Abnormal Audit fees, Audit quality, and the Value Relevance of Accounting Information

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Thesis Abstract

The current PhD thesis studies two empirical issues. Firstly, the thesis examines the relationship between abnormal audit fees and audit quality. Secondly, the thesis studies the relationship between abnormal audit fees and the value relevance of accounting information. To investigate these two issues, the current thesis measures abnormal audit fees using the residual of the audit fees model. Two measurements of audit quality are used: the magnitude and sign of discretionary accruals, as well as the accrual quality. The current thesis measures the value relevance of accounting information using the well-known Ohlson (1995) model. The study's sample includes all companies listed on the London Stock Exchange (LSE) between 2010 and 2019. The current thesis finds that abnormal audit fees do not impact audit quality but do affect the value relevance of accounting information. Due to the asymmetric effects of positive and negative abnormal audit fees, further analysis indicates that only positive abnormal audit fees reduce audit quality, a finding that remains consistent across different measures of audit quality and after controlling for audit market competition. Additionally, positive abnormal audit fees increase the value relevance of accounting information, but this positive effect is reversed when non-audit fees are introduced as a moderating factor. These findings are of potential interest to related literature, practitioners of the audit profession, policymakers, and the market participants.

Keywords: abnormal audit fees, auditor independence, auditor effort, audit quality, value relevance of accounting information.

DEDICATION

To my mother, to my father, and my nine siblings, I could not complete this journey without you all. To my brothers-in-law and sisters-in-law, I appreciate your support through the years of my study. To the souls of my uncle and my aunt who died during my PhD journey, I will always remember your words of faith and encouragement to me.

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TABLE OF CONTENTS

LIST OF ABBREVIATIONS

SOX	Sarbanes-Oxley Act
U.S.	United States
U.K.	United Kingdom
EU	European Union
BEIS	Department for Business, Energy & Industrial Strategy in the United Kingdom
FRC	Financial Reporting Council
IFRS	International Financial Reporting Standards
IAS	International Auditing Standards
IFAC	International Federation of Accountants
ICAEW	Institute of Chartered Accountants in England and Wales
FASB	Financial Accounting Standards Board (FASB)
IASB	International Accounting Standard Board
ERC	Earnings response coefficient
GAAP	Generally Accepted Accounting Principles
AIM	Alternative Investment Market
OCI	Other Comprehensive Income
OLS	Ordinary Least Square
AEE	Accruals Estimation Errors
FAME	Financial Analysis Made Easy
LSE	London Stock Exchange
VIF	Variance Inflation Factor

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The topics of audit quality, audit fees and auditor independence have reaped extensive attention from various parties, such as scholars, policy makers, practitioners, and market participants in the recent (and non-recent past). The focus of this attention has been on the deterioration in audit quality and auditor independence because of many violations of audit regulations and the continued pervasiveness of accounting scandals around the world. These issues, among others, led to several audit reforms in many countries twenty years ago (e.g., the Sarbanes-Oxley Act in the United States (U.S.), or the 2016 new audit regulations in the European Union (EU)). Nevertheless, there are proposed reforms taking place in many countries, including the United Kingdom (U.K.) such as the BEIS proposals.

These circumstances drive scholars to investigate numerous issues related to audit fees, audit quality and auditor independence (For example, Defond and Zhang (2014) provide a holistic review of archival audit research on these issues). One of these issues that has attracted attention in recent years is the topic of abnormal audit fees (for example, Moon et al., 2019; Amir et al., 2019). Abnormal audit fees are defined as the difference between the actual audit fees and the normal audit fees that should have been charged for each audit engagement. Normal auditor fees are considered to capture the effects of the regular audit costs and a normal profit margin.

Several studies examine the impact of abnormal audit fees on audit quality (Amir et al., 2019; Eshleman and Guo, 2014; Moon et al., 2019). The prior literature, in general, argues that abnormal audit fees affect audit quality under two views or rational arguments (see Li and Liu, 2024 for excellent review). The first view suggests that abnormal audit fees lead to an economic bond between the auditor and client, which leads the auditors to compromise their independence to keep the client in subsequent years. Under this view, the related literature suggests that abnormal audit fees decrease audit quality. In contrast, the second view suggests that abnormal audit fees reflect factors that cover unobservable auditor efforts. Under this view, prior studies suggest abnormal audit fees increase audit quality. Reflecting the unique economic relationship between auditors and clients, the current literature on abnormal audit fees underscores the complexity of these fees and their diverse impact on audit quality. Li and Liu (2024) highlight the need for further research to comprehensively grasp the dynamics in this domain.

The current thesis seeks to fill several gaps in the prior literature by examining abnormal audit fees in the U.K. where the evidence is almost absent compared to the United States (U.S.). The U.K. environment has been subject to many audit reforms in the last twenty years because of the concerns over many issues related to the profession of auditing, including audit quality and audit fees. Also, the U.K. has different attributes when compared to the U.S. market. For example, the U.K. adopts the International Auditing Standards, while the U.S. adopts it is own local standards. Also, the U.K. has a different legal environment when compared to the U.S. (e.g., the cost of litigation in the U.K. is lower

than in the U.S.). Li and Liu (2024) assert that in countries with weaker investor protection compared to the U.S., such as the U.K. where studies on abnormal audit fees are very scarce, the negative impact of abnormal audit fees is more pronounced, requiring auditors to take extra precautions. Overall, the relationship between abnormal audit fees and audit quality can be different in the U.K. compared to the U.S.

Most prior studies overlook the asymmetric effects of positive versus negative abnormal audit fees, which the current thesis addresses. In addition, the current thesis uses data from a large sample over a long period and uses various measurements and empirical models to provide new evidence on the relationship between abnormal audit fees and audit quality.

Li and Liu (2024) advocate for taking audit market competition into account when examining abnormal audit fees. Previous research has extensively analysed the impact of audit competition on audit fees, yet an oversight lies in the failure to control for audit competition in models estimating abnormal audit fees. This gap in prior studies highlights the potential influence of audit competition on the outcomes of the current thesis. As elaborated further in thesis, audit market competition shapes the bargaining power of clients, which in turn may introduce bias in the estimation of abnormal audit fees. Consequently, this bias could significantly affect the results pertaining to audit quality and the value relevance of accounting information.

To the best of the researcher's knowledge, this thesis represents the first comprehensive investigation into the impact of abnormal audit fees on the value relevance of accounting information through various channels. It argues that perceived auditor independence and audit quality are fundamental factors influencing market perceptions. Notably, the thesis contends that market participants' cognitive processing plays a crucial role in interpreting audit-related information, particularly concerning audit fees. Through such processes, market participants can establish a baseline expectation of normal audit fees and adjust their valuation of companies based on deviations from this norm. Additionally, the study explores source credibility theory, which provides valuable insights into how market participants perceive auditor behaviour regarding audit fees, irrespective of their cognitive processing. This thesis responds to the call by Francis (2011) and Aobdia (2019) for further research on the economic outcomes of audit quality and audit fees as reflected in the market. Lee et al. (2024) report that abnormal audit fees decrease stock market crashes, implying that market participants view abnormal audit fees as a mirror of accumulated auditor effort. This thesis studies the effect of abnormal audit fees on the value relevance of accounting information, a broader measure in the market that is important to academics, practitioners, and regulators.

