchell et al. 1980), they have the general cultural effect of forcing people to justify what they do. Weick (1983) for instance argues that the presence of a simple description may be indicative of documents produced under high stress and of control systems that are failing. He also clarifies that accounting procedures affect perceptions of control and predictability, and this is just as true for the people who impose these procedures as for those who are the target of them. Keeping in mind the justification capacity of accounting attributions, an accounting bias manifests itself as a tendency to explain negative performances in technical accounting terms, while positive performances are more accounted for in strict cause and effect terminology whereby responsibility becomes clear. Chapman et al. (2009) suggest that accounting, organizations, and institutions should be viewed as fundamentally interrelated and interdependent and that the links among them should be viewed as mutually constitutive. That said, as various interests and responsibilities interrelate in the accounting environment, biased accounting information is not unlikely to appear in the financial reports.

Kirschenheiter and Melumad (2002) find that disclosure strategies that involve taking a big bath for bad news and smoothing good news are robust strategies. In particular, these strategies may become optimal either when investors are naive and assume no manipulation by management or when investors are sophisticated and correctly infer the disclosure strategy being adopted. King (1996) investigates the extent to which information senders develop reputations for truthful reporting and finds that senders were more likely to report truthfully when their misrepresentations-imposed costs on the receivers of their reports.

This exploratory research aims to elaborate on the accounting disclosures and explanations in the sections that refer to the Impairment of assets and more specifically to the Events and Circumstances section of the impairment's disclosure in the notes of financial statements where management provides stakeholders with conditions that caused the impairment of assets.

2.3 Conclusion

According to Artur Levitt (1998) former chairman of SEC, the success of capital markets is directly dependent on the quality of the accounting and disclosure system. Moreover, disclosure systems that are founded on high-quality statements give confidence to the investors in the credibility of financial reporting. Accounting explanations use the internal logic of the financial accounting model, relating accounting effects and categories, to explain financial actions and results. This research is based on the elaboration of the pragmatic aspects of accounting explanations as indicative of their performative implications.

3. The role of Accounting Standards in the quality of financial information

The establishment and enforcement of accounting standards pose ongoing and intricate challenges. These standards hold significant influence over the accounting profession and undergo constant changes to ensure their relevance and acceptance. Despite the substantial interest in the impact of accounting standards on the quality of accounting information, prior empirical studies have yielded conflicting results regarding the extent to which these standards truly enhance decision-makers' usefulness.

The objective of this chapter is to analyse the impact of the implementation of IAS 36 on the quality of financial statements disclosures. To proceed with this research and to find out whether IAS can improve the quality of the accounting information it is necessary to have a look at the theories upon which standard setting is based, as a

single general accepted accounting theory that should guide the standard setting process does not exist. A system of objectives and assumptions are necessary for the dissemination of consistent standards that aim to define the nature, scope, and function of the financial statements. Given the diversity of the assumptions that exist in the accounting environment, various accounting paradigms and models have competed for primacy while interested groups have argued for their domination resulting in a gradual politicization of the standard setting process (Belkaoui 2012).
The recognition that accounting standards have economic consequences motivates the need to assess whether standard setters have the institutional legitimacy to impose such consequences on their constituents. Marshall (1972) states that "*an optimal information system with respect to a given set of alternative systems is one for which the expected payoff to a user employing an optimal decision strategy is greater than or equal to the corresponding payoff for any alternative system, regardless of the user's preferences and beliefs*". Demski (1973) argues that the primary goal of an accounting theory is to explain which accounting alternative should be used while various attempts that relied on standards, such as relevance, usefulness, objectivity, fairness, and verifiability aimed to delineate the desired alternatives. Institutions like IASB also reflect this reliance on standards. Demski (1973) believes that the criteria systems, as in information theory, cannot be relied upon to provide the desired result in every situation. This does not, however, necessarily imply that they never provide the desired result. Hence, a major question in accounting theory must be conditions under which standards do work.

Public interest theories of regulation suggest that regulations are introduced as a response to the public's demand for rectifying inefficient or inequitable market prices. These regulations are primarily aimed at safeguarding and benefiting the public, ensuring their protection and well-being.

On the contrary, interest group or capture theories of regulation suggest that regulations are supplied in response to the demands of specific interest groups. These regulations serve to maximize the income and benefits of the members belonging to these interest groups.

3.1 Political nature of standard setting

According to Shapiro (1997) some accounting academics believe that the primary concern of policy makers should be to prescribe standards that improve, among other things, the representational faithfulness of reported information (Ruland, 1984, 1989; Solomons, 1986, 1991a, b). Others reject representational faithfulness and neutrality in favour of a political or social agenda, partly because financial reporting practices are seen as politically motivated anyway (Tinker, 1991; Tinker et al., 1982).

Moreover, Horngren (1973) states that setting social standards is a social decision and as such standards place restrictions on behaviour therefore, they must be accepted by the affected parties. Cooper and Sherer (1984) argued in their study that accounting research should reflect upon the social, political, and economic context in which accounting operates. Failure to consider this context leads to an emphasis on designing accounting reports that are in the interests of shareholders, and not necessarily in the interests of other groups in society. Fogarty et al. (1994) as well, argue that the standard setting process can be better understood by recognizing its political nature where a broad realization of its political factors derives from the recognition of the importance of the economic consequences of accounting standard setting. Hopwood (1978), for instance, has argued that it is necessary to pay attention to the organizational and social contexts in which accounting operates. He has also argued that the context is not to be seen as something external to organisations, but rather as something that passes through them, and we should see accounting as both shaped by and shaping wider societal processes (Hopwood 1983; Burchell et al. 1985). According to Bromley and Sharkey's findings in 2016, there is an increasing trend of firms portraying themselves as entities with values, agency, and responsibility across a wide range of social and economic issues. This shift aligns with broader cultural changes that shape firms as active participants in various matters. As firms undergo this transformation, they adopt a network-like structure rather than a tightly controlled hierarchy. They become intricately connected to external influences and accountabilities, forming linkages with multiple domains, resulting in authority dispersed across various arenas. Bromley and Sharkey (2016) also argue that institutional pressures have a more profound impact than merely providing a set of constraints for "embedded agency."

Ketz and Hussein (1991) mention the lobbying process as a category of the literature on politics in standard setting where specifically interested parties are engaged within the process. Burchell et al. (1980) for instance emphasize the growing awareness of the processes inherent in accounting regulation, focusing the attention to the institutional and political components of the regulatory endeavour. According to Burchell et al. (1980) organizations which have a claim to regulate and standardize accounting are open to quite different pressures from those which impact on the organizations in which accounting is practiced.

The principles assume that the goal of a critical discussion is to resolve or at least clarify the basis for differences of opinion, by means of reasoned arguments and conclusions. Although the principles may seem self-evident, each might be violated in many of the debates over accounting policy as IASB can be seen as an institution that facilitates the bargaining among voluntarily participants until an agreement is reached (Horngren 1973). Ketz and Hussein (1991) further argue that the conflict among independent public accountants, managers, investors, creditors, and others exists because of mutually irreconcilable goals claiming that none of these political actors controls the standard setting process. This is mostly because the accounting rule

making process is as Bonoma (1976) puts it a “mixed power system”. According to Camffermann and Zeff (2018) the IASB and its trustees emphasize the due process as the main source of legitimacy aiming to strike a balance between maintaining the technical authority of the Board to decide on standards and guaranteeing a hearing to any interested party.

However, the IASB processes and standards are influenced by the challenge of reconciling the needs and values of jurisdictional constituents as well, an angle that has not been fully researched. While Young (1994) researched the construction of accounting problems that were included in the FASB’s agenda, noted that while diversity in practice was invoked to justify the inclusion of agenda items, this condition was also present for accounting issues excluded from the standard setting agenda. Using the concepts of regulatory space and logic of appropriateness Young (1994) examined how various actors worked to define this condition as one that merited standard-setting attention.

3.2 Regulation in Accounting

The needs to achieving desired social goals is an argument for regulation in accounting (Belkaoui 2012). Also, those arguing for a regulated market use the public interest argument for accounting regulation. That said, standard setting is a reality in the accounting environment despite the continuing of the debate on benefits and limitations of regulation. Furthermore, Birnberg et al. (1983) describe the many kinds of behaviours that can result from the efforts of subordinates to distort the information system to their desired ends when they find themselves operating outside the structured and measurable framework. We can assess this debate as a way of improving the accounting standard setting process. The acceptance of the general concepts and principles by the accounting profession and interest groups is of vital importance and can only be guaranteed by a statement of objectives of the financial statements. That said, accounting is practiced within an implicit framework. Conceptual Framework for Financial Reporting was issued as a constitution of the standard setting by the International Accounting Standards Board in September 2010 and was revised in March 2018. One of the main objectives of published financial reports is to provide an accounting where management exercises its stewardship function but also its success (or otherwise) in achieving the goal of producing satisfactory economic performance (Conceptual Framework 1.3). This objective extends to all types of users: “an important objective of financial reporting is the provision of useful information to all potential users of such information in a form and in a time frame that is relevant to their various needs.”

Therefore, management should provide the company's shareholders with an account of how the assets are utilised during the business.
The primary objective of this report is to present accurate and comprehensive information about the entity's assets and liabilities at the beginning and end of the accounting period. Additionally, it should include management's account of how these balances changed during the period. Financial reporting has long prioritized decision-usefulness, particularly in terms of cash flow generation and fair value accounting. However, there is a growing recognition of the broader significance of stewardship and accountability as primary objectives of financial reporting. This recognition supports the qualitative characteristics of financial reporting information and aims to align management's behaviour with the objectives of the entity's stakeholders. Financial reporting serves as a vital communication channel between management and shareholders. As preparers of financial reporting information, management has the responsibility to provide not only information about past transactions but also to explain their economic impact on the company. By fulfilling this role, management effectively communicates the entity's performance to current and potential owners, investors, and stakeholders.

The IFRS Framework in line with the objectives of financial statements highlights one of the purposes of financial reporting which is to provide existing shareholders with the information they need to make decisions and also assisting them in assessing management’s stewardship of the entity’s economic resources.

3.3 The role of accounting standards in the quality of financial information

While providing information about an entity's capacity to generate net cash inflows is crucial for investors and creditors, it is equally important to offer additional information that goes beyond cash flows. Non-cash transactions, such as asset write-downs, impairments, sensitivity, or trend analyses, play a vital role in shedding light on management's stewardship and the influence of current economic factors on the company's assets and liabilities. These non-cash transactions provide valuable insights into the overall performance and financial health of the company, beyond just its ability to generate cash inflows.

In this respect, the International Accounting Standards Board (IASB) acknowledges that companies can find it challenging to provide that information. According to the IASB report, financial statements do not provide enough relevant information; they include too much irrelevant information, and the information is ineffectively communicated. According to Grant Thornton (2014), the financial reporting process very often is compliance-driven and complicated, failing to refocus the attention on communicating the story.

Making financial information more useful and improving the way financial information is communicated to the users of the financial statements by making it less time-consuming in identifying useful information remains a problematic aspect of Financial Reporting.

Barth et al. (2008) conducted a study to investigate whether the application of International Accounting Standards (IAS) is associated with higher accounting quality. The application of IAS involves a combination of factors within the financial reporting system, including standards, their interpretation, enforcement, and litigation. The study found that firms applying IAS from 21 countries generally exhibit less earnings management, more timely recognition of losses, and greater value relevance of accounting amounts compared to firms using non-U.S. domestic standards. Moreover, firms applying IAS tend to show an improvement in accounting quality between the pre-adoption and post-adoption periods.

Numerous empirical studies have explored the effects of US GAAP or IFRS on the quality of financial reports, with varying results. For instance, Armstrong et al. (2010) discovered a positively incremental reaction among firms with lower pre-adoption information quality and higher information asymmetry, suggesting that investors expect net information quality benefits from IFRS adoption.

Barth et al. (2006) observed that US firms tend to exhibit higher accounting quality compared to IAS firms. On the other hand, Leuz and Wisocky (2016) highlighted that the economic outcomes surrounding the adoption of IFRS vary significantly across countries, institutional regimes, and individual firms.

The principles-based nature of accounting standards might offer more flexibility to firms, potentially leading to earnings management and a subsequent decline in accounting quality. Additionally, the impact of other elements within the financial reporting system, beyond the standards themselves, could offset any potential improvement in accounting quality resulting from higher quality accounting standards. For example, if the enforcement of accounting standards is loose, it could nullify the intended benefits (Barth et al., 2008).

3.4 The level of disclosure

As a firm's optimal disclosure policy will trade-off its need for a low cost of capital against other costs, ceteris paribus one expects to find a negative relation between disclosure and the cost of capital (Core 2001). Lambert et al. (2006) derive conditions under which an increase in information quality leads to an unambiguous decline in the cost of capital. They characterize firms' accounting reports as noisy information about future cash flows, and find that accounting information influences a firm's cost of

capital both directly where higher quality accounting information does not affect cash flows per se, but affects the market participants' assessments of the distribution of future cash flows, and indirectly where higher quality accounting information influence expected value and covariances of firm cash flow. Findings in recent research indicate that IFRS adoption potentially reduces the cost of equity capital (Li, 2010) and increases institutional investment (Florou, Pope, 2012).

Diamond and Verrechia (1991) also find that disclosure improves future liquidity of a firm's securities, and this reduces the cost of capital for the firm, with the reduction in cost of capital larger for larger firms. However, they find that increased disclosure causes some market makers to exit, which in turn increases the cost of capital. On the other hand, Holthausen and Watts (2001) critically evaluate the standard-setting inferences that can be drawn from value relevance research studies and find that management is aware that the disclosed events will be reflected in the near future which makes this a mechanism of controlling management's incentives to disclose misleading voluntary information. Therefore, marginal information content does not need to be a necessary condition for standard setting. Armstrong et al. (2019) also show in their research that firms' accounting quality moderates their equity market responses to unexpected policy changes.

However, when Hirshleifer et al. (2002) research the difference between the attention of observers to the withholding of information, and attention to disclosure, they find opposing effects on the incentive of management to disclose. Attention to a failure to disclose increases scepticism toward management who withholds disclosure. In contrast, attention to disclosure discourages disclosure by the marginal type. It is interesting to note in their findings that in equilibrium disclosure is incomplete, and observers are unrealistically optimistic. Their view differs from that of Holthausen and Watts (2001) and suggest that regulation requiring greater disclosure can reduce observers' belief accuracies. Whereas Roychowdhury, et al. (2019) mention the difficulty of balancing the potential costs of increasing reporting quality beside the estimated economic benefits of increased investment and draws attention to the improvement of estimates of the economic benefits of financial reporting which can help researchers understand the trade-offs associated with changing reporting quality. Building on these views, IFRS impairment reporting, and its outcomes remain to be of high importance because economic circumstances and innovation generally mean that many IFRS preparers will continue to face potentially impaired assets (ESMA, 2011). For example, studies find that IFRS adoption leads to improvements in reporting quality (Barth et al., 2008) and the provision of value-relevant information (Horton, Serafeim, 2010). There is also evidence that shows that IFRS can reduce managers' discretion and limit opportunities for earnings management (Ewert, Wagenhofer, 2005). According to Iatridis (2011), firms with high-quality accounting disclosures typically demonstrate larger size, higher profitability, and better liquidity measures. Moreover, companies that undergo management changes or are audited by a Big Four auditor are also more likely to provide high-quality disclosures. These

high-quality disclosers generally have higher capital requirements and are less involved in earnings management. Even in cases where they may have lower cash flows or higher leverage, firms that offer accounting information of high quality tend to promptly recognize significant losses and exhibit reduced involvement in earnings management practices (Iatridis, 2011).

Some studies have reported that impairment increases transparency, while others have presented contrasting results, indicating that impairment losses had a negative impact (Amir et al. 1993; Ashbaugh, Olsson 2002; Bartov et al. 1998; Barth et al. 2008). For instance, Li et al. (2001) conducted a comprehensive analysis of goodwill impairment losses from the perspective of market participants across various reporting regimes and found that investors and financial analysts typically revise their expectations downward upon the announcement of an impairment loss. Bartov et al. (1998) observed that the market responds significantly to asset write-down announcements when management first reports the estimated amount of the charge. On the other hand, Amir et al. (1993) found that capitalizing goodwill is consistent with the way investors price this asset.

These studies collectively emphasize the significance of accounting quality in reducing information asymmetry and suggest that better reporting quality enables easier access to capital and improves investment efficiency (Gallo, Kothari 2019). Ferracuti and Stubben (2019) bring attention to the ability of financial reporting to reduce uncertainty about investment outcomes.

The various results obtained in practical analyses suggest that indirect measures used to highlight specific attributes of financial reporting information are likely to impact the quality of such information (Barth et al. 2008).

However, it is important to note that most of the research literature tends to focus on earnings quality rather than the qualitative characteristics as defined by the International Accounting Standards Board (IASB) in the Framework for Financial Reporting (IASB 2008). This emphasis on earnings quality stems from Krishnan and Parsons' (2008) definition, which encapsulates the extent to which reported earnings reflect economic reality, enabling a correct assessment of a company's financial performance as reflected in the financial statements.

Nevertheless, it is essential to recognize that the concept of financial reporting quality is more comprehensive. It goes beyond earnings quality and encompasses not only financial information and disclosures, but also non-financial information included in the report, all of which significantly impact decision-making processes.

This demonstrates a clear interest in evaluating the information presented in financial statements to evaluate the quality of financial reports, with a focus on decision-making usefulness. Specifically, the assessment of specific items in financial

reports, such as disclosures related to asset impairments, holds significant importance in determining the overall quality of accounting information.

3.5 Conclusion

Despite the known requirements of IAS 36, the practical implementation of impairment reviews and relevant information disclosure remains a challenge. Adhering to the guidelines of IAS 36 entails making long-term estimates of uncertain future performance and valuing assets and operations for which observable prices are often unavailable, demanding a significant amount of professional judgement.

Against this backdrop, financial statement users, regulators, and accounting enforcement bodies express ongoing concerns regarding the consistency of entities' impairment assessments, the reliability of their underlying assumptions, and the transparency of related disclosures.

It is a major and difficult endeavour to summarize the degree to which the standard leads to better information for investors, although we expect that the accounting quality increases because of the changes in the financial reporting system and with firms' adoption of IAS. Although the debate about the level of disclosure continues, the focus of this research is to investigate the level of disclosure in accordance with the IAS 36 requirements and how companies comply with such disclosures.

4. Research Design and Methodology

4.1 Introduction

Social sciences, accounting included, contain both subjective and objective characteristics. Subjective characteristics reflect our perceptions of reality and the meaning related to it within the frame of reference of the subject. According to Krippendorff (2004) phenomena is observed and then compared to standards to identify the phenomena, to evaluate it and to judge how close the phenomena come to expectations. This research assesses the implementation of the disclosure requirements of IAS 36 "*The impairment of assets*" in the annual financial statements, the key elements reported in financial statements about the impairment process and how management supports key assumptions applied in their valuations. Moreover, this study examines the form and content of the notes and narratives regarding the circumstances and events of the impairment, the audit opinion on the impairment of assets when available, the reporting practice across industries and how disclosures about the impairment of assets have evolved along the years for the period 2005-2019.

The method chosen for the analysis of disclosures on the asset impairments is content analysis, as a method widely adopted for corporate disclosure studies.
This chapter is structured as follows. Section 4.2 presents a review of the use of the content analysis in the financial information literature. Section 4.3 explains the research methodology, Section 4.4 provides data collection methods. Section 4.5 conclusion.

4.2 A review of the use of content analysis in the Financial Information literature

The Content Analysis method is expanding broadly in the field of accounting research and is mainly applied in the study of Corporate social responsibility reports, narrative parts of the annual reports such as chairman's statements, president letters, mission statements, intellectual properties disclosures as well as cross cultural differences in accounting reports. Content analysis for instance was employed by Kohut and Segars (1992) to investigate the themes emphasized in the presidents' letters who find that financial performance influences the way CEOs report annual corporate results. Abrahamson and Amir (1996) also used the content-analysis method to quantify the information contained in the president's letter to examine the information content of the president's letter and the way investors use this information in evaluating the quality of the firm's earnings figures.

Given the increased motives for management to engage in impression management, many papers examine reporting strategies that depend on underlying financial performance. Aerts (1994), Clatworthy and Jones (2006), Stent et al. (2003) Mayew (2012), Smith and Taffler (2000), Stanton et al 2004, examine the existence of an association between the content of the chairman's statement and firm performance. Sydserff, and Weetman (1999) and Rutherford (2005) analyse the Operating and Financial Review and identify that the language is biased toward the positive instead of neutral. In her study, Kelly-Newton (1980) utilizes content analysis as a method for measuring themes in the general comments section of a sample of replacement cost footnotes. The analysis focuses on examining management's reaction to disclosure requirements in the context of replacement cost accounting. Guthrie, Petty, and Johanson (2001), Guthrie et al. (2004), Adams and Guthrie (2005), Holder-Webb et al. (2008) Stohl, Stohl, and Popova (2009) used content analysis to explore CSR disclosure practices. Jones and Shoemaker (1994) Beretta and Bozzolan (2006) in their research analyse firms' risk communications. They argue that richness is a function of the type of content disclosed, the type of measures used to disclose the expected impacts of considered factors, and the approach management adopted to disclose identified risks.

Many studies have applied content analysis in examining Intellectual Capital disclosures in annual reports. Mouritsen (1998) study for instance, Economic Value

Added versus Intellectual Capital. Olsson (2001), Williams (2001), Guthrie Abesykera (2007) assess the extent to which large companies are publicly reporting their Intellectual Capital.

There is an established accounting literature that examines and measures the extent of annual report disclosure using content analysis. Most of these studies have focussed on the disclosure of specific items that have been regarded important for accountability. Therefore, there is good reason to use content analysis to explore the content of the disclosures in annual reports regarding the Impairment of assets as a specific item of the accounting disclosures. Fraizer et al. (1984) contend that assessing the narrative elements present in accounting reports could lead to valuable advancements in research focused on the information content of accounting information. Employing content analysis in this context proves favourable for exploratory research, as it is an empirically grounded method characterized by its exploratory process and predictive or inferential purpose (Krippendorff 2004).

4.3 Content Analysis as a methodology

Qualitative content analysis is an important social science methodology as a systematic research method in analysing textual material. This methodology brings the possibility of combining techniques that integrate qualitative and quantitative steps much closer to the analysis. According to Abbott and Monsen (1979), content analysis is a method for data collection that involves transforming qualitative information in anecdotal and literary form into categories. The goal is to derive quantitative scales of varying levels of complexity from the coded data. Saldana (2021) argues that quantizing non-numerical data into a counted form of some kind is ‘engineering data’ to create different indices of meaning which is better applied to content analytical studies. The central idea of Qualitative Content Analysis is to start from the methodological bases of Quantitative Content analysis but to conceptualise the process of assigning categories to text passages as a qualitative-interpretative act, following the content analytical rules (Marying 2022).

Hermeneutical approaches are an important source for the development of the qualitative research methodology. In some respect, the content analysis method refers to it as well (Mayring 2014). Content analysis is a valuable data analysis technique utilized within a guided research process, adhering to common research standards encompassing both qualitative and quantitative approaches. It serves as a descriptor for various research techniques employed to systematically gather, analyse, and draw inferences from messages, as outlined by North et al. (1963).

According to Neuendrorf (2019) *Content analysis* is a systematic, objective, quantitative analysis of message characteristics. This method includes both human-coded analyses and computer-aided text analysis. The foundation of content analysis

lies in the principle that examining language in use can uncover meanings, priorities, understandings, and the ways in which the world is organized and perceived. Krippendorff (2004) argues that organizational communication researchers usually evaluate communication driven by expectations that the results will be useful, solve problems, or inform effective actions. Hermeneutical position embedded in the constructivist theory tries to understand the meaning of the text as an interaction between the reader's preconceptions and the intentions of the text producer. The result of the analysis remains relative to the reading situation and the reader (Mayring 2014). The positivist approach on the other hand tries to measure, to record and quantify apparent aspects of the text. The results are expected to be objective. Among the debate between qualitative and quantitative methodology, Content analysis takes a mediating position including elements of both sides. The central elements of all forms of content analysis are the categories that act as the instruments with which the text is worked through. Murphy (2002) states that the classical viewpoint on categories (codes), is that there are defining criteria for each concept. They can be inductively developed out of the material or deductively crystalized from theory and then assigned to parts of the text.

This research follows the deductive coding approach for which the exact definition of the categories is crucial and needs a clear description of the coding rules and definitions together in the coding guideline. It is developed before coding, using theoretical arguments, particularly for the definitions. Coding rules and definitions derive explicitly from the IAS 36 disclosure requirements and are fully described in the methods section. Inductive coding on the other hand is recommended when the conceptual framework and research questions of the research design suggest that certain codes, categories, themes, or concepts are most likely to appear in the collected data.

Content analysis in this research is used: (1) to assess the level of disclosure according to IAS 36; (2) to identify and classify the main elements communicated by management regarding the requirements of IAS 36; and (3) to observe differences between the level of compliance with the standard requirements along the years and also according to each industry and in relation with the auditing company.

4.4 Which data are analysed and how are they defined.

An essential characteristic of content analysis is that data should be objective, reliable, and systematic (Krippendorf, 1980). Moreover, the whole process requires retaining shared meanings implying that all researchers in the same field share the same meanings about data. In terms of data objectivity, independent researchers should be able to identify in a similar way what disclosure pertains to the impairment of assets. Moreover, a systematic principle requires predefining a set of comprehensive rules which define the category "The impairment of assets" and each subset of categories in a mutually exclusive

and all-embracing manner (Gray et al., 1995b). These rules are defined in the Units of Information section.

The focus of this research is to explore the level and the quality of information disclosed in financial statements about the Impairment of Assets according to the requirements of IAS 36 “The Impairment of assets”. The annual report is used as unit of analysis due to it being the statutory report representing the primary regular information for the stakeholders and public domain.

The data sample includes FTSE all share companies excluding banking and financial institutions for the period from 2005 to 2019, a period that consists of the IFRS implementation in the UK. The companies’ selection is based on the occurrence of an impairment for Plant, Property and Equipment (PPE) during the period 2005-2019. Among 4508 impairments recorded during this period among UK FTSE all shares, only 356 are impairments for PPE that pertain to 106 companies. The relevant information is retrieved from the Annual reports of companies that have recorded PPE.

The 356 annual reports were downloaded in PDF form from the official websites of the sample companies. The annual reports that were not available because they date back more than ten years and some companies do not provide that information were retrieved from the Companies House website of the GOV.UK. The dataset consisted of 336 annual statements in total.

4.5 Methodology: Applying Content Analysis to Investigate Financial Statement Disclosures on Impairment of Assets

The purpose of methodology is to provide the researcher with a plan that includes clear procedures, to evaluate the utilized techniques and to define a specific research design that contributes to knowledge. As the methodology is the language of the research process and not the subject matter, defining the terms of analysis and providing the rational about each of the steps taken makes the research more reliable. Figure 2 outlines the stages of designing the content analysis for this research which include deciding on the unit of analysis, identifying the concepts, defining concepts, decide whether to code for incidence or frequency, establish coding rules, investigate through information, and analyse the results. Each one of these steps are explained further throughout this section.

While some researchers emphasizing the subject matter contend that each content analysis is distinct, Neuendorf (2019) asserts that all content analyses share a common procedural logic and must be supported by socially acceptable criteria. Moreover, for content analysis to be effective, certain technical requirements must be met (Guthrie, Mathews, 1985). It is necessary for instance that the categories of elements should be clearly and operationally defined. The objectivity also is a key matter which requires to determine clearly whether an item either belongs to a particular category or not. Moreover, the information analysed should be quantifiable

and the coder needs to be reliable and consistent following a very specific previously defined procedure.

Content analysis entails identifying specific issues within a text, such as an annual report, which can be categorized under appropriate headings and subsequently analysed (Guthrie, Parker, 1990). The content analysis method utilized in this study comprises four main steps:

- Determining the sampling units for analysis.
- Defining the elements mandated to be disclosed according to IAS 36 Impairment of Assets.
- Measuring the frequency of the identified elements.
- Assessing the validity and reliability of the collected data.

According to Creswell (2003), there is a distinct advantage in utilizing documents for content analysis compared to interviews or other data collection methods. Documents embody data that preparers have carefully compiled, demonstrating thought and care in their creation. Additionally, content analysis can be discreet, allowing for the evaluation of documents without the preparers' knowledge (Jones, Shoemaker, 1994).

Birmingham and Wilkinson (2013) emphasize that conceptual analysis holds greater popularity among the two primary approaches to content analysis. This method involves examining the incidence or frequency of concepts, such as themes, issues, words, phrases, etc., within a text. The analysis first quantifies the occurrences of the selected concepts for examination.

Secondly, conceptual analysis which is known as thematic analysis since it focuses on identifying the themes or issues present (frequency) in the text that the researcher intends to analyse is employed in this research. For instance, after quantifying the incidence or appearance of "External indicators" in the notes of the financial statements, the frequency of the words used to express the indicators is then analysed to identify the issues that caused the impairment.

In a review of 68 studies employing content analysis in accounting research, Jones, and Shoemaker (1994) conclude that the primary strength of thematic analysis lies in its ability to identify the motivations and concerns of accounting communicators. By analysing paragraph counts, researchers can determine the proportionate space allocated to a specific element, as each "story" competes for its share of space in the annual report.

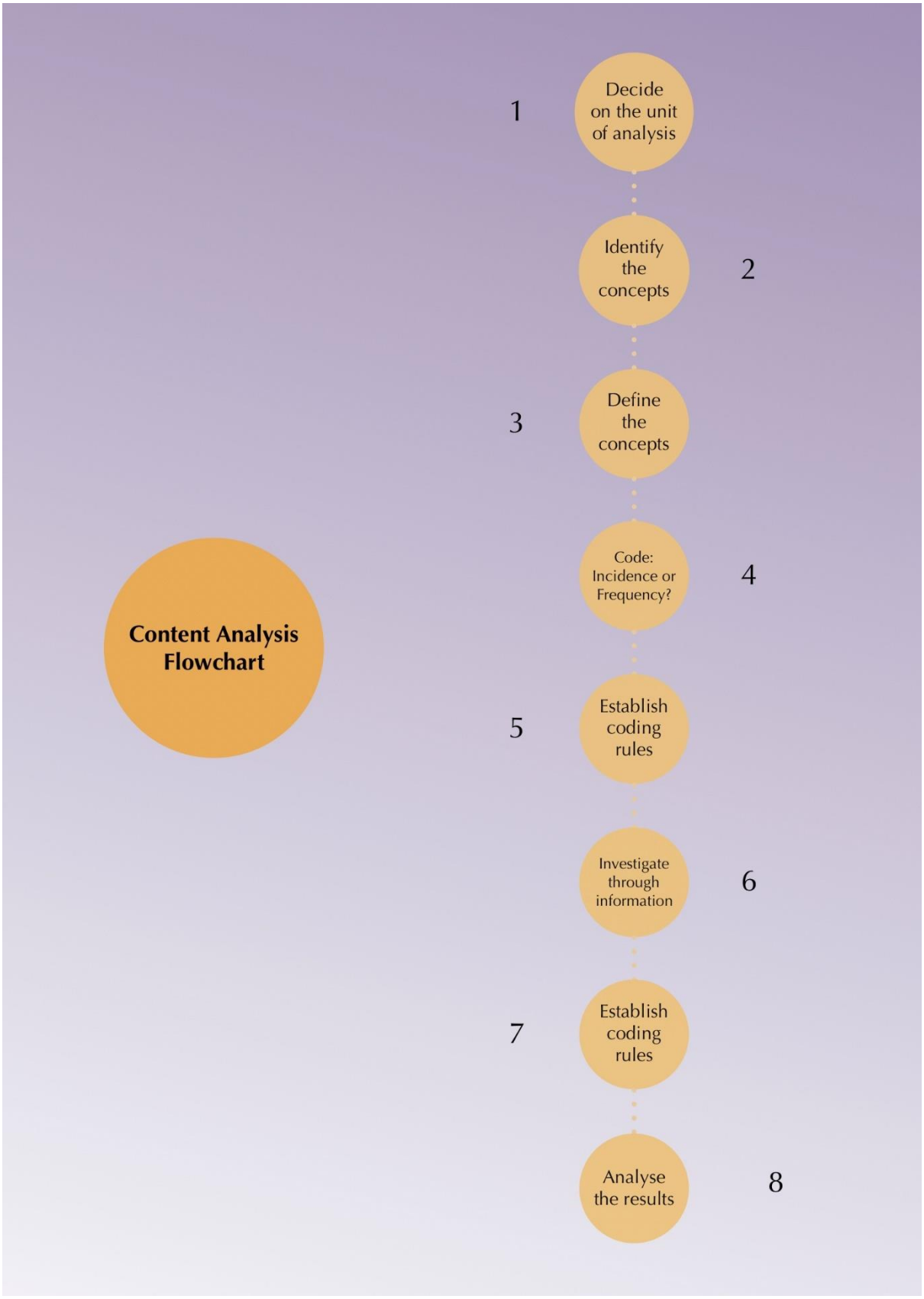


Figure 46: Content Analysis Flowchart

Source: Author

4.6 Stages of the Content Analysis

4.6.1 Sampling Units

According to Krippendorff (2004) the sample units are considered as a function of the empirical persistence of what is observed. Defining the unit of analysis, depends on the researcher's experience, and the ability to recognise meaningful theoretical breaks in the continuity of the examining practice, as well as on the purpose of the research project and the available analytical techniques (Krippendorff 2004). Providing that the companies' annual reports are the official information sources and the standard communication system between management and stakeholders (Guthrie, Petty, 2000), the annual report is used as unit of analysis for this research, rather than the specific note on the Impairment of assets. Because IAS 36 requires an entity to disclose the information regarding the impairment of assets, companies disclose this information as a separate note in the financial statements which on the other hand is an auditable information.