The current thesis finds that only positive abnormal audit fees have a negative effect on audit quality. This negative effect is robust when using two measurements of audit quality and controlling for market competition. These results suggest that abnormal audit fees decrease audit quality in the UK, supporting the argument that charging audit fees above normal levels creates economic bonding between the auditor and the client. Additionally, these findings underscore the importance of considering the sign of

abnormal audit fees when studying the relationship between abnormal audit fees and audit quality. When the Big 4 variable is incorporated into all analyses of abnormal audit fees and audit quality (using two measurements), the previously insignificant coefficient of abnormal audit fees and the absolute values of discretionary accruals become positive and significant. This further reinforces the current thesis's overall conclusion that abnormal audit fees lead to a decrease in audit quality.

The current thesis reveals that abnormal audit fees decrease the value relevance of earnings while increasing the value relevance of book values, supporting the argument that market participants cognitively process audit fees and discern normal fee levels. The differing impacts on book value per share (BVBS) and earnings per share (EPS) are explained by the sign of abnormal audit fees. A positive relationship between positive abnormal audit fees and both book value and earnings indicates that market participants view these fees favourably, perceiving them as a sign of additional auditor effort and increased credibility, thus relying more on the accounting information for company valuation. This implies that positive abnormal audit fees are seen as indicative of thorough auditing and enhanced scrutiny, enhancing the perceived reliability of financial statements. Conversely, the negative impact of negative abnormal audit fees on earnings' value relevance, coupled with a weak relationship with book value, suggests that below-expected audit fees are perceived as indicative of insufficient thoroughness or reduced auditor effort, thereby diminishing the perceived reliability of earnings information.

Further analysis reveals that non-audit fees have a significant and negative moderating effect on the positive relationship between abnormal audit fees, particularly positive abnormal audit fees, and the value relevance of accounting information. Similarly, auditor industry specialisation demonstrates a comparable moderating effect; however, this influence is less prevalent and pronounced. This means that while abnormal audit fees can enhance the relevance of accounting information, the presence of non-audit fees or auditor industry specialisation weakens this positive impact. This can be attributed to the cognitive processes of market participants and their judgements, as explained by the source credibility theory. Non-audit fees negatively affect the auditor’s reputation, while auditor industry specialisation enhances reputation but often involves fee premiums. Market participants perceive these premiums as unjustified, thereby diminishing the positive effect of abnormal audit fees.

The findings of the current thesis offer valuable insights for academics, regulators, and practitioners. The thesis reveals that only positive abnormal audit fees negatively affect audit quality, a conclusion that holds true across different measurements of audit quality and even when controlling for market competition. This suggests that charging audit fees above normal levels can create an economic bond between the auditor and the client, potentially compromising audit quality in the UK. Additionally, the thesis demonstrates that abnormal audit fees decrease the value relevance of earnings while increasing the value relevance of book values. This underscores the need for careful consideration of the sign of abnormal audit fees when examining their impact on audit quality and financial information. Academics can use these findings to further explore the complexities of audit fee dynamics, while regulators might consider revising guidelines to address the potential risks associated with positive abnormal audit fees.

Practitioners, particularly auditors and financial analysts, can benefit from understanding how market participants interpret audit fees, enabling them to better assess audit quality and the reliability of financial statements.

An intriguing finding of the current thesis is that positive abnormal audit fees actually reduce audit quality while simultaneously increasing the value relevance of accounting information. This paradox highlights a critical tension in the auditing field. On one hand, higher-than-expected audit fees may suggest increased economic bonding between auditors and clients, potentially compromising the auditors' independence and resulting in lower audit quality. On the other hand, market participants seem to interpret these higher fees as a sign of additional auditor effort and enhanced scrutiny, thus placing greater reliance on the accounting information provided. For academics, this duality offers a rich area for further research, exploring how and why market perceptions diverge from actual audit quality outcomes. For regulators, these findings suggest a need to carefully balance oversight of audit fees to ensure they do not undermine audit quality, while also considering how market interpretations of these fees influence financial reporting and investor confidence. This nuanced understanding could lead to more effective regulations that protect audit integrity without stifling the positive perceptions of thorough auditing efforts.

This section sets the scene for the current thesis, while the next section presents the motivations and the objectives of the current thesis.

1.2 Motivation and Objectives

The first motivation of the current study is the concerns over the audit profession in the U.K. and the concerns related to auditor independence, audit fees, and audit quality. The U.K. experienced some high-profile accounting scandals in recent years. Because of these, The House of Commons report described the Big Four as a “cosy club incapable of providing the degree of independent challenge needed”, and the Financial Reporting Council (FRC) has fined KPMG and PricewaterhouseCoopers (PwC) for poor audit work and criticised KPMG’s poor audit quality (Coffee, 2019). In December 2018, the U.K. government commissioned a study of the adequacy of audit regulation in the U.K. (known as the ‘Kingman Review’ because Sir John Kingman authored it). In his review, Kingman shows concerns that audit fees may not reflect the actual work of auditors, and he discusses some opinions that are aimed at prompting the reduction of audit fees for the interest of shareholders when there is a possibility that the opposite of this opinion is valid (i.e., increasing of audit fees could be in the interests of shareholders).

For this reason, among others, he recommended that the FRC be replaced by a new audit regulator and, in limited cases, appoint the auditor and determine the amount of audit fees paid. The current thesis comes to answer some of these concerns over audit quality and audit fees through two channels. First, abnormal audit fees are part of audit fees and are considered a measurement above or below the normal level of audit fees. Examining the impact of this part of audit fees presents empirical evidence on whether the increase or decrease compared to the normal level in audit fees in the U.K. market is reflected in higher audit quality. Also, the current thesis uses a recent timeframe that covers ten years,

in addition to several measurements and models. Second, the purpose of this kind of report (i.e., Kingman Review) and the proposed reform of auditing is to protect the interest of a wide range of parties, including shareholders and market participants. The current thesis sheds light on market participants, how they perceive economic bonding, and how it affects their valuation of the company's share price. The context covers one of the fundamental aims of financial reporting, which is providing useful information to the users of financial statements.

The second motivation is the call of Köhle and Quick (2018) to revisit prior research in the area of auditor independence. They argue that one cannot assume that results remain stable after an enormous regulatory reform of the audit profession around the world because there is a possibility that the environmental setting under which research is conducted impacts the results. Although there are several studies on abnormal audit fees, it is worth re-investigating the relationship between abnormal audit fees and audit quality using updated data from recent years.