However, the required information about asset impairments can be traced in other parts of the annual report as well, like notes on the Special Items, Operating profit, Business segments, notes on the investment associates, audit report and cash flow statement. The standardized annual reports also offer the opportunity for a comparative analysis of disclosures and policies across reporting periods. The frequencies of the different categories of the coded elements of the underlying explanations were registered for each company-year and were further analysed according to the *auditing company*, *industry,* and *year*. They control for variation in the number of coded elements per annual report relative to the frequencies of these three specific attributes (*auditing company*, *industry,* and *year)*. During a content analysis, the context involves all the knowledge that the analyst employs while examining the provided texts. This knowledge may consist of scientific theories, logically presented propositions, empirical evidence, informed intuitions, or an understanding of reading habits (Birmingham, Wilkinson, 2003).

4.6.2 Coding: Determining the Elements of the Impairments' disclosure.

This study traces the appearance of each of the elements of the Impairment of assets required to be disclosed in the financial statements which are summarized in the figure 1. These elements are not mutually exclusive or independent, rather they are linked by particular interrelationships. Within each *sampling unit* (annual report) there are *context units*, such as Notes, on the impairment of assets, Audit report etc, which comprise the largest information segment that is researched to identify *the unit of information content (valuation method, CGU definition, discount rate etc)*. These information units may be as small as a simple word or as large as a paragraph where in that case the importance is defined by the number of characters devoted to that

topic. For instance, Weber (1983) suggests words, sentences, themes, paragraphs, or documents as information units.

Some of the information units in this research are narrative like the *Impairment policy*, *Circumstances and events* and the *audit opinion on the impairments*. These sections are important to investigate because, although the Impairment policy and the Audit opinion on the impairments are expected to be formally written and expressed in a technical accounting language, management can also disclose non-formal information about the *Circumstances and events.* Examining whether the Impairment of assets was caused by an internal or external trigger helps to shed light on the accounting bias, which could be a predictor of defensive behaviour of management.

4.6.3 The definition of "Unit of information"

In content analysis, the process begins with selecting a unit of information. This unit serves as a criterion to determine the relevant material from the texts. The unit of information refers to a specific segment of content that is categorized based on its characteristics (Holsti, 1969). However, there is ongoing debate about whether words, sentences, paragraphs, or portions of pages should be used as the basis for coding (Gray et al., 1995b). Words serve more for exclusive analysis, mostly for counting purposes, are easy to be categorised and the database can be scanned easy for certain words. Sentences as written communication are preferred as unit of information if the objective of research is to infer meanings. Milne and Adler (1999) argue that coding sentences offers a comprehensive, reliable, and meaningful dataset for further analysis. On the other hand, using paragraphs as the unit of information is often more suitable for drawing inferences and establishing meaning from narrative reports compared to using words or sentences (Guthrie et al., 2003).

The Unit of Information must be explicitly defined based on theoretical references. In this context, IAS 36 provides disclosure requirements related to the impairment of assets and will serve as the guideline for defining the Unit of Information. Certain disclosures are applicable when an entity records an impairment loss, while others are required regardless of any impairment loss for each annual report.

4.6.4 Elements required to be disclosed according to IAS 36

IAS 36 "*Impairment of Assets*" states that: "*an asset is impaired when the recoverable amount of the asset is lower than the book value. The recoverable amount is the higher net realizable value and value in use*".
In this context, value in use is the budgeted discounted future cash flows expected from continued use of the asset, based on management's expectations about market performance**.**

Once the IAS 36 is determined as the guideline for the definition of the units of information, it is necessary to explore which elements the disclosures are expected to discuss. According to IAS 36, **management** should provide sufficiently detailed and meaningful information to investors about:

Key assumptions for the value in use like:

a. discount rate.
b. growth rate,
c. gross margin,
d. government bond rates,
e. the exchange rate for the period,
f. raw material price inflation,
g. market share (IAS 36).

As per the provisions of IAS 36, the company should disclose the following information for an individual asset (including goodwill) or a cash-generating unit, in case an impairment loss has been recorded or reversed during the period:

h. the events and circumstances that led to the recognition or reversal of the impairment loss.
i. the amount of the impairment loss recognised or reversed.

For a cash-generating unit the company is required to disclose:

j. a description of the cash-generating unit,
k. the recoverable amount of the cash-generating unit (Paragraph 134, IAS 36)

and whether the recoverable amount is:

l. its fair value less cost of disposal (FVLCS) or
m. its value in use (IAS 36).

The company is encouraged to disclose sensitivity analyses that need to incorporate all key assumptions (beyond discount rate and growth rate).

4.6.5 Units of Information

For this research a set of *Units of information,* apart from the specific disclosure requirements of the IAS 36, are considered as elements of interest. The inclusion of these elements in this research is theoretically justified in section 3.10.

11. **The impairment charge** It includes four subcategories:
    - Impairment for Fixed Assets (the total sum of impairment of Fixed assets for the company year).
    - Impairment of intangible assets (the total sum of impairment of intangible assets for the company year).
    - Impairment reversals (the sum of impairment reversals if any).
    - The impairment charge for Investments and Associates. Investments and Associates are categories within the scope of IAS 36.

12. Impairment policy
    a) *Indications of Impairments*.
13. Valuation Methodology
    a) *FVLCD:* the entity is required to disclose the following information:
       a description of the valuation technique used to measure fair value less cost of disposal.
       Key assumptions are a subcategory of the FVLCD.

    b) *Value in use*: *Value in use is considered a category under the methodology. All the following key assumptions are coded as separate categories of Value in Use.*
14. *Key assumptions*
    - Discount rate
    - Revenue Growth rate
    - Revenue growth risk
    - Period over which management has projected cash flow
    - Gross Margin
    - Pre-tax projection of cash flows
    - Sensitivity analysis
15. CGU definition (Cash Generating Unit)
16. The auditing company

17. Industry (1 digit SIC Code) refers to the industry in which the company operates.

18. The audit opinion on the impairment

19. Auditing company.

20. Circumstances and events

It is useful to select units of information that have been previously implemented in similar studies to enhance the comparability of the results (Neuendorf 2011). The units of information that are selected for this research are similar to the studies conducted by Amiraslani, Iatridis, and Pope (2013) due to them all deriving from the same source of information, the disclosure requirements of the IAS 36. However, there are new categories included in this research that include the auditing company, the audit opinion, and the year variation. These categories added to the list of the Units of information will shed meaningful insights on other factors that may impact the quality of the Asset Impairment disclosures.

4.6.6 Coding the text

Text understanding is not an automatic process of counting text elements, as such, text interpretation remains a part of content analysis to be performed within the framework of content analytical rules (objectivity, reliability, and validity). Working with a predefined category system is important to the comparability of findings and the

evaluation of analysis reliability, although qualitative supporters may object by arguing that orientation to categories impedes comprehension of the material (Mayring 2014). Nevertheless, the criteria were predefined according to the particular requirements of this research project. A preliminary test of the coding procedure was conducted for ten annual reports of companies belonging to different industries to highlight any ambiguous or unclear coding rules and to improve the categorisation of the Units of information. The outcome of this test was the final set of coding rules that is used in this research.

To properly address the research questions, each of the elements required to be disclosed according to IAS 36 is considered a variable of interest. Each annual report is read and checked to ensure that the information matches the Unit of Information definition. It is then coded in the category according to the elements of the framework. In Krippendorf's (2004) definition, coding refers to the process of transcribing, recording, categorizing, or interpreting specific units of analysis into the language of data, enabling them to be compared and analysed. For instance, when a company uses the Value in Use methodology to estimate the recoverable amount, this particular sentence is coded under the category Value in Use. The same procedure is used for each Unit of Information. The remaining part of the annual report is not taken in consideration within this procedure. For the *Profit of the year* unit of information, the relevant amount is coded to that category. This information serves as an indication whether there is a loss or profit as the exact amount is not of particular interest in this research.

One of the practical challenges of the content analysis is the coding of repetitive information, and the way to address this problem is to clearly define every choice (Neuendorf 2011). So this study focuses on the presence of the *Units of information* rather than their frequencies in an annual report, which means that for instance if the Value in Use was the method used by the company, it is counted as one(capturing its presence), although it may have been mentioned several times in the explanation of the Asset Impairment.

(Neuendorf 2011) also recommends specifying the effect of the context unit on the counting approach. A key word like *Growth rate* is coded within the context unit that is the sentence which sometimes also clarifies the range of the growth rate or how the growth rate is calculated. The same context unit may sometime contain two different *Units of information*. Again, the sentence that contains information about the growth rates, usually includes information about the period covered from the cash flow budget. From the same sentence here, we have extracted and coded two different Units of information that are Revenue Growth rate and Period, over which management has projected cash flow. This rule is constantly applied across this research because the reporting format is quite similar for each company year. This decision goes in line with Weber (1990) who recommends an early decision on whether the categories should be mutually exclusive. Most statistical procedures such

as common multivariate procedures, analysis of variance, and multiple regression require un cofounded variables as a way of not violating basic statistical assumptions, which in the end reduces scepticism about the analysis results (Weber, 1990). Moreover, it is necessary to define how narrow or broad the unit of information will be. Some units of information which indicate self-reference are very narrow, such as *Profit for the year*, while others are wider containing a sentence or even e paragraph like Circumstances and events.

4.6.7 The software programs and functions used.

Content analysis provides the researcher with methods where the category system constitutes the findings of the analysis. The disclosure requirements of the IAS 36, broadly define the elements that management should disclose in the financial reports, and these served as the guideline in defining the Units of information. Each unit of information is categorized as a code in NVivo. Each company year is considered as a file which is a core structural element in NVivo, as it unites all different components of qualitative and quantitative data about that Unit of analysis. A memo is prepared for each company (not company-year) containing general information about its previous names, its date of incorporation and sic code. Specific memos linked to the company-year, or annotations, are also prepared for gathering notes on specific elements that are ambiguous, or that impose some interest for this research.

Each file is organized according to the three attributes of interest: year, auditing company and industry. After applying the matrix query feature of NVivo using the attribute values, the output tables were then transferred in MS Excel for further analysis.

4.6.8 Evaluating the Validity and Reliability of Data

Researchers that employ content analysis should demonstrate the reliability of applied procedures and discuss the validity of the results. According to Krippendorff (2004), an unreliable content analysis reduces the validity of research, although high reliability does not ensure validity. On the other hand, if more importance is given to reliability, the validity tends to get lost (Krippendorff 2004). This means that in content analysis, content-related arguments should always be given preference over procedural arguments, as validity is regarded more highly than reliability (Mayring 2014). For instance, defining larger context units is regarded as meaningful, adding to the validity of analysis while defining context analysis as small as feasible adds to their reliability (Krippendorff 2004).

4.7 Validity of Content analysis

Mayring (2014) suggests that in qualitative approaches, research validity in a broader sense is often less of a concern, as they are subject-focused and guided by theory in their research process. On the other hand, Johns, and Shoemaker (1994) define validity in terms of how well the study's results reflect reality. Krippendorff (2004) outlines the quality criteria for content analyses, with sample validity, face validity, and construct validity being particularly relevant for this research.

4.7.1 Face Validity

According to Weber (1990) "A category has face validity to the extent that it appears to measure the construct it is intended to measure". Face validity is the most basic and primary form of validity. The accuracy of the connection between constructs (categories and themes) and their measurement including coding methods are the determinants of face validity. Krippendorff (2004) argues that familiarity concerning the chosen context is a valuable asset to all content analysts, but familiarity may not be sufficient. Plausibility of results, compared to fact or general acceptance, corroborates this form of validity (Johns and Shoemaker 1994). The definitions of context units and units of information here are broad and the measurement on which are the elements that increase the face validity is clear.

4.7.2 For Sampling validity it is sufficient to refer to the usual criteria for accurate sampling (Mayring 2014).

This research studies how the requirements of impairment of assets according to the previously outlined categories are reported in the annual reports of *UK FTSE all shares'* companies, excluding financial institutions for the period 2005-2019 that have recorded a fixed assets impairment. Although the criteria of sample selection are Fixed asset impairment, all categories of asset impairments are analysed within the sample. The number of company years that have recorded a Fixed assets impairment represent the entire population in this sample while the period 2005–2019 covers the period after the implementation of IFRS standards.

4.7.3 Construct Validity

Construct validity refers to the accuracy with which a variable that represents a theoretical concept is measured. For instance, construct validity could be assessed by comparing the way a certain variable in the actual research is measured with alternative established models. There is a similar model to this research developed by

Amiraslani et al. (2012) which provides insight on the measurement of variables with which this research has no significant differences. Basically, the measurements of both studies are based on the frequency each unit of analysis appears in the financial report.

Newendorf (2019) argues that coder training is an essential part of all human-coded content analyses, meaning that the level of training should be disclosed to enhance the validity of the content analysis. The author of this research project has been trained in two NVivo training workshops organised by the University of Westminster where a significant amount of relevant knowledge to his research is provided by very experience trainers.

Lack of research questions is another deficiency that might impair the validity of content analysis (Kolbe, Burnett, 1991).
Beattie et al, (2004) agree that there is a consensus that the business reporting model needs to expand to serve the changing information needs of the market. After identifying the general principles and guidelines for conducting the study according to the following objectives:

- To investigate the level of disclosure of information regarding the impairment process in the financial statements and the disclosure variation among different industries.
- To explore the valuation methods and underlying assumptions used in the process of the impairment of assets.

The research questions are as follow:

1. What information regarding the impairment process is reported in the financial statements?
2. What valuation methods are used, and how does management support key assumptions apply in their valuations?
3. How does the disclosure level vary, in terms of industry, year and auditing company?

Nonindependence of coders can influence the validity of research results at any level of analysis. According to Grawitch and Munz (2004) nonindependence can occur at multiple levels, such as individuals influenced by the group contexts, groups within an organization influenced by the functional unit from which they come, and groups in different organizations influenced by the organizational context in which they operate. The author of this research is independent of any group, context or organisation as the project is undertaken for research purposes.

4.8 Reliability

To be reliable, the content analysis should be based on reliable data and a reliable procedure. According to Kaplan and Goldsen (1965) the data that have been independently generated from the measuring event, instrument or person are considered reliable data. Moreover, for data to be reliable they have to remain consistent, independent of the variations and the measuring process. On the other hand, the reliability of the research procedure requires delivering the same results about the same phenomena regardless of the circumstances of its implementation (Krippendorf 2004).

A key element regarding the reliability of the data is the clarity of the coding scheme prior to the coding process, so as to provide direct instructions for the coder to identify the units and hence removing the need for later change to the code. (Neuendorf, 2009). For example, coding the *Audit opinion on the impairments, it* should be clearly defined that only the problem identification sentence in auditing report (key issues section) should be coded and the opinion of audit on that matter. The remaining passage should be ignored. If the audit mentions several key issues within the Impairment of assets section, then each of them should be coded together with the opinion expressed by the audit in the *Audit opinion on the impairments category*. However, only the presence of Audit opinion will be counted in the quantitative part of the analysing process, rather than the issues raised by the audit.
The most useful way to assess the reliability of content analysis is usually by engaging more than one coder for the same material and assessing for discrepancies between coding results, how these discrepancies are reanalysed and how the differences are resolved. The reliability of content analysis can be enhanced, provided a pilot study is undertaken from the researcher prior the whole sample coding. Outlining a clear coding procedure that ensures well-defined categories and specific decision-rules increases the reliability of the project and reduces the need for many coders.

Guthrie et al. (2003) point out some techniques that aim to increase the reliability of coding and analysing data.

- *Choosing disclosure categories*

The process involves selecting disclosure categories from well-grounded and relevant literature and providing clear definitions for each category. All units of analysis are then categorized according to the specific requirements of IAS 36.
The Impairment of assets content analysis involves two actions: defining a classification scheme and defining the rules of what and how to code as well as the measurement of classified data both actions followed and depicted in this research.

- *Demonstrating coding decisions made on a pilot sample*.

However, whether identified through multiple coder comparisons or single coder reflection, subjective concepts are best illustrated with examples to make the analyst's approach transparent to readers. This research provides several examples to support the reliability of the content analysis in the Discussion of results section.

5. Results and Discussion

5.1 Introduction

This section examines the extent to which companies disclose information according to the requirements of IAS 36 and investigates the categories in which disclosure is lacking in providing explanations for such observations. Year, Industry and Audit company are important attributes that affect the level of compliance and the quality of financial reporting of the Impairment of assets. The influence of audit companies is expected to have encouraged the IFRS compliance, while the quality of Impairment reporting is expected to have improved across the years. These attributes are used to study how the requirements of impairment of assets according to the previously outlined categories are reported in the annual reports of *UK FTSE all shares'* companies for the period 2005-2019 that have recorded a fixed assets impairment. Although the criteria of sample selection are Fixed asset impairment, all categories of asset impairment are analysed within the sample. The focus of this research is to study disclosures relating to property, plant, and equipment (PP&E), goodwill and other intangible assets, Impairment reversals and impairment of Investment in associates at cost. The remains of this chapter are organised as follows. Section 5.2 gives the descriptive statistics for the selected categories. Section 5.3 presents the findings regarding the disclosure on the Impairment of assets according to each research question. Section 5.4 provides the concluding discussion.

5.2 Descriptive statistics

Table 35

Companies that have recorded an impairment	**339**
Companies with missing information	7
Final Sample	**332**

Table. 35 describes the data set. The primary sample includes 339 company years from FTSE all share for the period 2005 to 2019. Only companies that have prepared financial statements according to IFRS are selected. Excluded from the dataset are those company-years that had not disclosed information on the Impairment of assets. The total number of companies is 332.

Table 36 describes the composition of the company years that have recorded an impairment of PPE by each industry. Companies that operate within the Manufacturing industry have recorded the highest number of impairments compared to the other industries. Disclosures according to each industry will be discussed in a later part of this section.

Table 36

Summary Table

Industry	**Company/Year**
Manufacturing	99
Services	73
Transportation	30
Retail Trade	35
Agriculture, Forestry, Fishing	0
Mining	10
Construction	4
Wholesale Trade	31
Real Estate	5

Table. 35 describes company-years that have recorded an impairment according to each industry for the period 2005 to 2019.

Table.37 outlines the descriptive statistics for the full sample of 332 firm-years for the period 2005 and 2019.
Mean, standard deviation and median are reported for each of the impairment category. Since there is not similar research in literature for the UK, it was not possible to have a comparable analysis for the descriptive statistics.

The median for the impairment of Fixed assets is 19 impairments a year, while for intangible assets it is 11 impairment recordings. The mean of Impairments recordings for fixed assets is 18 impairments a year with a standard deviation 6.4. The sample of company years for fixed assets is equal to the entire population of FTSE all shares for the period 2005-2019 because as mentioned before the sample selecting criteria for this chapter is the incidence of a fixed asset impairment and all companies that had recorded one are included in the sample.

Table 37

Impairment	Total	Mean	Standard Deviation	Median
Fixed Assets	287	17.94	6.40	19
Impairment reversals	31	1.94	2.08	1
Intangible Assets	183	11.44	4.93	11
Investments at cost Associate	36	2.25	1.44	2

Total impairments for our sample company years according to each Asset category are displayed in Table.38 and graphically *in* Graph 47.
In 2019, 28 impairments were recorded for fixed assets which is the highest number across the years.

Table 38

Summary Table

	Impairment of Fixed Assets	*Impairment reversals*	*Intangible Assets*	*Investments at cost Associate*
2005	12	0	6	2
2006	11	0	10	3
2007	13	1	6	2
2008	18	0	8	2
2009	24	1	16	2
2010	20	0	13	1
2011	19	4	12	2
2012	22	1	19	5
2013	13	1	10	1
2014	19	4	8	1
2015	20	1	13	5
2016	19	3	9	2
2017	23	7	18	4
2018	24	2	15	3
2019	28	5	18	1
2020	2	1	2	0

The impairment of Fixed assets (PP&E) comprises 53% of all asset impairments while 35% refer to Intangible asset impairments and 6% impairments in Investment at cost in Associates. This percentage refers only to the frequency of Impairments rather than the total value of impairment charges.

In general companies have reversed 6% of a previously recorded impairments for the period 2005-2019.

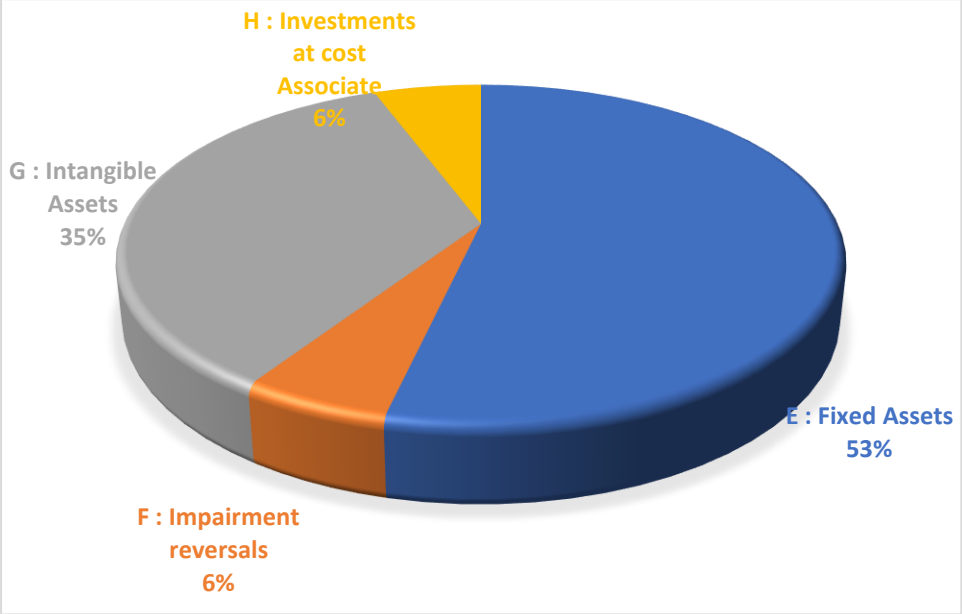


Figure 47: Impairment of Assets for each Asset category for the period 2005-2019

Source: Author

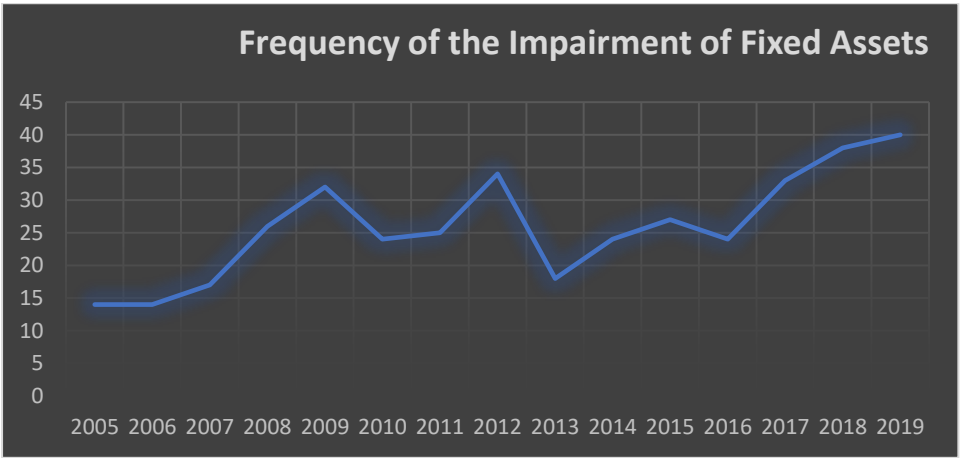


Figure 48: The frequency of Fixed Asset impairments

Source: Author

The impairment of assets recorded during 2005 to 2019 according to various industries for our sample are summarised in *Table 39*.

34% of all the impairments of fixed assets are recorded in the Manufacturing sector while 35% in the services sector.

Table 39

Summary Table

	Impairment of Fixed Assets		Intangible Assets	Investments in Associate at cost	Impairment reversals
Manufacturing	99	34%	57	5	5
Services	73	25%	52	9	11
Transportation and Public Utilities	30	10%	17	11	6
Retail Trade	35	12%	19	4	7
Agriculture, Forestry, Fishing	0	0%	2	0	0
Mining	10	3%	9	2	1
Construction	4	1%	1	0	0
Wholesale Trade	31	11%	23	4	1
Real Estate	5	2%	3	1	0

The next sections discuss findings about the disclosures regarding Impairments in the Annual reports of 332 company years.

5.3 Discussion of results

The aim of this section is to answer the three research questions. The first question:

RQ 1: What information regarding the impairment process is reported in the financial statements?

This section includes highlights from the observations on the disclosure practice and the reporting for each unit of information. In general, companies disclose detailed information on the impairment of intangible assets while disclosures about PPE impairment are significantly lower. Mostly the impairment of fixed assets is usually discussed in the Impairment of Intangible assets section of the notes to the financial statements implying that the same assumptions are valid for the PPE as well. This reporting behaviour derives from the IAS 36 itself. Specifically, Paragraph 132 obliges the entity to disclose information about the main classes of assets affected by impairment losses and the main events and circumstances that led to the impairment

losses or impairment losses reversals along with the disclosure requirements mentioned in Paragraph 130.

However, according to paragraph 134, an entity is only encouraged (not obliged) to disclose assumptions used to determine the recoverable amount of the assets or cash generating units during the period. These disclosure requirements are obligatory only when goodwill or an intangible asset with an indefinite useful life is included in the carrying amount of that unit. As such the disclosure on the assumptions used to determine the recoverable amount of the asset or CGU is encouraged but not mandatory for the PPE impairments as it is for the Intangible assets.

This section outlines the main findings about the common obligatory disclosures for all classes of assets, while the methods used and management assumptions in determining the recoverable amount of the asset or CGU will be discussed later in this section.

The impairment charge includes the disclosure of the Impairment charge for Fixed Assets, Impairment of intangible assets, Impairment reversals and also the impairment charge for Investments in Associates at cot which is within the scope of IAS 36. Not all the companies have disclosed the impairment charge of PPE in the annual reports. For instance, according to DataStream tables, a specific company has recorded an Impairment for Goodwill £ 253 k and £ 348 k for PPE in 2013. However, there is no information disclosed in the annual statements for the year 2013 and also the year later (p 89). It is only disclosed: *During the year, a full review was carried out of the asset register to identify redundant assets and to physically verify the assets on the register. This resulted in disposals of assets with a cost of £8,470,000 and an associated net book value of £10,400 being recorded in the above note*. No information is disclosed about the impairment charge for the year 2010 for the same company.

However, we see an 86.4% level of compliance with the standard requirement about the disclosure of the impairment charge for the four categories of asset impairments.

Table 40

	Fixed Assets	Intangible Assets	Investments at cost Associate	Impairment reversals
2005	12	6	2	0
2006	11	10	3	0
2007	13	6	2	1
2008	18	8	2	0
2009	24	16	2	1
2010	20	13	1	0
2011	19	12	2	4
2012	22	19	5	1
2013	13	10	1	1
2014	19	8	1	4
2015	20	13	5	1
2016	19	9	2	3
2017	23	18	4	7
2018	24	15	3	2
2019	28	18	1	5
2020	2	2	0	1
Total	**287**	**183**	**36**	**31**

Impairment policy category collects information about specific policies designed by companies other than the general standard impairment policy as defined by IAS 36. To be included in this category an impairment policy description should include company-specific procedures regarding impairments. In general companies refer to the Impairment policy exactly as indicated in the IAS 36. Only 36 company years have disclosed some vague specific elements in their impairment policy which comprises only 10.8% of the entire sample. Specific disclosures include the date of impairment review, which is the balance sheet date, the frequency of impairment reviews, bases of estimations of the recoverable amount and how the goodwill is allocated at each CGU. The most frequent words used in this category is cash, value, amount, estimation, and goodwill which is mentioned 30 times, while in contrast the impairment of fixed assets is rarely mentioned. This also indicates that the disclosed impairment policy usually refers to the impairment of goodwill rather than fixed assets.

In general, the impairment policy disclosed in the financial statements is mainly a restatement of the phraseology covered in the standard IAS 36.

Indications of Impairments is a subcategory of Impairment policy. This category collects information regarding specific disclosure on the indications for an impairment review. We have 28 specific indications of impairments in our sample where 21 mention external indicators causing an impairment and 8 Internal indictors of

impairments. One company mentions both external and internal indicators of impairments.

External indicators of impairments in the sample refer to the market changes, competition, and economic environment. This is further emphasised by a word frequency analysis which reveals the following: *Changes* is the most frequent word mentioned 10 times, *environment* 9 times, *competitive* 6 times, local and *market* 6 times.
In general, when the same company records asset impairments for several years, the disclosure text about the indication of impairments is the same with very few to no variation across the years.

The word cloud provides a comprehensive display of the external indicators of asset impairments:

Figure 49: Word Cloud External Indicators of Asset Impairments

Source: Author

Internal Indicators of impairments are most frequently described by the words Plant, Group, Performance and Acquisition. In general, the decline of performance is the main internal indicator of an impairment for a plant or the performance after acquisition.

Figure 50: Word Cloud Internal Indicators of Asset Impairments

Source: Author

Circumstances and events: This is a category that is a requirement of the IAS 36 (130(a)) and collects information regarding events and circumstances that contributed to the impairment loss or reversal. 248 company years have disclosed information that can be regarded as Circumstances and events that caused the impairment. Many companies provide disclosures that are unclear, generally because management does not sufficiently explain the circumstances underlying the impairment reviews. Unlike Indicators of impairments, in this category internal circumstances and events dominate the explanations provided by management.

Table 41

	Circumstances and events	***External Circumstances***	***Internal circumstances***
2005	13	4	11
2006	13	4	9
2007	8	1	6
2008	15	6	11
2009	22	9	16
2010	12	3	8
2011	16	6	9
2012	21	7	14
2013	12	4	9
2014	15	3	11

2015	19	6	11
2016	16	4	12
2017	20	7	15
2018	19	8	13
2019	25	4	22
2020	2	1	2
	248	77	179

Mostly, the main *internal circumstances and events* that are mentioned as the causes of the impairment charge are the company restructuring and general strategy reviewing, a decline in the performance, termination of agreements and capacity review.

Companies that operate in the whole trade sector most frequently mention the retail stores performance as an internal indication of impairment. These companies perform annual impairment reviews. Manufacturing sector and service sector usually refer to site closures, operating costs, or business restructuring.

However, in the case of internal circumstances, the information lacks clarity and is generally brief. Air Partner, for instance, discloses in the annual report of 2012 (p17): "*The impairment charge of £0.3 million resulted from the write-down of the Group's sole owned aircraft"*, a statement that does not provide further explanation whether there is an internal or external underlying cause of the impairment charge, for instance a change in the extent or manner in which the asset is being used or due to its physical condition or rather because a forecast demonstrates that the use of the asset will generate continuing losses.

An internal indicator is expected to provide direct and practical evidence that an asset or CGU might be impaired which should be disclosed in the financial statements and which should be meaningful for the financial statement users. For instance, in point 19 of a staff paper of IFRS which discusses the Impairment of Goodwill in an IASB meeting in 2022[13] it is stated that the qualitative information is lower on the priority list of investors, likely because it is generally boilerplate, meaning a standardized bureaucratic text in comparison to quantitative information. Qualitative information disclosed to satisfy the IAS 36 regarding the circumstances and events that caused the impairment of assets does not comply with the objective of financial information which need to be useful for the financial statement users.

Table 42 provides the most frequent words used to describe the Circumstances and events that mention internal indicators underlying the impairment charge.