Third, most of the prior studies on abnormal audit fees use data from the U.S. To the best of the researcher's knowledge, there are no studies on abnormal audit fees using data from the U.K. As discussed in the background of the current thesis, the relationship between abnormal audit fees and audit quality can be different in the U.K. compared to the U.S. Hay (2017) asserts that it would be helpful to conduct studies in different settings with different legal environments. In addition, there are concerns by regulators as to the consistency of the quality of audit services provided in multiple locations by networked audit firms (Carson, 2014). Audit quality varies from country to country; even when the firms in question have the same name and are part of the same global network (Carson, 2014). Given the different environments that exist across countries, it is worthwhile to conduct studies in different countries and perform cross-country comparisons to gain new insights (Wallace, 2004). Also, findings from the U.K. setting will be of interest to an international audience for several reasons. First, the U.K. is a major capital market, and many countries historically adopted U.K. accounting standards before moving to International Financial Reporting Standards (IFRS). Second, many aspects of the current UK setting are common to other countries (adopting IFRS and IAS), suggesting that certain outcome consequences may be found in other settings (Beattie et al., 2015).

Fourth, to the best of the researcher's knowledge, no other studies have yet examined the relationship between abnormal audit fees and the value relevance of accounting information. Value relevance studies within the audit field of research are scarce, especially auditor's attributes (Abdollahi et al., 2020; Cimini et al., 2022). Linking abnormal audit fees and the value relevance of accounting information shed light on the impact of some auditor's attributes (e.g., independence and effort) on the value relevance of accounting information. Academic research on the value relevance of accounting information intends to serve the standards setters on which accounting information is more relevant and which alternative accounting methods provide relevant information (Barth, 2000). Holthausena and Watts (2001) assert that a standards setter needs to consider the factors that affect the value relevance of accounting, such as economic, legal, and environmental factors. According to them, consideration of these factors is

crucial to promote a descriptive theory of accounting and standard-setting that could bring standard-setting inferences. For example, standards setters may think that increasing relevance is desirable, but there can be considerable barriers to bringing about such a goal without considering the role of these factors (Ely and Waymire, 1999).

1.3 Objectives of the Study

There are two objectives of the current thesis:

1. Examine the relationship between abnormal audit fees and audit quality in the U.K. Audit quality in this study is measured by the magnitude and the sign of discretionary accruals and accruals quality.

2. Examine the relationship between abnormal audit fees and the value relevance of accounting information. Value relevance of accounting information is measured using the model developed by Ohlson (1995).

1.4 Methodology

The current thesis is a quantitative study that uses archival data from companies listed on the LSE from 2010 to 2019. It uses four empirical models to examine the two objectives of the study. The current thesis uses several statistical techniques to examine the two objectives of the study, which include, mainly, descriptive statistics, univariate analysis, and multivariate analysis. Chapters 4-9 explain in more detail the models and present the analyses and results of the current thesis.

1.5 Contribution of the Study

The current thesis contributes to the extant literature in several ways:

1. As discussed in the motivation of the study in this chapter, there are concerns from regulators in the U.K. on auditor independence, audit fees and audit quality. The suggestion now is moving towards possibly major reforms, including the change in how the companies appoint the auditor and who estimates the amount of audit fees. However, in his letter to the U.K. parliament, Basioudis (2020) stresses the importance of avoiding unintended consequences of audit reforms on the profession of audit in the U.K. The current thesis provides insights into audit fees and audit quality by examining the relationship between abnormal audit fees and audit quality and finds no evidence that abnormal audit fees increase or decrease audit quality. It also reports that negative abnormal audit fees do not affect audit quality. This result suggests that, when the auditor charges the client audit fees lower than expected, it does not decrease audit quality. However, the current thesis reports evidence that positive abnormal audit fees decrease audit quality. This result indicates that, when the auditor charges audit fees higher than expected, it could potentially decrease audit quality.

2. The current thesis contributes to the ongoing debate on where abnormal audit fees decrease or increase audit quality. Additional evidence in the current thesis on the relationship between abnormal audit fees and audit quality is the use of a large sample size, several measurements of audit quality, and the use of

recent data over a long period (ten-year period). Using two measurements of audit quality, the current thesis finds that abnormal audit fees and negative abnormal audit fees do not affect audit quality using two measurements of audit quality. The current thesis reports evidence that suggests the relationship between positive abnormal audit fees and audit quality is robust to alternative measurements of audit quality. In particular, the thesis reports that positive abnormal audit fees decrease accrual quality and discretionary accruals.

3. Most prior studies in abnormal audit fees use data from the U.S. to the researcher's best knowledge. This is the first study on the relationship between abnormal audit fees and audit quality in the U.K. Hay (2017), asserts there are many research opportunities in many countries, which is due to the bias in auditing research towards highly developed countries, especially the United States. The current thesis fills the gap in the area of abnormal audit fees by broadening the evidence to the U.K. market. Indeed, the results of the current thesis are consistent with most evidence in the U.S. market, which finds that abnormal audit fees affect audit quality. It can be argued that the different environment in the U.K., as discussed in the motivations section, is an important factor that leads to the findings in the current thesis.

5. The current thesis contributes to the literature on abnormal audit fees and the value relevance of accounting information. The main findings show that positive abnormal audit fees increase the value relevance of accounting information. Taken together, this result and the result of the impact of positive abnormal audit fees on audit quality show an interesting observation. In particular, the current thesis finds evidence that positive abnormal audit fees decrease audit quality, while it increases the value and relevance of accounting information. Such contradiction suggests that the market participants believe that, when the auditor charges audit fees higher than expected, it results in higher audit quality, which leads to an increase in the use of accounting information in valuing the company share price. However, this belief should be questioned, if not mistaken, because the evidence suggests that, when the auditor charges audit fees higher than expected, it harms audit quality. These results could provide some indication to the standards setter that the perception of auditor independence affects the value relevance of accounting information. Standards setters and academics could focus on amending the market participants' perception of the factors that affect the value relevance of accounting information.

1.6 Structure of the Thesis

The remainder of this thesis is organised as follows. Chapter 2 discusses the theoretical framework underpinning the current study. Chapter 3 reviews the literature on abnormal audit fees, audit quality and value relevance of accounting information. It also develops the hypotheses to be examined in the current thesis. Chapter 4 considers the selection of variables to measure abnormal audit fees, audit quality, and the value relevance of accounting information. It also presents the empirical models used to examine the two objectives of the current thesis. Chapter 5 presents the various processes of data collection, the sample sizes of various models used in the current thesis, and data sources. Chapter 6 discusses the descriptive statistics and univariate analysis of the first objective of the current thesis, the relationship between abnormal audit fees and audit quality. Chapter 7 discusses the multivariate analysis

of the first objective. Chapter 8 discusses the descriptive statistics and univariate analysis of the second objective of the current thesis, the relationship between abnormal audit fees and the value relevance of accounting information. Chapter 9 discusses the multivariate analysis of the second objective. Finally, Chapter 10 presents the conclusion of the thesis. This chapter also highlights the study's potential limitations and provides recommendations for future research.

CHAPTER 2

THEORETICAL FRAMEWORK

2.1 Introduction

As mentioned earlier in the introduction chapter, the current study has two empirical research questions. The first question is related to the relationship between abnormal audit fees and audit quality; the second question is related to the relationship between abnormal audit fees, audit quality, and the value relevance of accounting information. This chapter discusses the theoretical framework underpinning the current study. It starts by discussing the concept of auditor independence and the need for auditor independence. Then, it discusses the relationship between economic bonding and auditor independence followed by a discussion of abnormal audit fees, economic bonding, and auditor independence. Also, it discusses theories and rational arguments for abnormal audit fees. Then, it discusses the relationship between abnormal audit fees and audit quality, the definition of audit quality, and the measurements of audit quality. Finally, it discusses the value relevance of accounting information and the relationship between abnormal audit fees and the value relevance of accounting information.

2.2 Auditor Independence

2.2.1 Definitions of Auditor Independence

Regulators, practitioners, and academics acknowledge that auditor independence is crucial to the profession of auditor and, therefore, it has been the topic of considerable debate for more than a century (Gendron et al., 2006; Jenkins and Stanley, 2019). Mautz and Sharaf (1961, p.246) stress that the critical importance of auditor independence is ‘‘that little justification is needed to establish this concept as one of the cornerstones in any theory of auditing". Without auditor independence, the auditor cannot express an unbiased opinion on the fairness and completeness of financial statements.

Academics and regulators have not developed one complete definition of auditor independence. The concept is too complex to define in absolute terms, and its interpretation may vary over the years (Gwilliam, 1987; Beattie et al., 2005). Nevertheless, prior studies define auditor independence based on two dimensions: “independence in fact or mind” and “independence in appearance” (Beattie et al., 1999; Hudaib and Haniffa, 2009). Defining auditor independence using the two dimensions is essential because it facilitates the understanding of the concept, and each of the two dimensions complements the other. Mutaz and Sharaf (1964, p.204) assert that auditor independence "must be evident as well as real. Real is of little value if those who read the auditor's report refuse to acknowledge that independence does exist".

2.2.1.1 Auditor Independence of Mind

Various professional bodies of accounting such as The International Federation of Accountants (IFAC), The Institute of Chartered Accountants in England and Wales (ICAEW), and The Financial Accounting

Standards Board (FASB) provide various but similar definitions of auditor independence of mind. For example, ICAEW code of ethics B, section 290 defines auditor independence of mind as "the state of mind that permits the expression of a conclusion without being affected by influences that compromise professional judgment, thereby allowing an individual to act with integrity and exercise objectivity and professional scepticism" (ICAEW, 2011). Prior studies also provide several definitions of auditor independence of mind. For example, Arens et al. (2012, p.134) define auditor independence of mind as a concept that "reflects the auditor's state of mind that permits the audit to be performed with an unbiased attitude". In general, the definitions of auditor independence of mind suggest that auditor independence means the auditors need to keep a state of mind that allows them to be free of influences that compromise their judgements. However, the auditor's state of mind is unobservable, which renders measuring whether an auditor is independent of mind nearly impossible (Jenkins and Stanley, 2019). In other words, it is difficult to know what the auditors are thinking and how they might be biased when conducting the audit.

2.2.1.2 Auditor Independence in Appearance

Similar to auditor independence of mind, various professional bodies of accounting mentioned before providing several but similar definitions of auditor independence in appearance. For example, ICAEW Code of Ethics B, section 290 defines auditor independence in appearance as "the avoidance of facts and circumstances that are so significant that a reasonable and informed third party would be likely to conclude, weighing all the specific facts and circumstances, that a firm's, or a member of the audit team's, integrity, objectivity or professional scepticism has been compromised" (ICAEW, 2011). Prior studies also similarly define auditor independence. Dopuch et al. (2003), define auditor independence in appearance as avoiding circumstances that would lead a reasonable investor to conclude that the auditor would not be capable of acting without bias. In general, all of these definitions show that auditor independence in appearance means that the auditor needs to avoid actions that would cause a rational and informed third party to doubt the auditor's ability to act independently (Beattie and Stella, 2004). Auditor independence in appearance can be observed using several approaches. For example, the researchers may ask a group of participants to identify the potential threats to auditor independence or in which audit tasks the auditor may not act independently.

2.2.2 The Need for Auditor Independence

Two groups need auditor independence, external users, and information producers (Church et al., 2018). The next two sections discuss each group's need for auditor independence in more detail.

2.2.2.1 External Users' Needs for Auditor Independence

External users refer to any external party or a third party other than the company and the auditor interested in the company (Church et al., 2018). Independent auditors have two main roles in general. First, independent auditors approve the fair presentation and verify published accounting numbers and disclosures (Church et al., 2018). Second, an independent auditor is expected to prevent the

management's opportunistic behaviour in manipulating accounting numbers for personal gain (Francis and Wilson, 1988; DeFond, 1992). External users benefit from auditor independence because it is expected to alleviate information asymmetry between managers and shareholders, and they gain a mechanism to endorse the credibility and reliability of reported numbers and disclosures. Therefore, external users are interested in the circumstances that lead to an impairment of the auditors' ability to maintain independence (Church et al., 2018).

2.2.2.2 Information Producers' Needs for Auditor Independence

Financial statements are the product of the collective effort of management, auditors, and audit committees (Church et al., 2018). Each of these parties is considered an information producer who plays a crucial part in producing financial statements. Management needs the independent auditor's opinion on the company's financial statements to comply with regulatory requirements (Church et al., 2018). Audit committees have a responsibility to safeguard the interests of shareholders. This responsibility is manifested through different techniques such as the selection and termination of the auditor, overseeing and monitoring the auditor and the firm's financial reporting process, and assessing the auditor's provision of non-audit services (Beattie et al., 2000). The audit committee cannot fulfil its responsibilities without the independence of the auditor. If the audit committee fails, the company will face various penalties and costs, such as the loss of compensation, dismissal, and diminished market opportunities (Srinivasan, 2005). The financial statements are a joint product of management and the auditor; therefore, the auditor is considered an information producer. Auditors need auditor independence because it promotes the value of the audit profession and meets the demand for auditing services (Sikka and Willmott, 1995). Also, auditor independence leads to the public approval of auditors, which creates a reputation for adding credibility to the financial statements (Beattie et al., 2000).