[13] IFRS Accounting Staff paper; Goodwill and Impairment: ap18-goodwill-and-impairment-cover-paper.pdf (ifrs.org)

Table 42

Word	Count	Weighted Percentage (%)	Similar Words
impairments	183	4.43	impair, impaired, impairment, impairments
charge	105	2.54	charge, charged, charges
assets	99	2.40	asset, assets, 'assets
relates	88	2.13	relate, related, relates, relating, relation
group	68	1.65	group, groups
year	62	1.50	year, years
values	57	1.38	value, values
stores	54	1.31	store, stores
costs	46	1.11	cost, costs
business	42	1.02	business, business,' businesses
losses	42	1.02	loss, losses
result	41	0.99	result, resulted, resulting, results
million	40	0.97	million
site	39	0.94	site, sites
review	38	0.92	review, reviewed, reviews
plant	36	0.87	plant, plants
property	35	0.85	properties, property
operations	33	0.80	operated, operating, operation, operational, operationally, operations
equipment	31	0.75	equipment
recognised	31	0.75	recognised
carrying	27	0.65	carried, carrying
following	26	0.63	following
part	23	0.56	part
within	23	0.56	within
includes	22	0.53	include, included, includes, including
product	22	0.53	product, production, productivity, products
retail	22	0.53	retail, retailing
certain	21	0.51	certain
closure	21	0.51	closure, closures
write	21	0.51	write, writing
restructuring	20	0.48	restructure, restructured, restructuring
expected	18	0.44	expect, expectation, expectations, expected
performance	18	0.44	performance, performed, performing
development	17	0.41	developed, development, developments
sale	17	0.41	sale, sale', sale,' sales
associated	16	0.39	associated
cash	16	0.39	cash
future	16	0.39	future
investment	16	0.39	investment
identified	15	0.36	identified
march	15	0.36	march
respect	15	0.36	respect
decision	14	0.34	decision, decisions
exceptional	14	0.34	exceptional
facility	14	0.34	facilities, facility

goodwill	14	0.34	goodwill

External Circumstances and Events: The main external circumstances and events mentioned as the main causes of impairments relate to market and macroeconomic conditions including introduction of new legislation, licences expiration or withdrawal, contracts, changes in prices and increased risk (Table 42).

Explanations that include external circumstances and events as the causes of impairment charges are a somewhat longer, tend to sound clear but somehow still remain ambiguous and general. For instance, Bodycote states (annual report 2009, p 77): *Goodwill was impaired for heat treatment locations across the Group as a result of the current uncertain market conditions.* A further explanation as to how this can impact goodwill and why is not provided. Sufficient, meaningful information specific to the causes of the impairment of assets is necessary for the financial statement's users. Although annual reports might include scattered information about external circumstances and events in various sections of the report, the notes on the impairment of assets should include a recap of the relevant information, particularly how a broader external indicator relates to the impairment of a specific asset or CGU. An improvement in the reporting structure of the Circumstances and events is necessary for increasing the quality of financial information.
On the other hand, as it is revealed in Table 43, a lack of explanatory adjectives in the language used to describe external indicators results in the previously mentioned ambiguity and insufficient disclosure. However, preparers do not use any technical language in their description of circumstances and events which would improve information understandability if it were not for the bias found within this ambiguous language.

Table 43 provides a list of the most frequent words used in describing External Circumstances and Events that caused the impairment charge.

Table 43

Word	*Count*	*Weighted Percentage (%)*	*Similar Words*
impairments	90	3.89	impair, impaired, impairment, impairments
charge	37	1.60	charge, charged, charges
assets	33	1.43	asset, assets
relation	32	1.38	relate, related, relates, relating, relation
result	31	1.34	result, resulted, resulting, results
value	31	1.34	value, values
group	28	1.21	group
year	26	1.12	year, years
review	25	1.08	review, reviewed
markets	24	1.04	market, marketing, markets
recognised	18	0.78	recognisable, recognised

conditions	17	0.74	conditional, conditions
contract	17	0.74	contract, contracts
loss	16	0.69	loss, losses
goodwill	15	0.65	goodwill
million	15	0.65	million
carrying	14	0.61	carried, carrying
current	14	0.61	current, currently
following	14	0.61	follow, following
plant	14	0.61	plant, plants
business	13	0.56	business, businesses
operations	13	0.56	operates, operating, operation, operations, operator
production	13	0.56	product, production, productivity, products
trading	13	0.56	trade, trading
cash	12	0.52	cash
equipment	12	0.52	equipment
intangible	12	0.52	intangible, intangibles
power	12	0.52	power, powered
property	12	0.52	properties, property
decline	10	0.43	decline, declining
significant	10	0.43	significant, significantly
station	10	0.43	station, stations

CGU definition (Cash Generating Unit) category is a requirement of the IAS 36 (130(d, i)). CGU is the smallest group of assets generating independent cash inflows from other assets. Management needs to justify the grouping of assets for impairment review and identify independent cash flows for recognition and measurement of impairment loss. A description of the CGU in the financial statements is expected to give sufficient context regarding the grouping of assets for the impairment review and the impact of on the overall activities and operations of the entity. From the total sample of 332 company years in this research, 189 company years have provided information on CGUs in their notes to the financial statements. Bodycote in the annual report of 2016 (p.103) states: "*If the goodwill allocated to a cash-generating unit represents more than 15% of the Group's total goodwill carrying value, the cash generating unit is considered to be individually significant. The Group considers the North America ADE Heat Treatment and North America AGI Heat Treatment cash-generating units to be significant cash-generating units.*" Unlike this example, Grand Thornton (2014), observed that disclosures did not provide a description of the CGU, or such description lacked substance and/or entity-specific information. This research finds that among 189 company years many companies provide information about the methodology that management has used to define CGUs which usually are retail units, individual plants, business segments, divisions, local or regional centres or sometimes an entire company considered as a single cash generating unit. However, many company years only mention their CGUs and do not provide information on how management has defined a CGU.

Identifying CGUs is a critical step that has a significant impact on the impairment review and more so to the impairment charge that will be recognised in the financial statements. For instance, if an impairment is recorded, it will directly impact the recoverable amount of the assets that comprise the CGU and the effect would be adverse when an asset is wrongly included in the identified CGU. A way of improving disclosures about CGU definition should not be disclosure overloading but a concise significant description of CGUs and the methodology used in the identification of CGUs or subsequent changes due to changes in operations and activities of the companies.

Conclusion about RQ 1

This research finds that in general companies disclose the impairment charge for each group of assets which adds to the transparency of information with an 83% level of compliance.

Qualitative information about the Impairment policy, impairment indicators and circumstances and events are too general and lack clarity. The impairment policy disclosed in the financial statements is mainly a restatement of the text covered in the standard IAS 36. Impairment indicators and Circumstances and Events were analysed as internal or external indicators of impairments to outline the variation of the explanations and the language used by management in each case. This research finds that when the impairment was caused by an internal indicator the explanation was short and not clear. However, the qualitative disclosures about the Impairment indicators and Circumstances and Events are characterised by lack of clarity and insufficient explanations disguised by a standardised language. These findings are similar with the findings of Amiraslani, Iatridis, and Pope, (2013), Grand Thornton (2014), KPMG (2014).

This research finds that many company years only mention their CGUs and do not provide information on how management has defined a CGU. As mentioned in the survey presented in the KPMG report (2014) companies have defined CGU identification as an area of difficulty for allocating goodwill. As such, disclosures about the definition of CGU would add to the truthfulness and transparency of information.

RQ 2: What valuation methods are used, and how does management support key assumptions applied in their valuations?

Valuation Method

IAS 36 requires the disclosure of information used in estimating the recoverable amount where goodwill or indefinite-life intangible assets have been allocated to a CGU for impairment review purposes whether any impairment loss or reversal was

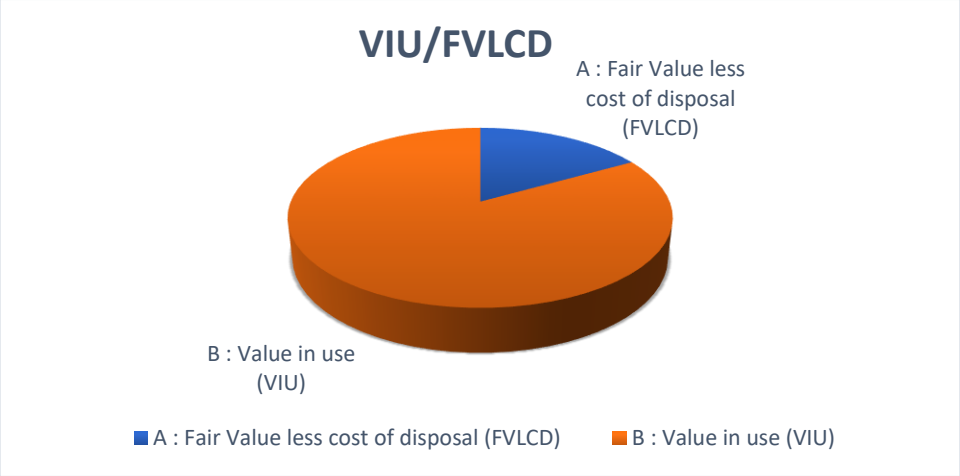
recognised during that year or not. Measurement uncertainty is an inherent characteristic for the estimation of the recoverable amount of an asset or CGU. A faithful representation can be undermined by the estimation uncertainty of the recoverable amount of the Asset or CGU. However, according to the Conceptual Framework (2019, 5.19) the use of reasonable estimates is essential and does not undermine the usefulness of the information if the estimates are clearly and accurately described and explained. Moreover, IAS 1 requires entities to disclose their assumptions about the future and other sources of estimation uncertainty that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year (IAS 1.125). This section proceeds with the evaluation of the disclosures regarding estimation uncertainty about the recoverable amount of an asset or CGU when FVLCD or VIU method is used as required in IAS 36.

Table 44 provides data about the methodology used in each Industry. Value in Use is the most used valuation method for determining the recoverable amount for each industry and also in general (graph 51).

Table 44

	Fair Value less cost of disposal (FVLCD)	***Value in use (VIU)***
Manufacturing	11	90
Services	7	76
Transportation	11	24
Retail Trade	7	34
Agriculture, Forestry, Fishing	0	1
Mining	3	10
Construction	0	2
Wholesale Trade	1	24
Real Estate	0	4

Figure 51: VIU/FVLCD



Source: Author

FVLCD: 40 company years have used the FVLCD to determine the recoverable amount of an asset or CGU. IAS 36 requires companies to disclose a description of the valuation technique used to measure fair value less cost of disposal. The fair values have been determined with the assistance of independent, professional valuers in 9 out of 10 *company years that have used FVLCD methodology of valuation* using a market comparison approach to estimate the realisable value.

Fair value less costs of disposal have been estimated using discounted cash flows in 3 company years. In that case the company is also required to disclose the discount rate used in the current measurement and previous measurement of the FVLCD when using a present value technique. Only one company year disclosed the discount rate used for the current and previous period. The rest only refer to the pretax discount rate which might be mentioned in other sections of the annual report.

For fair value measurements categorised within Level 2 and Level 3 of the fair value hierarchy, the company should disclose each key assumption on which management has based its determination of *fair value less cost of disposal*. Fair Value level of hierarchy is disclosed only in 7 out of 40 company years that have used FVLCD methodology of valuation. The level of hierarchy is determined based on the individual nature of each property or based on observable market data. This information is provided for 5 out 7 company years that have disclosed the classification of fair value level of hierarchy.

The key assumptions used in determining the *FVLCD, for the companies that have disclosed that information (25%), are property location, rents and yields* based on rentals and for equivalent properties in that location.

Figure 52: Word Cloud Key Assumptions for FVLCD

Source: Author

In general, the majority of company years that *have used the FVLCD* to determine the recoverable amount of an asset or CGU (75%) do not provide information in the disclosures on how market conditions may have influenced factors important in estimating recoverable amounts, where estimates of future cash flows are important.

Value in use is the present value of the future cash flows expected to be derived from an asset or cash-generating unit. This method is used by 266 company years in estimating the recoverable amount of an asset or CGU.

The Discount rate is disclosed by the majority of company years that have used the Value in Use method. The most frequent discount rate used is the *pre-tax discount rate* which is usually risk adjusted; some companies use post tax discount rate, while the post-tax weighted average cost of capital is used by 154 company years (WACC is a post-tax rate). According to IAS 36 companies should use the pre-tax rate discount rate. If the rate is derived initially on a post-tax basis, it must be adjusted to reflect a pre-tax rate. Government bond yields are used as the risk-free rate which is than risk adjusted to provide the final discount rate.

Revenue Growth rate is disclosed for 251 company years. The most frequent revenue growth rate is 2 % which has also been the annual inflation rate used as a basic growth rate by companies. 15 company years used the average GDP growth rates.

Figure 53: Word Cloud Revenue Growth Rate

Source: Author

In general companies have a high level of compliance with the requirement of IAS 36 regarding the disclosure of Revenue growth rate.

Revenue growth risk is disclosed by 66 company years. Hill and Smith disclose this information about the revenue growth risk in the annual report of 2009 (p. 62):

However, to reflect the differing risks and returns applied to the different cash generating units and the geographies in which they operate, the pre-tax discount rates and growth rates respectively have been adjusted as follows:
Galvanizing Services – France: 16.82% and 1.0% (2008: 12.28% and 1.0%) Galvanizing Services – USA: 18.26% and 1.0% (2008: 13.82% and 0.5%). Joseph Ash Limited: 15.37% and 1.0% (2008: 11.16% and 1.0%).

Usually, the revenue growth risk is accounted in Weighted Average Cost of Capital when management chooses to use WACC as the discount rate. Idox discloses in the annual report of 2012 (p.45)*: "individual Weighted Average Cost of Capital were calculated for each CGU and adjusted for the market's assessment of the risks attaching to each CGU's cash flows*".

Nevertheless, it is not enough to only provide information about the method used to estimate the discount rate without nominally disclosing the revenue growth risk rate. A greater level of compliance is expected for the disclosure of the revenue growth risk which is relevant information for the financial statement's users.

Period over which management has projected cash flows: IAS 36 requires the disclosure of the period over which management has projected cash flows based on financial budgets or forecasts. 248 company years have disclosed the information

according to this requirement, providing relevant information whenever a longer period is justified beyond five years.

Gross Margin: 48 company years have disclosed descriptive **information** about Gross margin.
The most frequent words used in describing the gross margin are costs, market, growth, selling, future, operating profit.

Figure 54: Word Cloud Gross Margin

Source: Author

Descriptions usually are quite general, for instance: "*Changes in selling prices and direct costs are based on past practices and expectations of future changes in the market*" (Kin and Karta, annual report 2011, p.85). Some companies tend to give more information such as: "*Raw material price, direct and indirect cost inflation budgets are prepared using the most up-to-date price and forecast price data available. Beyond the period for which forecasts are available management's best estimate of changes to input costs are used*" (Mcbride, annual report 2010, p. 95). The information would be more meaningful for the financial statements users if it would include comparative figures about gross margin, a form practiced by some companies and could be considered as the best precedent to follow.

Pre-tax projection of cash flows: 244 company years have disclosed information about cash flow projections. A typical disclosure would be as such: "*The pre-tax cash flow projections were based on financial plans approved by management and extrapolated beyond the budget year to the lease exit dates using growth rates and inflation rates appropriate to each country's economic conditions (Burberry Group 2010, p. 101)." To be complete each company is expected to disclose key* assumption on which management has based its cash flow projections. 172 company years have disclosed

such information which comprises 65% of 266 company years that have implemented Value in use for determining the recoverable amount of an asset or CGU.

The key assumptions used more frequently by management to determine pre-tax cash flows are the growth rates and discount rate. Grant Thornton (2014) argues that key assumptions incorporate more than the discount rate and growth rate, but also gross margin, government bond rates, exchange rate for the period, raw material price inflation, market share, etc. while comparative information is required. In general, such information about key assumptions is not disclosed. It is mostly descriptive, not including figures or specific information that would be considered as relevant for the users of financial statements. However, although there are some companies that have included numerical information about key assumptions, more is expected in terms of meaningful information by management in supporting their judgments.

*Sensitivity analysis***:** 196 company years included a sensitivity analysis in their disclosures about the impairment of assets. Typically, in this section companies disclose: *Sensitivity analysis was performed by increasing the discount rate by 1.5%, reducing the long-term growth rate by 0.3% and decreasing cash flows by 10% which resulted in an excess in the recoverable amount of all CGUs over their carrying amount under each approach. Management believes that any reasonable change in any of the key assumptions would not cause the carrying value of goodwill to exceed the recoverable amount (DCC, Annual report 2012, p.127).* However, according to Grand Thornton (2014) sensitivity analyses should incorporate all key assumptions beyond discount rate and growth rate.

Amiraslani et. al (2013) argue that since sensitivity disclosures are important in understanding the reliability of valuations, inadequacy of disclosures is likely to adversely affect investors' perceptions concerning the reliability of recognized goodwill values and related impairment tests.

Table. 45 provides the frequency data about the disclosure of the IAS 36 requirements for each year from 2005 to 2019.

Table: 45

Year	*Value in use (VIU)*	*Fair Value less cost of disposal (FVLCD)*	*Discount Rate*	*Revenue Growth Rate*	*Gross margin*	*Revenue growth risk*	*Period covered from business Plans*	*Cash flows*	*Comp/ Year*
2005	6	0	7	3	1	1	4	4	**13**
2006	13	0	13	10	1	2	11	14	**17**
2007	11	0	12	10	3	1	10	8	**15**
2008	17	1	17	14	4	2	13	16	**18**
2009	21	3	23	19	5	6	20	21	**27**
2010	21	4	21	19	3	8	16	16	**24**
2011	17	4	20	19	4	3	17	16	**23**
2012	24	1	25	22	2	4	21	21	**25**
2013	17	1	17	15	1	3	16	12	**17**
2014	19	2	19	19	4	3	16	18	**19**
2015	22	4	25	21	6	4	21	19	**26**
2016	19	4	20	16	2	6	17	16	**22**
2017	15	6	24	23	4	8	22	21	**25**
2018	19	4	21	18	4	7	18	17	26
2019	24	6	27	22	4	8	24	24	33
2020	1	0	2	0	0	0	0	1	2
	266	40	293	250	48	66	246	244	

Conclusion about RQ 2

Value in use (VIU) is the most frequently used method for estimating the recoverable amount of an asset or CGU. *Fair Value less the cost of disposal* (FVLCD) is a less used method, and the level of compliance with the IAS 36 disclosure requirements is not satisfactory.

The discount rate is not disclosed for each company year when FVLCD is estimated using discounted cash flows. Moreover, for the fair value measurements categorised within Level 2 and Level 3 of the fair value hierarchy, only 7 company years out of 40 have disclosed key assumptions according to IAS 36 (130, f, i, ii,iii).

For the Value in Use method the compliance level is better and has improved across the years for the disclosure of each of the categories.
Nevertheless, the level of compliance with the requirements of IAS 36 is lacking in its capacity and depth, needing to improve further to enhance the quality of financial information disclosed in the financial statements, mainly for providing truthful information and disclosing the assumptions used to justify measurement uncertainties.

RQ 3: How does the disclosure level vary, in terms of industry, year and auditing company.

The auditing company is a variable of interest for this research as it complements the quantitative study that examines the role the auditors play in monitoring and verifying specific management estimates in the process of the impairment of assets.

PCAOB and the IAASB evaluate audit quality based on audit inputs and processes, as well as audit outcomes, viewing a high-quality audit as one that obtains sufficient appropriate evidence. Gaynor, Kelton, Mercer, and Yohn (2016) argue that even if an audit opinion expressed is in fact the correct one, the audit is still considered low quality if the audit procedures that were applied in the process to ascertain the opinion were insufficient. Thus, a higher quality audit is one that provides a higher level of assurance based on sufficient appropriate evidence that the financial statements faithfully represent the firm's underlying economics. Hodgdon et al. (2009) in their study provide evidence that the statutory audit in ensuring that compliance on the implementation of IFRS is adequate.

This section investigates whether the impairments of assets have been within the scope of the auditing company, the frequency of auditing opinions, identifying the auditing companies that were more engaged in the impairment process and show how the auditing companies expressed their opinions.

Table 46 and Figure 55 show the number of company years audited from each audit company from 2005 to 2019. KPMG Audit Plc, PricewaterhouseCoopers LLP, Deloitte LLP, Ernst & Young LLP, and Grand Thornton LLP have audited 92% of the company years in our sample. This information is further analysed to explore whether the Impairment of assets has been within the scope of auditing companies across the years.

Table 46: The number of company years audited from each audit company

Audit Company	**Company/Year**	
KPMG Audit Plc	94	29.4%
PricewaterhouseCoopers LLP	84	26.3%
Deloitte LLP	71	22.2%
Ernst & Young LLP	28	8.8%
Grant Thornton UK LLP	18	5.6%
BDO LLP	12	3.8%
Sawin & Edwards	4	1.3%
BAKER TILLY UK AUDIT LLP	3	0.9%
RSM Robson Rhodes LLP	3	0.9%
Mazars LLP	3	0.9%
Bright Grahame Murray	1	0.3%
CHANTREY VELLACOTT DFK LLP	1	0.3%
Crowe Clark Whitehill LLP	1	0.3%
French Duncan LLP	1	0.3%
HLB Mann Judd	1	0.3%
Nexia Smith & Williamson	1	0.3%
RSM Tenon Audit Limited	1	0.3%
Saffery Champness LLP	1	0.3%
Stuart Woodward	1	0.3%
MOORE STEPHENS LLP	1	0.3%

Figure 55: The number of company years audited from each audit company

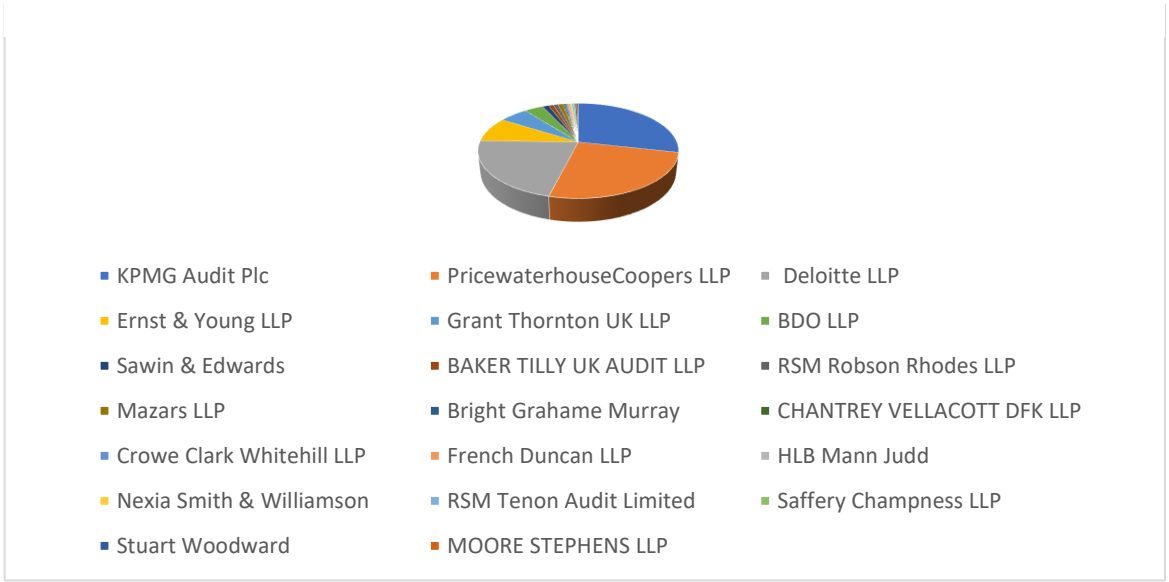
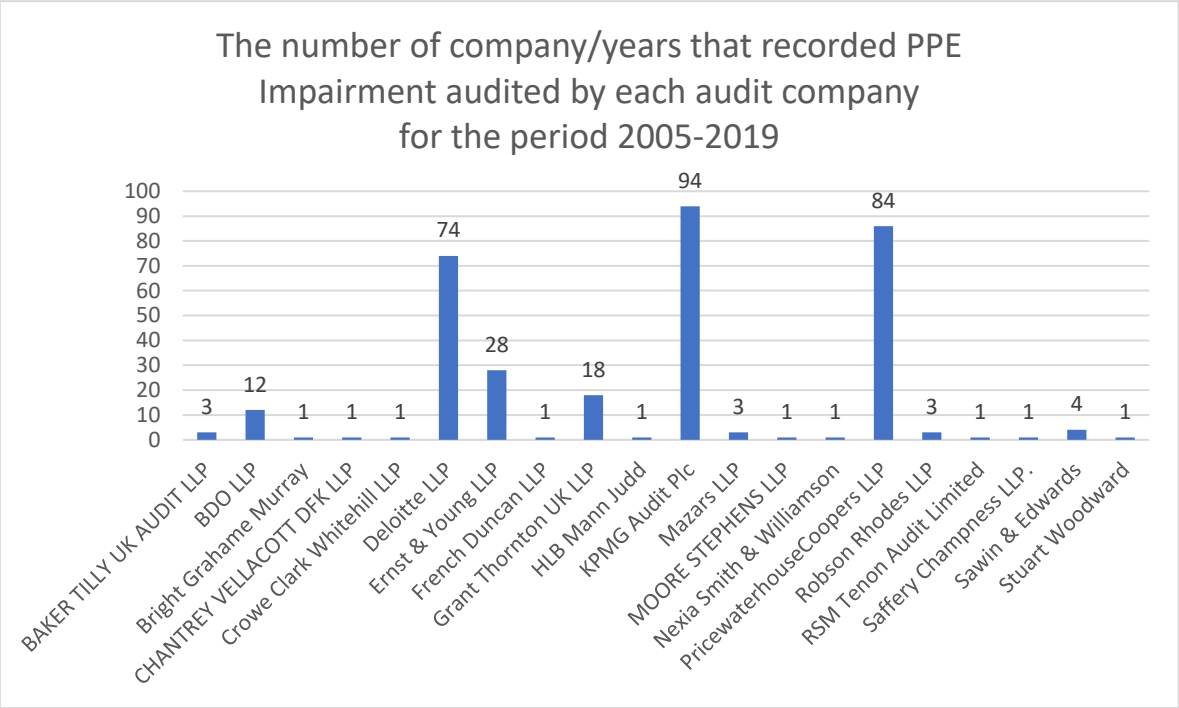


Figure 56: PPE Impairments and Audit Companies

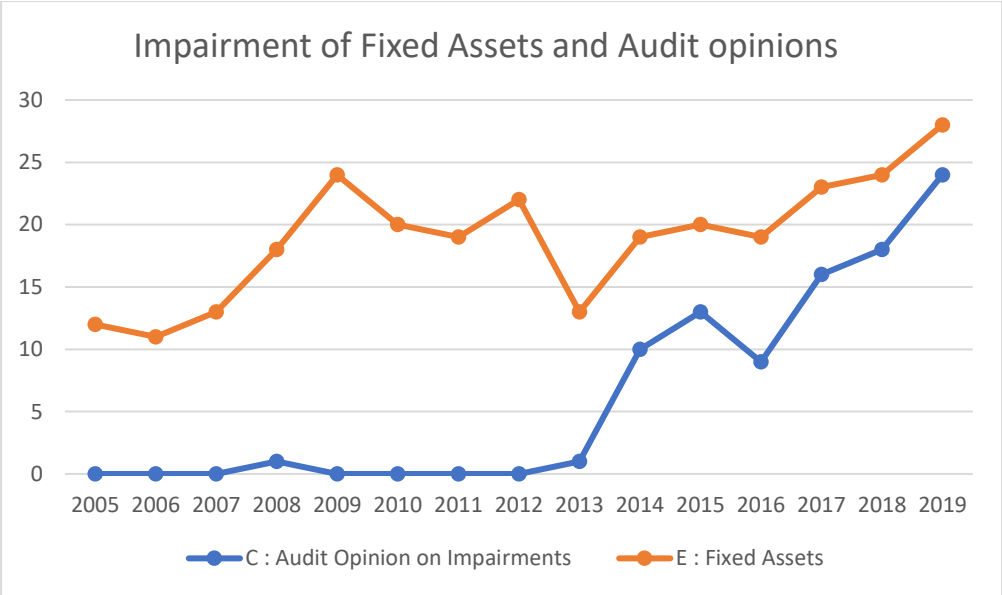


Source: Author

The Conceptual framework identifies verifiability as a component of faithful representation, which establishes an expectation for users of financial information that all reported information is auditable. The audit opinion on the impairment is a category in the designed project aiming to explore whether impairments have been within the scope of the auditing company for that year. During the period 2005 to 2019, we have only 94 audit opinions regarding the Impairment of assets out of 332 company years which comprises 28% of the sample. The number of the audit opinions increased after 2012, a period when the Audit reports changed significantly as well as the Internal audit report as part of CSR.

Each audit report is explored in two parts: *Key audit Matter* and the *How the audit addressed the key audit matter. The Graph below shows the number of audit opinions for each year compared to the number of company years:*

Figure 57: Audit Opinions on Impairments



Source: Author

Figure. 57 shows the number of audit opinions and the number of company years that have recorded an Impairment of fixed assets for the period 2005 to 2019. It is interesting to see that the number of the Impairments of fixed assets falls in 2013 which corresponds to the increase of the number of audit opinions and follows the same trend for the rest of the period. However, the highest number of Fixed asset Impairments before 2013 are recorded in 2009 a period that corresponds with the financial crises. The verifiability of the information from the audit companies and also from the internal audit are elements that are expected to provide a faithful representation of the financial information. Table 47 shows the audit opinions provided from each auditing company and the percentage compared to the total of audit opinions. PricewaterhouseCoopers LLP is the audit company that has addressed the Impairment of assets as e key audit matter more frequently.

Table 47

	Audit Opinion on Impairments	
BAKER TILLY UK AUDIT LLP	0	0%
KPMG Audit Plc	26	28%
BDO LLP	3	3%
Mazars LLP	1	1%
Deloitte LLP	24	26%
PricewaterhouseCoopers LLP	29	31%
Grant Thornton UK LLP	3	3%
RSM Robson Rhodes LLP	0	0%
Bright Grahame Murray	0	0%
Ernst & Young LLP	2	2%
CHANTREY VELLACOTT DFK LLP	0	0%
RSM Tenon Audit Limited	0	0%
Nexia Smith & Williamson	0	0%
MOORE STEPHENS LLP	0	0%
Sawin & Edwards	0	0%
Crowe Clark Whitehill LLP	1	1%
HLB Mann Judd	1	1%
Stuart Woodward	0	0%
Saffery Champness LLP	0	0%
French Duncan LLP	1	1%

Table. 48 shows the audit opinions provided for each industry where the highest number of audit opinions are provided for companies that operate in the Manufacturing sector (34%) followed by services 19%, Retail Trade 15% and Transportation 14%. It is within the focus of this project to study whether the auditing industry specialisation improves the timeliness of impairments.

Table 48

	Audit Opinion on Impairments	
Manufacturing	32	34%
Services	18	19%
Transportation	13	14%
Retail Trade	14	15%
Agriculture, Forestry, Fishing	2	2%
Mining	3	3%
Construction	2	2%
Wholesale Trade	8	9%
Real Estate	2	2%

Equipment	0	0%

In general, the audit companies during their audit have mostly been concerned in analysing the underlying assumptions. “Assumptions” is the most frequent word used by the audit company, after the word “impairments” mentioned 124 times. It is followed by assets, group and management which addresses these areas of concern. For instance one Audit company states in their report when they justify why the impairment of assets is a key audit matter that: *We focused on this area because the determination of whether or not these non-current assets are impaired involves subjective judgements and estimates about the future results and cash flows of the business (Animal care Group, Annual report 2018, p. 52).*

The other frequent words that follow *assumptions* are all elements used by management in their underlying assumptions in their estimation of impairments (table 49).
As an example of good practice of the Audit opinion which tackles all the elements of the impairment analysis and verification, is the report from PricewaterhouseCoopers LLP for AstraZeneca 2017 annual report:

“*For these assets we obtained the Group’s impairment analyses and tested the reasonableness of key assumptions including revenue growth or decline, the impact of probability of technical and regulatory success factors, the expected loss of drug exclusivity and discount rates applied. We challenged management to substantiate its assumptions including comparing certain assumptions to industry and economic forecasts. We also verified the expected performance of certain assets to the Board approved long range plan.*
We assessed the integrity of supporting calculations and used our valuation specialists to help us assess the valuation methodology applied by management including the integrity of the underlying models.

We assessed management’s sensitivity analysis and performed our own for significant assets where headroom was limited, focusing on what we consider to be reasonably possible changes in the key assumptions.

As a result of our work, we determined that the impairment charge recorded for intangible assets was appropriate. For those intangible assets where management determined that only partial impairments were required, the assumptions made were corroborated with certain information including historical market trends and performance analogues of similar products already in the market.

We also evaluated the design and tested the operating effectiveness of management’s controls in assessing the carrying value of goodwill and intangible assets. We determined that the controls were designed and operating effectively.
We reviewed the disclosures made in the financial statements, including sensitivity analysis and the reasonably possible downsides. We are satisfied that these disclosures are appropriate.”

Another element on the focus of audit opinions is *risk,* which is mentioned 51 times, together with the word *sensitivity* 43 times. These address uncertainties regarding the carrying value of assets like management’s assertions of the future

utilisation of assets supporting the carrying value by, for instance, reviewing the strategic plan, the appropriateness and reasonableness of the assumptions concerning inputs to the discount rate against market expectations and growth rate. These elements are significant and add to the verifiability and to the truthfulness of disclosed information.