2.3 Auditor Independence and Economic Bonding

ICAEW code of ethics, paragraph 120.6 A3 identifies five threats to auditor independence: self-interest, self-review, advocacy, familiarity, and intimidation (ICAEW, 2020). The threat of self-interest is the focus of the current study because it is related to abnormal audit fees. Self-interest threats refer to "the threats that a financial or other interest will inappropriately influence a professional accountant's judgment or behaviour" (ICAEW, 2020). Under self-interest threat, the code asserts that the level and nature of fees and other remuneration arrangements might affect auditor independence. The reason is that audit fees could create an economic bonding between the auditors and their clients (DeAngelo, 1981). Prior studies, (e.g., Mutaz and Sharaf, 1962; Francis, 2006), assert that all audit fees create economic bonding, and a completely independent audit is impossible because the client hires and pays the auditor.

Economic bonding occurs because audit firms receive fees from their clients, and, from these fees, the auditor earns client-specific quasi-rents (DeAngelo, 1981). A client-specific quasi-rent is "the excess of a given period's revenues over the avoidable costs incurred in that period, including the opportunity cost of auditing the next-best alternative client" DeAngelo (1981, p.188). Economic bonding creates

incentives for auditors to compromise their independence to retain the client in subsequent years and keep earning quasi-rents. Economic bonding creates an environment where auditors may not exercise sufficient professional scepticism to interpret audit evidence correctly (DeAngelo, 1981; Bazerman et al., 1997). Such an environment leads to the auditor being likely to agree to clients' wishes, such as waiving material misstatements, issuing favourable audit opinions, and allowing managers to manipulate earnings (DeAngelo, 1981; Watts and Zimmerman, 1983).

2.4 Abnormal Audit Fees

2.4.1 Definition of Abnormal Audit Fees

Abnormal auditor fees refer to the difference between actual fees and normal fees. Actual auditor fees are fees paid to the auditor for the audit of the firm's financial statements. Normal auditor fees are the fees that reflect the cost of the auditor's effort, risk premium, and normal profit for the auditor (Choi et al., 2010; Asthana and Boone, 2012; Doogar et al., 2015). Prior studies estimate normal auditor fees by relying on the audit fees model developed by Simunic's (1980) seminal work. The model is discussed in detail in Chapter 4 of the current study.

2.4.2 Abnormal Audit Fees and Economic Bonding

Bell et al. (2015), assert that economic bonding could occur from fees paid to the incumbent auditor from audit and non-audit services. Prior studies discuss and examine several sources of economic bonding that include audit fees (e.g., Frankel, et al., 2002), non-audit fees (e.g., Ashbaugh et al., 2003), total audit fees (e.g., Ashbaugh et al., 2003), abnormal audit fees (e.g., Choi et al., 2010), abnormal non-audit fees (Amir et al., 2019), and total abnormal fees (e.g., Kanagaretnam et al., 2010).

Kinney and Libby (2002), suggest that studies on economic bonding could improve the perception of it by differentiating between audit fees and fees over those predicted from detectable firm characteristics, which they refer to as abnormal audit fees. They argue that abnormal audit fees are better connected to client-specific quasi-rents that create economic bonding, as discussed in the previous section, compared to other sources of economic bonding mentioned earlier. The reason is that abnormal audit fees may indicate a more powerful economic bond compared to other sources of economic bonding (e.g., non-audit fees), one that would remain even with constraints made on providing several non-audit services by the incumbent auditor (Kinney and Libby, 2002; Li, 2009; Choi et al., 2010; Campa and Donnelly, 2016). In other words, after the restrictions made on auditors to provide several non-audit services, the auditor loses the fees from non-audit services. Therefore, they could compensate themselves for such loss by increasing audit fees. Such an increase in audit fees may not lead to an increase in audit quality, as it could indicate higher profit to the auditor.

2.4.3 Theories and Rational Arguments for Abnormal Audit Fees

Most of the prior studies on abnormal audit fees lie in the broader research area on auditor independence. A formal theory of auditor independence does not exist, which leads the discussion about auditor

independence and abnormal audit fees to be based on more than one theory and rational argument (Beattie et al., 1999). Research on abnormal audit fees provides some theories and rational arguments on auditor independence that explain the relationship between abnormal audit fees and economic bonding. These theories and rational arguments include agency theory, reputation theory, and the rational argument on auditor effort.

2.4.3.1 Agency Theory

Jensen and Meckling (1976, p.308) define an agency relationship as "a contract under which one or more persons (the principal) engages another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent". Agency theory contextualises the agency relationship between shareholders (principals) and managers (agents). Shareholders do not engage in managing their firms, and, for this reason, they delegate managers to make decisions related to their firm's operations on their behalf.

The theory rationalises that an agency problem occurs because of; (a) the desires or objectives of the shareholders and managers conflict and (b) it is challenging or costly for the shareholders to verify what the managers are doing (Eisenhardt, 1989). The desires or objectives of shareholders and managers conflict because managers are self-serving and driven by their personal gains. Hence, they utilise the firm's assets for their benefit rather than to maximise shareholder wealth (Jensen and Meckling, 1976). Shareholders take various actions to reduce agency problems. These actions are costly and result in agency costs. Agency costs include (a) monitoring costs, (b) bonding expenditures, and (c) residual loss (Jensen and Meckling, 1976; Watts, 1977). Monitoring costs are costs related to monitoring managers' actions (e.g., the cost of auditing financial statements and the implementation of effective corporate governance mechanisms). Bonding expenditures are costs related to aligning the interests of managers with the interests of shareholders (e.g., bonus incentives and employee stock options). Residual loss includes all costs that may arise despite monitoring and bonding costs.

Agency problem leads to information asymmetry between managers and shareholders (Jensen and Meckling, 1976). Information asymmetry, in general, means that "different people know different things" (Stiglitz, 2002, p.469). In agency theory, information asymmetry refers to the situation where managers have a bigger set of information about the firm's performance than shareholders. Managers are more engaged in the business and have more sources of information than the sources available to shareholders (Aboody and Lev, 2000). According to Stiglitz (2002), there are two consequences of information asymmetry, adverse selection, and moral hazard. Chrisman et al. (2004, pp.336-337) clarify that "adverse selection occurs when the principal inadvertently contracts with a less able agent, committed, industrious, or ethical, or whose interests are less compatible than the principal expected" and state that moral hazard "involves commission or omission of actions, after contracting that work in the interest of the agent but are detrimental to that of the principal". One example of the consequences of information asymmetry is a situation that occurs when managers take hidden actions that serve their interests, and shareholders bear the negative consequences of these actions.

To reduce information asymmetry, regulations require managers to disclose information about the firm's activities via annual reports (Healy and Palepu, 2001). However, Beatty and Harris (1999), assert that annual reports alone do not reduce information asymmetry and agency problems and, therefore, shareholders select an external auditor as an independent party to mitigate the information asymmetry in the firm's financial reports (Jensen and Meckling, 1976). In particular, the auditor's role is to provide an expert opinion on the accuracy and completeness of annual reports and limit managers' opportunistic behaviour in accounting estimates (Francis and Wilson, 1988; DeFond, 1992; Becker et al., 1998). For example, when shareholders compensate managers based on their performance, managers may manipulate reported earnings to increase their compensations. It is hard for shareholders to verify the reported earnings without auditors.

The economic explanations for auditing are an information role, an agency role, an insurance role, an organisational control role, a confirmation role, and a risk management role (Hay et al., 2014). The information role reflects the auditor's role in improving the information in annual reports, which leads to more informed decisions. The agency role reflects the auditor's role in curbing management's opportunistic behaviour in accounting numbers. The insurance role reflects the auditor's role in providing insurance for the providers of external financing to recover from certain types of losses. For example, auditing contributes to the credibility of financial statements, and the extent to which contracting with the company is made less costly, it decreases the cost of capital (Jensen and Meckling, 1976). The organisational control role reflects the auditor's role in controlling the authority of owners over the firm's operation. For example, in a small organisation, the owners or management control operations by direct administration and personal oversight. As the organisation becomes larger, this kind of control becomes difficult to apply. The confirmation role and risk management role are related to the necessity to confirm earning announcements and other control mechanisms (e.g., corporate governance) to reduce risks for shareholders.

Agency theory applies to the current study because auditors are agents to the principal (shareholders). Employing an external auditor is one mechanism for cutting down the risk of managers' opportunism. However, the auditor is still appointed by the owner as an agent. Therefore, the auditor is expected to sustain independence from the management. In examining the impact of abnormal audit fees on auditor independence and audit quality, it is necessary to mention that abnormal audit fees could lead to economic bonding. In such a condition, the auditor may be inclined to comply with management judgements of accounting numbers. In this respect, the moral hazard could lead the auditor to agree with a certain level of dependency on the client in response to obtaining a larger volume of audit fees. In such a situation, moral hazard would be protected legally under the higher audit fees. Therefore, the auditor has his/her opportunistic motivations, which may contribute to biased judgements about the quality of the audit.

2.4.3.2 Auditor Reputation

According to Herbig et al. (1994, p. 23), Reputation is "the estimation of the consistency over time of an attribute of an entity. This estimation is based upon the entity's willingness and ability to perform an activity similarly repeatedly. Reputation is an aggregate composite of all previous transactions over the entity's life, a historical notion. It requires consistency of an entity's actions over a prolonged time for its formation". Reputation signals consumers about how a company's products, activities, policies, and prospects compare to competing companies (Weigelt and Camerer, 1988; Fombrun and Shanley, 1990). By signalling consumers about the product, favourable reputations may enable companies to charge premium prices (Klein and Leffler, 1981) and increase their access to a broad set of consumers (Beatty and Ritter, 1986).

Auditing is an experience in which the buyers (shareholders) cannot assess some significant aspects of the audit service until after they buy it (Klein and Leffler, 1981). However, Causholli and Knechel (2012) argue that auditing is a credence good in which the buyers (shareholders) cannot assess some significant aspects of the audit service even after they buy it. In both views of auditing, details of audit work are not publicly available, and buyers have to use an observable characteristic to assess the auditor's work (Dopuch and Simunic, 1982). Buyers of the audit service are expected to use the existing reputation of an audit firm to determine how much reliance they can place on its audit report (Moizer, 1992). The audit clients usually observe the reputation of audit firms by the Big N membership, which signals a higher reputation than non-Big N audit firms. Moizer (1997), asserts that prior studies on the reputation of audit firms suggest that some observable economic effects arise from the hire of an audit firm with a high reputation. One of those economic effects is that the audit firm with a high reputation, namely Big N, charges high audit fees to provide high-quality audits and the buyer will be prepared to pay high audit fees to this end (Moizer, 1997).

Auditor reputation is related to the current study because it explains that abnormal audit fees may not lead the auditors to compromise their independence for fear of reputation damage. Auditor reputation relates to the market's perception of auditor independence and the auditor's ability to increase the credibility of financial statements (independence of mind). Auditors' reputations for independence from client manipulation would turn into valuable assets, and an auditor confronted with pressure from clients would have to trade-off losses to reputation against whatever short-term stimuli the client can give. Second, audit firms have invested a lot of resources and time to build a reputation for a high-quality audit. Many prior studies assert that auditors' reputations enable them to charge higher audit fees to compensate for the additional effort to provide a higher audit quality. Therefore, abnormal audit fees could be a result of the additional effort from the auditors with a high reputation.

2.4.3.3 Auditor Effort

Actual audit efforts are measured by a set of factors such as audit hours for each audit engagement, analytical procedures, and tests of financial statement balances (Gul et al., 2006; Caramanis and Lennox, 2008). However, in most cases, researchers cannot measure actual auditor effort because of the

unavailability of data on audit hours and audit procedures (Caramanis and Lennox, 2008). Instead, prior studies rely on audit fees as a proxy for actual auditor effort because there is a bulk of studies that find a positive relationship between audit fees and actual auditor effort (Schelleman and Knechel, 2010; Cameran et al., 2015). Abnormal audit fees might also reflect variations in the effort and resources that auditors invest in an audit engagement (Li and Liu, 2024). When audits are fundamentally more complex because of the client's size, scope, or special risk considerations, and these factors cannot be captured by the determinants of audit fees, Abnormal audit fees probably represent auditor effort rather than economic bonding. In other words, abnormal audit fees are used to offset the additional labour and specialised resources needed to carry out a comprehensive audit (Eshleman and Guo, 2014). In addition, auditors may impose greater fees to offset the increased risks associated with auditing specific companies (Asthana and Boone, 2012). If these fees truly represent the extra effort made to reduce these risks, then the quality of the audit might be improved by implementing more thorough and rigorous auditing methods.

2.4.3.4 Audit Market Competition

Several prior studies assert the impact of audit market competition on audit fees (DeFond and Zhang, 2014 for a review of these studies). The current thesis argues that including the audit competition variable in the audit fees model used to estimate abnormal audit fees is important for two reasons. First, controlling competition allows us to consider the effect of the bargaining power of the client when estimating abnormal audit fees. Prior studies (e.g., Griffin and Lont, 2011; Krishnan et al., 2013) show that auditors charge abnormally high fees before resigning from the engagement, suggesting that the clients abandoned their auditors when they have lower negotiation power to reduce the abnormally high audit fees. There may be a part of abnormal audit fees because the auditor could charge lower (higher) audit fees than normal because of the strong (weak) negotiation power of the client.

On the one hand, it is plausible to argue that negotiation power could increase with the increase in audit competition. This suggests that the auditor earns fees lower than normal because of the strong negotiation power of the client. It is plausible to argue that the negotiation power of the client could increase with the increase in audit competition, which in turn, leads the auditor to earn fees lower than normal because of the strong negotiation power of the client. Therefore, failing to control for market competition could lead to a possible bias in estimating abnormal audit fees because there is a part in the residual audit fees model (measurement of abnormal audit fees) as a result of the higher negotiation power of the client. On the other hand, lower competition could lead to lower negotiation power in the favour of the auditor, therefore, it presents the possibility that the estimation of abnormal audit fees could be biased as well. In other words, a part of the residual in the audit fees model could be a result of the higher negotiation power of the auditor. The bias in the estimation of abnormal audit fees could lead to a change in the result of abnormal audit fees and each audit quality, and the value relevance of accounting information in the current thesis Second, controlling for audit competition extends the literature on audit competition, audit fees, and audit quality. If there is a change in the result of the

current thesis after controlling for audit competition, this suggests that the controlling of audit competition plays a role in measuring abnormal audit fees and affects the various contexts where abnormal audit fees are examined.