Figure. 58 and Table. 49 outline the most frequent words used in audit opinions regarding the Impairment of assets as discussed in this section.

Figure 58: Word Cloud Audit Opinions on the Impairment of Assets

Source: Author

Table 49

Word	*Length*	*Count*	*Weighted Percentage (%)*
impairment	10	193	2.88
assumptions	11	124	1.85
assets	6	117	1.75
group	5	115	1.72
management	10	110	1.64
goodwill	8	80	1.19
key	3	78	1.16
cash	4	69	1.03
value	5	66	0.99
assessment	10	58	0.87
financial	9	57	0.85
statements	10	54	0.81
risk	4	51	0.76
future	6	49	0.73
used	4	49	0.73

carrying	8	47	0.70
disclosures	11	46	0.69
intangible	10	46	0.69
audit	5	45	0.67
growth	6	45	0.67
rates	5	44	0.66
considered	10	43	0.64
sensitivity	11	43	0.64
discount	8	42	0.63
including	9	42	0.63
year	4	41	0.61
note	4	38	0.57
performed	9	35	0.52
reasonable	10	34	0.51
forecasts	9	33	0.49
market	6	33	0.49
valuation	9	33	0.49
amount	6	32	0.48
whether	7	32	0.48
cgu	3	31	0.46
acceptable	10	29	0.43
procedures	10	29	0.43

This research shows that Audit companies, after considering the Impairment of assets as a key audit matter, have kept it as such for several years afterwards. However, the explanations remain almost the same year after year when the users of financial statements expect more relevant information regarding the progress of the process from the audit company. The internal audit report or the management reports that might be the sources of such information were not within the scope of this research.

However, according to ISA (UK) 610 (11), the external auditor has sole responsibility for the audit opinion expressed, and that responsibility is not reduced by the external auditor's use of the work of the internal audit function or internal auditors to provide direct assistance on the engagement. Nevertheless, the impact of large audit firms in encouraging IFRS compliance and the verifiability of the information regarding the impairment of assets has improved the quality of financial information.

Industry (1 digit SIC Code) refers to the industry in which the company operates and serves as an attribute in comparing the level of disclosure about assets impairment across industries. The majority of the impairment of fixed assets and intangible assets is recorded within Manufacturing industry followed by the Services

industry (table 50). Impairment reversals are more frequent in Services while the impairments of Investments at cost in associates are more frequent in Transportation industry.
From a total 161 impairments recorded in the manufacturing sector, we only have 32 Audit opinions (table 48).

Table 50

	Fixed Assets	*Impairment reversals*	*Intangible Assets*	*Investments at cost Associate*
Manufacturing	99	5	57	5
Services	73	11	52	9
Transportation	30	6	17	11
Retail Trade	35	7	19	4
Agriculture, Forestry, Fishing	0	0	2	0
Mining	10	1	9	2
Construction	4	0	1	0
Wholesale Trade	31	1	23	4
Real Estate	5	0	3	1

Table 51 provides data on the information disclosed for the categories required according to IAS for each Industry while Table 51 presents the level of disclosure for each category and each company year compared to the total number of impairments recorded for each industry.

Data demonstrate that the highest level of compliance is for *the discount rate* category in all industries followed by *the period covered from* the management budgets and *revenue growth rate* while the lowest level of disclosure appears to be *gross margin* and the *revenue growth risk*.

Retail trade and *Wholesale trade* are two industry sectors that have a higher level of compliance than other sectors (Agriculture, Forestry, Fishing is excluded because there are only 2 company years that have recorded asset impairments).
There is a lower level of disclosure regarding *CGU definition* and disclosures regarding *CGU recoverable amount* in the Manufacturing industry. This could be because of the complexity of the business model for the companies that operate in this sector. However, CGU definition is a key issue in the credibility of the impairment process and as such there is plenty of room for improvement and better compliance despite the complexity of the IAS 36 requirements which can be challenging to apply in practice.
Real estate sector as well underperforms in all disclosure categories although the method of valuation of the recoverable amount is Value in Use which means that all disclosure categories are expected to be disclosed (Graph). Real Estate sector mainly

records Fixed assets impairments for which the requirements of IAS 36 for the disclosure of the assumptions used in determining the recoverable amount of the asset or CGU are encouraged but not mandatory as are for the Intangible assets.

Table 51

Disclosures	*Manufacturing*	*Services*	*Transportation*	*Retail Trade*	*Agriculture, Forestry, Fishing*	*Mining*	*Construction*	*Wholesale Trade*	*Real Estate*	*Total*
External Circumstances	23	20	18	3	1	4	0	5	3	77
Internal Circumstances	71	40	19	25	2	6	1	14	1	179
Fair Value less cost of disposal (FVLCD)	11	7	11	7	0	3	0	1	0	40
Value in use (VIU)	90	77	24	34	1	10	2	24	4	266
Cash flows	80	64	21	34	2	9	2	28	4	244
Discount Rate	98	79	27	38	2	11	3	29	6	293
Gross margin	18	11	6	10	0	0	2	0	1	48
Period covered from business Plans	85	69	25	30	2	0	2	28	5	246
Recoverable amount of CGU	30	11	6	8	2	0	0	1	1	59
Revenue Growth Rate	85	74	18	32	2	6	2	26	5	250
Revenue growth risk	22	18	9	13	0	2	1	0	1	66
Sensitivity analysis	64	60	20	14	2	7	2	22	3	194
CGU definition	50	57	22	27	2	6	3	18	3	188

Table 52

Industry	*Cash flows*	*Discount Rate*	*Gross margin*	*Period covered from business Plans*	*Recoverable amount of CGU*	*Revenue Growth Rate*	*Revenue growth risk*	*Sensitivity analysis*	*CGU definition*
Manufacturing	72%	88%	16%	77%	27%	77%	20%	58%	45%
Services	78%	96%	13%	84%	13%	90%	22%	73%	70%
Transportation	60%	77%	17%	71%	17%	51%	26%	57%	63%
Retail Trade	85%	95%	25%	75%	20%	80%	33%	35%	68%
Agriculture, Forestry, Fishing	100%	100%	0%	100%	100%	100%	0%	100%	100%
Mining	50%	61%	0%	0%	0%	33%	11%	39%	33%
Construction	50%	75%	50%	50%	0%	50%	25%	50%	75%
Wholesale Trade	88%	91%	0%	88%	3%	81%	0%	69%	56%
Real Estate	40%	60%	10%	50%	10%	50%	10%	30%	30%

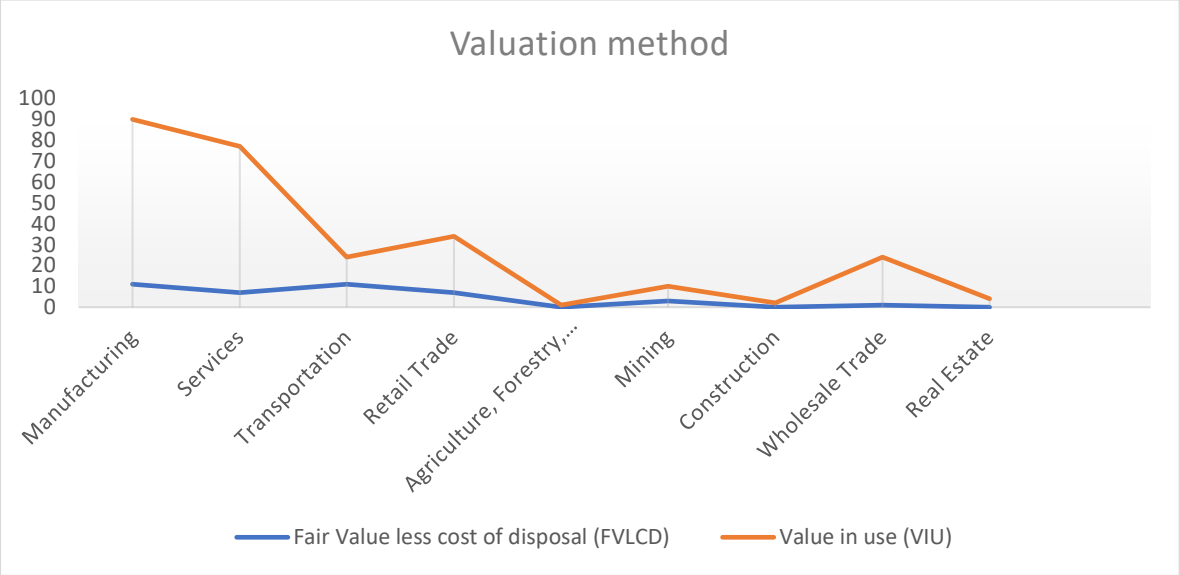


Figure 59: Valuation Method

Source: Author

The main causes of asset impairments were due to *internal circumstances and events* for most of the industries. However, companies that operate in the Real estate industry mention *external circumstances and events* as the cause of the asset impairments more frequently, while Transportation industry is affected equally by external and internal circumstances and events (Table 53). Nevertheless, the disclosure about the circumstances and events as mentioned previously need to be more precise and

structured meaning that all the information should be located in a single note in financial statements and also be not only compliance driven, but meaningful so as to be useful to the financial statement's users.

Table 53

Industry	*External Circumstances*	*Internal Circumstances*
Manufacturing	23	71
Services	20	40
Transportation	18	19
Retail Trade	3	25
Agriculture, Forestry, Fishing	1	2
Mining	4	6
Construction	0	1
Wholesale Trade	5	14
Real Estate	3	1

Conclusion about RQ 3:

Audit companies have an impact in the verifiability of the information regarding the impairment of assets improving the quality of financial information and are also expected to encourage the IFRS compliance. This research finds a high concentration of large audit firms and an increase in the engagement of these audit companies in the verifiability of the assumptions used by management in estimating the recoverable amount which adds to the quality of financial reporting. Research has suggested that financial reporting complexity and the quality of financial reporting systems are associated with audit quality (Gaynor, et al. 2016; Peecher et al. 2013).

According to the industry in which the company operates, the majority of the impairment of fixed assets and intangible assets is recorded within Manufacturing industry, followed by the Services industry (table 49). Impairment reversals are more frequent in Services while the impairments of Investments at cost in associates are more frequent in Transportation industry. The level of compliance with IAS 36 requirements varies across industries while there is lack of disclosure regarding CGU definition, CGU recoverable amount, revenue growth risk and gross margin across all industries. These categories are key elements used by management in the impairment process and preparers should disclose the underlying assumptions, for the information to be verifiable. Excluding this information from financial reports might make them incomplete and therefore possibly misleading.

6. Conclusions

Information on asset impairments should be relevant in evaluating the operating capacity and risks of companies, supporting investors in better assessing the economic values of assets and estimating the returns on their investments.
To examine the reporting behaviour and the usefulness of financial information disclosed in the financial statements, this research investigates whether companies comply with the IAS 36 requirements as a prerequisite of disclosure quality.

Disclosure quality varies across industries and is also dependent on the audit quality for the verification of the inputs of the impairment model as well as checking the model itself, ensuring a faithful representation of the information disclosed about the impairment process. This research finds that in general companies disclose the impairment charge for each group of assets which adds to the transparency of information with an 83% level of compliance.

Qualitative information about the Impairment policy, impairment indicators, circumstances and events are too general and lack clarity. The impairment policy disclosed in the financial statements is mainly a restatement of the text covered in the standard IAS 36.

This research finds that many company years only mention their CGUs and do not provide information on how management has defined a CGU. As such, disclosures about the definition of CGUs would add to the truthfulness and transparency of information.
Value in use (VIU) is the most frequently used method for estimating the recoverable amount of an asset or CGU. *Fair Value less the cost of disposal* (FVLCD) is a less used method, and the level of compliance with the IAS 36 disclosure requirements is not satisfactory.

For the Value in Use method, the compliance level is higher, however, the level of compliance with the requirements of IAS 36 is lacking in its capacity and depth, needing to improve further to enhance the quality of financial information disclosed in the financial statements, mainly for providing truthful information and disclosing the assumptions used to justify measurement uncertainties.

In general, the disclosure level is lower concerning the impairment of fixed assets than the goodwill impairment. The impairment of fixed assets is usually discussed in the Impairment of Intangible assets section of the notes to the financial statements implying that the same assumptions are valid for the PPE as well. This reporting behaviour derives from the IAS 36 (132, 134) where an entity is only encouraged (not obliged) to disclose assumptions used to determine the recoverable amount of the assets or cash-generating units during the period. These disclosure

requirements are obligatory only when goodwill or an intangible asset is included in the carrying amount of that unit. Hirschleifer and Teo (2003) address the issue of why preparers care about the choice between recognition versus disclosure, and between informationally equivalent forms of disclosure. Owing to limited attention, such choices can affect investor perceptions and market price.

Moreover, disclosure categories are further analysed according to the audit company and audit opinions, type of industry, and the year when the impairment is recorded. During the period 2005 to 2019, we have only 94 audit opinions regarding the Impairment of assets out of 332 company years which comprises 28% of the sample. The number of audit opinions increased after 2012, a period when the Audit reports changed significantly as well as the Internal audit report as part of CSR. This research finds a high concentration of large audit firms and an increase in the engagement of these audit companies in the verifiability of the assumptions used by management in estimating the recoverable amount which adds to the quality of financial reporting.

According to the industry in which the company operates, the majority of the impairment of fixed assets and intangible assets is recorded within the Manufacturing industry, followed by the Services industry (table 36). Impairment reversals are more frequent in Services while the impairments of Investments at a cost in associates are more frequent in the Transportation industry. The level of compliance with IAS 36 requirements varies across industries, however there is a lack of disclosure regarding CGU definition, CGU recoverable amount, revenue growth risk and gross margin across all industries. These categories are key elements used by management in the impairment process and preparers should disclose the underlying assumptions, for the information to be verifiable. Excluding this information from financial reports might make them incomplete and therefore possibly misleading.

For instance, in case of the disclosure *of internal circumstances* as the causes of impairment charges, the information lacks clarity and is usually brief, implying that management is not motivated to disclose more about circumstances and events that were within their responsibility. Explanations that include *external circumstances and events,* on the other hand, are a somewhat longer, tend to sound clear but somehow still remain ambiguous and general. Both these observations are indications of accounting bias. Moreover, the entire structure of the annual report needs to improve as information is scattered in various sections of the report, and it can be difficult and time-consuming to identify useful information.

In general, the level of compliance should be higher and the quality of information more refined. This is relevant because even though economic uncertainties are not directly an impairment indicator, the individual economic events that together lead to, or stemmed from, the crisis appears to be relevant in triggering impairment decisions. After the Covid 19 pandemic, impairment testing and reporting

are expected to be of high importance because current economic circumstances generally mean that many companies across various industries will continue to face potentially impaired assets.

Impairment recording is not solely derived from reporting an impairment charge, but from the process of identifying potential impairment losses. Disclosures of the relevant assumptions are essential, playing a profound role to the users of the financial statements in their decision-making process as well as in assessing management's stewardship of the entity's economic resources.

Chapter 8: Conclusions and recommendations

1. Conclusions

The literature review presented a comprehensive overview of the existing research on asset impairment and its implications for financial reporting practices. It highlighted the ongoing debate surrounding the strengths and weaknesses of the impairment model, which is deeply influenced by the political economy and market logic. Accounting theory is portrayed as a tool used by actors to justify accounting policies that favour their interests.

However, despite the valuable insights gained from the literature, a significant gap remains in the understanding of the conservatism in accounting and management incentives on the impairment process in UK. Understanding the relationship between managerial motivations, and the impairment process is crucial in shedding light on the potential reporting failures and biases that may impact the reliability and transparency of financial statements. Such insights are particularly relevant given the complex and dynamic nature of the accounting environment, where external pressures and internal factors can shape managerial decision-making.

The review showcased the diversity of conclusions drawn from prior studies, with some arguing for the reliability of impairment recognition and its impact on financial statement quality, while others highlight challenges and limitations.
Overall, the literature review has deepened our understanding of asset impairment and its broader implications for financial reporting practices, and provided a solid basis for investigating asset impairments, accounting conservatism, and their interplay in the UK context. It highlighted the significance of conservatism in reducing information asymmetry and emphasised economic factors and reporting incentives influencing impairment recognition. It lays the foundation for further investigation into the specific factors influencing impairment decisions and the quality of financial statements.

The theoretical framework illuminated the complexities involved in timely impairment recognition and the interrelationship between accounting, management, and markets.