2.4.3.5 Conceptual Model

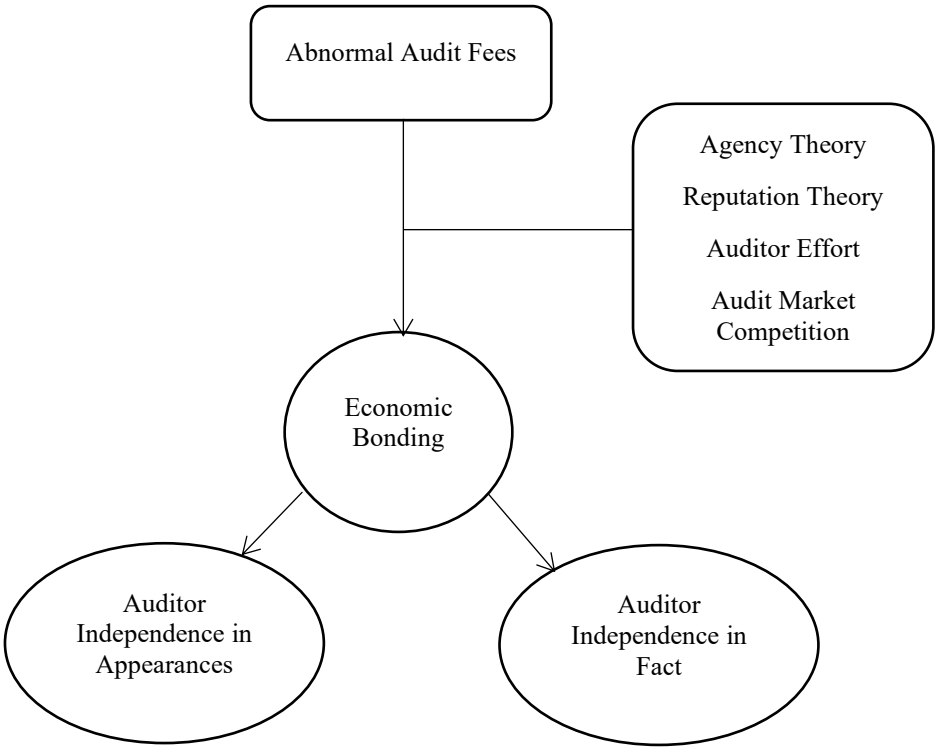
The current thesis a variety of theoretical foundations and pillars into my thesis. To commence, this chapter reviews the traditional viewpoints regarding auditor independence, a critical factor in safeguarding the credibility and dependability of financial reporting. This introductory discourse establishes the framework for a more comprehensive analysis of how fluctuations in audit fees can either compromise or validate the autonomy of auditors. Furthermore, economic bonding is recognised as a critical element in which auditor independence could be compromised by financial relationships, which could be indicated by abnormal audit fees (Kinney and Libby, 2002). These economic connections may facilitate the development of dependence that could potentially impose an adverse impact on the results of audits. Ultimately, this chapter combines several theoretical perspectives, such as agency theory, reputation theory, and ideas related to auditor effort and market competitiveness, to create a comprehensive theoretical framework. The argument claims that abnormal audit fees should not be exclusively regarded as a direct indicator of impaired auditor independence. Alternatively, these costs may also represent essential modifications to accommodate different complexities in audit activities or responses to current market realities.

This thesis is unique in that it integrates several theories and arguments that include agency theory, reputation, auditor effort, and market competition into a unified analytical framework. The proposed conceptual model incorporates multiple dimensions that could be utilised to quantify abnormal audit fees:

- Auditor Independence: Assessing auditor independence by examining if abnormal audit fees are influencing auditors to overly prioritise client interests.
- Audit Effort and Complexity: Evaluating the relationship between increased fees and the extent to which auditors increase their efforts.
- Market Dynamics: Examining how audit fee structures might react to or mirror competitive forces in the audit market, rendering a different view of abnormal audit fees.

The concluding chapter presents a conceptual model (Figure 2.1) that visually summarises and establishes connections between abnormal audit fees, economic bonding, auditor independence, audit quality, and the value relevance of accounting information. This model represents the two-fold capacity of abnormal audit fees to either compromise auditor independence through economic bonding or to indicate increased audit effort and adjustment to market conditions.

Figure 2.1: Framework of Abnormal Audit Fees and Economic Bonding



2.5 Abnormal Audit Fees and Audit Quality

Research and regulators assert that, if the auditors do not maintain independence, they will not provide high-quality audits (DeAngelo, 1981; Francis, 2011; Knechel et al., 2013). For this reason, most of the prior research on abnormal audit fees examines the relationship between abnormal audit fees and audit quality based on the assumption that abnormal audit fees lead to impairment of auditor independence because it creates economic bonding. Some studies argue abnormal audit fees do not create economic bonding. Hence, it has positive effects on audit quality because it may reflect additional auditor effort,

Audit quality is unobservable, which causes a discussion about the definition and measurements of audit quality (Rajgopal et al., 2021). The assessment of audit quality needs to assess: (1) whether the amount and nature of audit work undertaken are suitable for that specific client; (2) how technically competent the audit team is to undertake the tasks accurately; and (3) how independent the audit firm is and, hence, how likely it is to report any breach that it finds (Moizer, 1997).

2.5.1 Definition of Audit Quality

Prior research provides several definitions and measurements of audit quality to enable the interested parties to see whether audit quality is increasing over time, map the audit engagements with low audit quality, and provide motivations for audit firms to invest in initiatives that improve audit quality (Christensen et al., 2016). The two most cited definitions of audit quality have been provided by DeAngelo (1981) and DeFond and Zhang (2014). DeAngelo (1981, p.186) defines audit quality as ‘‘the market-assessed joint probability that a given auditor will both (a) discover a breach in the client’s

accounting system, and (b) report the breach''. Knechel (2015, p.216) clarifies that the definition of audit quality by DeAngelo has "two distinct and convenient elements: (1) auditor's expertise (competence or knowledge) which influences the likelihood that an auditor discovers errors in a client's financial statements, (2) auditor objectivity (independence) which relates to the likelihood that an auditor will correct (via accounting adjustments) or reveal (via the auditor's report) a client's error when it is discovered". DeFond and Zhang (2014, p.281) define audit quality as ''a greater assurance that the financial statements faithfully reflect the firm's underlying economics, conditioned on its financial reporting system and innate characteristics". Unlike DeAngelo's (1981) definition, DeFond and Zhang's (2014) definition covers both the auditor's detection of errors and compliance with auditing standards. Gaynor et al. (2016, p.5) offer another definition of audit quality by arguing that a higher quality audit "provides a higher level of assurance that the auditor obtained sufficient appropriate evidence that the financial statements faithfully represent the firm's underlying economics". Their definition is closely related to DeFond and Zhang's (2014). However, they incorporate in their definition that audit quality is conditional on the ability of the auditor to collect sufficient evidence.