By adopting a Functionalist Paradigm within Burrell and Morgan's paradigmatic framework, this research aimed to understand the mechanisms and functions of financial reporting for asset impairments within the context of IAS 36.

By employing the triangulation of theories approach, this research provided a comprehensive and nuanced understanding of accounting practices. This study

explored how concepts such as information asymmetry, conservatism in accounting, and the timeliness of asset impairment recognition intersect with various theoretical frameworks including agency theory, the income smoothing hypothesis, signalling theory, and market-based theories.

Chapter 5: Timeliness of Impairments

Our results show that conservatism captured by C_Score is common for the 75% of firm year financial statements indicating for timely recognition of an asset impairment loss.

From a research perspective, results show an increased conservatism in financial reporting indicating a cautious approach to recognising and reporting financial information. The empirical investigation on the timeliness of impairment recognition provided valuable insights into the relationship between conservatism and asymmetric timelines.

Stakeholders, including investors and creditors, are more likely to trust financial information that reflects potential risks and uncertainties. This trust is essential for the efficient functioning of capital markets.

While both neutrality and prudence aim to enhance the quality of financial reporting, they have distinct emphases. Neutrality promotes objective and unbiased reporting, while prudence emphasizes a cautious approach to recognizing potential losses.

That said, this research favours the exercise of Prudence while companies recognize losses and liabilities when they are probable.

However, clear disclosure in the financial statements and accompanying notes is crucial. Companies should provide a full explanation of the nature of potential losses and uncertainties, as well as the methods used in estimation.

This research provided a valuable contribution to knowledge by researching the relationship between Conservatism in Accounting and Leverage, Stock Return Volatility, Corporate Governance and Credit Rating for the UK FTSE all shares. This research has not been done so far to the researcher’s knowledge, particularly for Credit Ratings.

The positive association between reporting conservatism and leverage suggests that conservatism may be adopted to meet lenders' demands. Additionally, the correlation with stock return volatility reinforces the idea that conservatism serves as a response to information asymmetry.

Results infer that those firm years with high C_Score have higher asymmetric timelines indicated by Basu (1997) coefficients and have more negative ROA demonstrating for conservatism in accounting.

The negative impact of lower earnings in ROA due to conservatism can also be interpreted through *signalling theory*, where it serves as a signal of conservative accounting practices, to convey stability and mitigate negative perceptions from stakeholders. On the other hand it is important to note that it could also signal operational challenges.

NOACC refer to accruals that are not directly related to the company`s operating activities being adjustments made to recognise revenues and expenses in the period that they are earned or incurred regardless when the cash is received or paid. These accruals help to *smooth out* the impact of cash flows on reported income. Conservatism encourages recognising losses as soon as there is evidence of an asset impairment. Results show that the mean of NOACC is negative for most of the conservative firms affirming the hypothesis that firm years with high C_Score have higher asymmetric timelines and have more negative NOACC.

Corporate governance models have been developed to address *agency conflicts* (According to Shapiro, 2004). The relationship between conservatism and corporate governance performance reflects the alignment of management practices with shareholder interests, impacting the extent to which companies choose to adopt conservative reporting policies.

This research demonstrated that companies with high Corporate Governance index had lower C_Score an indication that Companies with high corporate governance index scores are more likely to adhere strictly to accounting standards and regulatory requirements. Having internal controls and compliance mechanisms in place that ensure accurate and reliable financial reporting, reduces the need for conservative accounting adjustments. These mechanisms reduce the likelihood of managerial opportunism or agency conflicts.

Likewise, credit rating agencies, in their evaluation of a company's creditworthiness, consider the level of conservatism in financial reporting, which have implications on their debt ratings. This research demonstrated that that companies with high C_Score had higher credit ratings.

While C-Score did not predict the Basu coefficient of asymmetric timeliness, the research overall contributed significantly to understanding the nature and effects of conservatism and impairments. The findings provide valuable knowledge for accounting practitioners and contribute to the literature on conservatism in accounting within the UK context.

Chapter 6: Audit Industry Specialisation

The investigation on the impact of audit industry specialisation on impairment timeliness revealed that companies engaging industry-specialized auditors tended to recognize impairment losses in a timelier manner when triggered by negative news

signals. This suggests that specialized auditors possess expertise that enables them to identify impairments more accurately and timely.

However, the continuous measure of audit specialisation SPEC did not yield significant results. This calls for further research to refine measurement methods to capture the influence of audit industry specialisation more accurately.

The findings have practical implications for companies in their decision-making process regarding impairment recognition and selection of audit firms. Engaging specialized auditors can enhance the verifiability of impairment assumptions and contribute to the overall quality of financial reporting.

Chapter 7: Content Analysis

The content analysis of financial statements aimed to evaluate the quality of information disclosed concerning asset impairment according to the requirements of IAS 36. By examining the level of compliance with disclosure standards and analysing the content of disclosed information, this chapter provided valuable insights into the reporting behaviour of companies and the usefulness of financial information for stakeholders.

Level of Compliance:

The research revealed that, in general, companies demonstrated a relatively fair level of compliance with the requirement to disclose the *impairment charge* for each group of assets. This level of compliance is encouraging as it enhances the transparency of financial information.

Measurement Method:

The Value in Use (VIU) method stands as the primary approach for estimating an asset's or CGU's recoverable amount. On the other hand, the Fair Value less the cost of disposal (FVLCD) method, though less commonly employed, is also utilized. Unfortunately, the adherence to the IAS 36 disclosure requirements falls short of satisfaction.
While the Value in Use method displays relatively better compliance, there is room for improvement in meeting the requirements of IAS 36. To enhance the quality of financial information disclosed in the financial statements, greater efforts are needed in providing accurate and transparent data, particularly regarding the disclosure of assumptions made to justify measurement uncertainties.

In general, the majority of company years that *have used the FVLCD* to determine the recoverable amount of an asset or CGU (75%) do not provide information in the disclosures on how market conditions may have influenced factors important in estimating recoverable amounts, where estimates of future cash flows are important.

Depth and Clarity of Disclosures:

The depth and clarity of certain qualitative disclosures related to impairment were lacking. For instance, disclosures about the definition of Cash-Generating Units (CGUs) were often brief and did not provide adequate information on how management had defined a CGU. This limitation can lead to potential misinterpretations and make it challenging for stakeholders to assess the appropriateness of impairment decisions.

In general, the disclosure level is lower concerning the impairment of fixed assets than the goodwill impairment. The impairment of fixed assets is usually discussed in the Impairment of Intangible assets section of the notes to the financial statements implying that the same assumptions are valid for the PPE as well.

Similarly, disclosures related to impairment indicators, circumstances, and events were often too general and lacked clarity. While some companies included external circumstances and events, the information provided remained ambiguous and did not provide sufficient insights into the underlying factors influencing impairment decisions. This lack of specificity could hinder stakeholders' ability to make informed decisions and assess management's stewardship effectively.

Variability Across Industries:

The research also found variations in disclosure quality across industries. While some industries demonstrated higher levels of compliance with IAS 36 disclosure requirements, others fell short in providing comprehensive and transparent information.
This discrepancy highlights the need for industry-specific guidelines and best practices to ensure consistency and accuracy in financial reporting.

Impact of Economic Uncertainties:

The findings indicated that economic uncertainties were not directly recognized as impairment indicators. However, individual economic events related to external circumstances and events were found to be relevant triggers for impairment decisions.

Given the current global economic uncertainties, it is necessary for companies to recognize the significance of these events in their impairment assessments.

Reporting Structure:

Another critical observation was the need to improve the overall structure of annual reports.
Information related to asset impairments was often scattered across various sections, making it difficult and time-consuming for stakeholders to identify relevant information. A well-organized and structured reporting framework would enhance the accessibility and comprehensibility of impairment-related disclosures.

A clear disclosure in the financial statements and accompanying notes is necessary. Companies should provide a full explanation of the nature of potential losses and uncertainties, as well as the methods used in estimation.

To enhance the quality of financial information disclosed in the financial statements, greater efforts are needed in providing accurate and transparent data, particularly regarding the disclosure of assumptions made to justify measurement uncertainties.

Similarly, disclosures related to impairment indicators, circumstances, and events were often too general and lacked clarity.
In conclusion, the content analysis chapter shed light on the quality of information disclosed in financial statements concerning asset impairment. There is room for improvement in the depth, clarity, and organization of disclosures. By implementing the recommended practices and enhancing reporting practices, companies can provide stakeholders with more transparent and reliable financial information, ultimately contributing to better decision-making and increased trust in financial reporting.

2. Recommendations:

Implication for Standard Setters, Auditors and Companies:

Enhance Disclosure Clarity:

Accounting conservatism serves to mitigate agency costs arising from moral hazard and adverse selection. Consequently, policymakers must strive to reduce information asymmetry between management and stakeholders without exacerbating agency costs, potentially achieved through more credible disclosures.

Companies should focus on improving the clarity and specificity of impairment-related disclosures:

Providing detailed information about CGU definitions, impairment indicators, circumstances, and events will enable stakeholders to better understand the rationale behind impairment decisions.

Disclosures should recognize *the significance of individual economic events* as potential triggers for impairment assessments. Disclosure of such events and their impact on impairment decisions will provide stakeholders with valuable insights into the company's financial position.

Streamline Reporting Structure:

Companies should adopt a well-organized reporting structure that consolidates impairment-related information about PPE into a dedicated section.
This approach will make it easier for stakeholders to access and analyse relevant data.

Industry-Specific Guidelines:

Regulators and standard setters should consider developing industry-specific guidelines to ensure consistent and comprehensive disclosure practices across sectors. This approach would improve comparability and facilitate a more meaningful analysis of financial information.

Implications for policymakers

Implement Best Practices in Reporting:

As a recommendation to policymakers, I strongly advocate for companies to implement best practices in financial reporting. This entails prioritizing clear segmentation of Cash Generating Units (CGUs), ensuring meticulous documentation of impairment decisions, and facilitating comprehensive disclosure of economic events and circumstances that impact asset impairments. By endorsing these measures, policymakers can foster transparency, accountability, and investor trust in financial markets.

Directions for further research

Enhance Auditor Specialisation Measurement:

Given the multidimensionality of audit industry specialisation, further research and development of more precise measurement methods are recommended to capture its influence accurately on impairment recognition.

Future research should delve deeper into the organizational and behavioural aspects that influence the impairment process.

Empirical investigations exploring the role of managerial incentives, organizational norms, and cultural factors in impairment decisions can offer a more comprehensive understanding of the phenomenon.

Additionally, comparative studies across different industries and regulatory contexts could provide valuable insights into the universality or context-specificity of the observed relationships.
By bridging this gap in the literature, researchers and practitioners can gain a more nuanced understanding of the impairment process, allowing for improved financial reporting practices and more informed decision-making by stakeholders.

In conclusion, this PhD thesis has provided valuable contributions to the field of accounting by shedding light on the intricacies of asset impairment and financial reporting practices. This research serves as an initial step in evaluating the presence of conservatism in accounting practices within the UK FTSE all shares after the implementation of IAS 36 “The impairment of Assets”.

The research findings enhance our understanding of the complexities involved in impairment recognition, disclosure, and the role of auditors. By implementing the recommended practices and continuing research in this area, companies and regulators can enhance the provision of reliable and transparent financial information, ultimately benefiting stakeholders, investors, and the broader market.

3. Limitations of the Research

Despite a persistent and thorough approach, this research faces certain limitations that need to be acknowledged:

Data Availability: This research relies on publicly available financial statements which may limit the availability of certain detailed disclosures required for an in-depth

analysis. Some companies may also withhold sensitive information that would be relevant for this research.

Generalizability: While the research aims to provide valuable insights into the impact of IAS 36 on the quality of financial statements for UK companies, the findings might not be generalizable to companies operating in different regulatory environments or financial reporting frameworks.

Reliability of Data Assumptions: The accuracy of this research depends on the reliability of the financial data and the reasonableness of assumptions made during the analysis. Any limitations or inaccuracies in the data might impact the research's conclusions.

It is important to acknowledge that the multidimensionality of audit industry specialisation poses a limitation to this study. To address this, further research is recommended to develop more precise measurement methods that can accurately capture the influence of audit industry specialisation on impairment recognition.

External Factors: The study considers the impact of IAS 36 on financial reporting quality, but it may not account for external economic, market, or industry-specific factors that could also influence financial statements.

Despite these limitations, this research endeavours to provide meaningful insights into the implications of IAS 36 on the quality of financial statements for UK companies. The findings will contribute to the existing body of knowledge in accounting, while also highlighting potential areas for further research and improvement in financial reporting practices.

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Appendix 1

1. *Xi* is earnings before extraordinary items divided by the lagged market value of equity (MVE), while *i* is the firm's index.
2. *Ri* is the annual return compounded from monthly returns beginning the fourth month after the fiscal year-end to ensure that that the market response to the previous year's earnings is excluded. It measures the news as in Basu (1997) and Khan and Watts (2009).
3. *D* is a dummy variable that is equal to 1 when returns are negative and equal to 0 when returns are positive. According to Basu (1997), it will capture the intercept and slope effects for the negative return sample.
4. *Size*: is the natural logarithm of market value of equity.
   Market value of equity is available in DataStream.
5. *M/B* ratio: is the market value of equity to the book value of equity at the end of the year.
   Book Value of Equity was calculated in Excel using data from the financial statements that were retrieved from DataStream: Total Assets-Total Liabilities= Total Equity
6. *Lev:* is leverage defined as long term debt plus short-term debt divided by the market value of equity. Leverage was calculated in Excel using data from financial statements that were retrieved from DataStream.
7. *AGE*: is the age of a company in a given year, measured as the number of years a company has been listed in the London Stock Exchange.
   This variable was available in DataStream.
8. Credit rating[14] is the credit rating index and was retrieved from DataStream for those company years that it was available.
9. Investment Cycle is a decreasing measure of the length of the investment cycle which is defined as depreciation expense deflated by lagged assets.
10. *CG*: is the Corporate Governance index.
    This variable is standardized and retrieved from DataStream for those company years that the information was available.
11. IMPAIR_NEG/Pt-1, equals total impairments per share (as a negative value) deflated by price per share at the beginning of the year.
12. *SPEC*: is the audit industry specialisation.
    This variable is defined as the total audit fee generated by the audit company in a two digit SIC code industry deflated by the total audit revenues for that firm in a given year.
13. ΔOCF the change in operating cash flow for company *i* from period t-1 to t divided by total market capitalization at the end of t-1.
14. ΔSales the change in sales for company *i* from period t-1 to t divided by total market capitalization at the end of t-1.
15. Market value of equity is available in DataStream.
16. *BTM* ratio is the book value of equity to the market value of equity at the end of the year. Book Value of Equity was calculated in Excel using data from the financial statements that were retrieved from DataStream: Total Assets-Total Liabilities= Total Equity

[14] CR is credit rating for each company by credit rating agencies.

Appendix 2

IAS 36, "Impairment of Assets," has undergone several amendments and revisions since 2005. Here are some of the notable changes:

1. **2005**: The standard was revised to clarify the scope of its application and to enhance the disclosure requirements for impaired assets. This revision aimed to ensure that entities provide sufficient information to users of financial statements to understand the nature and extent of impairments recognized.
2. **2007**: An amendment was made to IAS 36 regarding the determination of a cash-generating unit (CGU) for the purpose of impairment testing. This amendment aimed to clarify the identification of CGUs and the allocation of impairment losses when the recoverable amount of an asset cannot be determined at the individual asset level.
3. **2008**: Another amendment addressed the reversal of impairment losses recognized in prior periods. It clarified the conditions under which an impairment loss could be reversed and provided guidance on the measurement of the asset after such reversal.
4. **2013**: Further amendments were made to IAS 36 as part of the annual improvements process. These amendments clarified that the highest and best use of a non-financial asset should be determined based on its existing use or its highest and best alternative use. They also provided guidance on the recognition of impairment losses for groups of assets that are not primarily used to generate cash inflows.
5. **2015**: The standard was amended to clarify the interaction between IAS 36 and IFRS 13, "Fair Value Measurement." The amendment aimed to ensure consistency in the application of fair value measurement principles when determining the recoverable amount of assets under IAS 36.
6. **2017**: Amendments were made to IAS 36 as part of the annual improvements process. These amendments clarified the disclosure requirements for the recoverable amount of impaired assets and the measurement of the recoverable amount when fair value less costs of disposal is used.
7. **2019**: Amendments were made to IAS 36 regarding the measurement of lease liabilities in a business combination. These amendments aimed to align the requirements of IAS 36 with those of IFRS 16, "Leases," to ensure consistency in the accounting treatment of lease liabilities in a business combination.