The current thesis adopts the definition provided by DeFond and Zhang (2014). Its comprehensive definition of audit quality does not limit the responsibility of the auditor only to discovering a breach and reporting it, but it broadens the responsibility of the auditor to include the responsibility of ensuring that the financial statements reflect the company's underlying economic condition. Under this definition, audit quality is broadened to include the quality of earnings, appropriate accounting judgement that truly reflects the underlying condition, and assessing the ability of the company to continue its operations in the future. It is also the appropriate definition when using discretionary accruals and accruals quality to measure audit quality, as discussed in the variables selection chapter.

2.5.2 Measurements of Audit Quality

There are different perceptions about audit quality (Knechel et al., 2013). Auditors may view audit quality as exercising the required effort for all audit tasks (e.g., collecting evidence and assessing risks). Users of financial statements view audit quality in terms of the outcomes of the audit report (e.g., absence of financial statement restatements). Regulators may view audit quality as conducting audits according to professional auditing and accounting standards.

Because of these different perceptions, several measurements of audit quality have been discussed in the prior literature (Francis, 2004; Watkins et al., 2004; Bedard et al., 2010; Francis, 2011; Knechel et al., 2013; DeFond and Zhang, 2014; Christensen et al., 2016; Gaynor et al., 2016; Knechel, 2015; Aobdia, 2019; Rajgopal et al., 2020). Gaynor et al. (2016), show that prior studies measure audit quality on three levels, input level, process level, and output level. At the input level, measuring audit quality is based on observable inputs to an audit engagement, such as the auditor's competency and reputation. At the process level, measuring audit quality is based on how the audit team members exert appropriate judgements in collecting evidence, evaluating it, and performing audit tests. At the output level, measuring audit quality is based on the observable outcomes of the audit, such as the audit report and

the quality of earnings. Studies use archival data that rely on input level and output level measurements of audit quality while measuring audit quality at the process level is the focus of experimental research (DeFond and Zhang, 2014; Gaynor et al., 2016).

2.5.2.1 An Analysis of Audit Quality Measurements and Employed Measurements

The literature on the measurements of audit quality is vast, and various studies use different measurements. However, many scholars assert that there is no consensus on the appropriate measure(s) to capture audit quality (Guo et al., 2020; Hay, 2019; Aobdia, 2019; Rajgopal, Srinivasan, and Zheng, 2019). These studies argue that choosing the measurement of audit quality is difficult, and there are different arguments in favour of each measurement.

Prior literature on abnormal audit fees only uses output measurements of audit quality because the dependent variable is audit quality, and input measurements, for example, Big N membership, could not be used. The reason is that available measurements of audit quality at the input level are used in the audit fees model to estimate abnormal audit fees (as an independent variable), and it is not logical to use them as dependent variables in examining the relationship between abnormal audit fees and audit quality. Therefore, the current thesis must choose between three output measurements: perception-based measurements (e.g., market reaction), auditor communication (i.e., going-concern opinion), and financial reporting quality characteristics. All these measurements provide a different perception of audit quality.

Perception-based measurements reflect perceived audit quality, not actual audit quality (Defond and Zhang, 2014). In other words, the auditor does not directly influence these measurements. The current thesis focuses on actual audit quality measurement (e.g., financial reporting quality) rather than perception-based measurements because they do not reflect the actual audit quality delivered, which is under the direct influence of the auditor, unlike perception-based measurements. The current thesis argues that abnormal audit fees could provide various outcomes regarding audit quality. It is a study of how the behaviour of auditors in charging audit fees results in abnormal fees for economic bonding reasons or additional effort. Market participants, for example, are not fully aware of all the factors that determine audit fees, hence abnormal audit fees. Therefore, it is likely to build a perception that audit fees are higher than what they think is normal. In this scenario, abnormal audit fees could lead to an increase in audit quality, but a misperception of market participants that audit quality is harmed. Also, the current thesis focuses on the U.K., which could provide different results compared to prior studies that focus only on the U.S. market.

Actual audit quality could better reflect the environmental factors that affect the outcome of abnormal audit fees than perception-based measurements. For example, market participants are aware of the size of the effort required to comply with international audit standards and IFRS in the U.K. (a contextual factor). These efforts are indeed reflected in audit fees, hence abnormal audit fees. It is more appropriate to use actual measurements of audit quality because such factors could be reflected in it, unlike

perception-based measurements. In other words, abnormal audit fees could lead to lower actual audit quality, but investors, for example, believe otherwise.

It is important to discuss that some recent studies shift the attention to this issue by focusing on the appropriateness of the current measurements of audit quality to help the researcher decide on which audit quality measurement is appropriate. The works of Aobdia (2019) and Rajgopal et al. (2019) discuss possible appropriate measurements of audit quality. It is important to note here that these studies are based on U.S. data and are still exploratory studies on the appropriate measurements of audit quality with some limitations, as discussed later. Therefore, whatever the outcome of these studies, it cannot be considered generally accepted but rather a guide that not all measurements of audit quality reflect what is considered higher audit quality. Both studies suggest that the practitioners' view of what constitutes higher audit quality could be the appropriate way to measure audit quality. The practitioners' view (audit firms and regulators) is reflected in whether an audit is conducted according to standards and whether the evidence gathered by the audit team is sufficient to base the audit opinion on (Aobdia, 2019). The methodology in these studies measures the practitioner's view of audit quality by relying on PCAOB inspections (Aobdia, 2019) and audit deficiencies alleged by the SEC (Rajgopal et al., 2019). Then, they explore the association between the practitioners' view of audit quality and the current measurements of audit quality.

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explore the association between the practitioners' view of audit quality and the current measurements of audit quality.

Aobdia (2019) find that the current measurements of audit quality explain between 3% and 19% of PCAOB inspections, and restatements and the propensity to meet or beat the zero earnings threshold are the most associated measurements of audit quality with the practitioner view of audit quality. Consistent with his findings, Rajgopal et al. (2019), report that restatements could be the best measurement of audit quality. However, they acknowledge the limitation of this conclusion because of the small sample size (i.e., allegations by SEC are rare) and the severity of allegations cannot be ranked, which indicates that the conclusion could be a result of major allegations, not minor ones.

Thus, restatements may be an appropriate way to measure audit quality. However, restatements do not occur in the U.K., so it cannot be used. Additionally, these indicators of audit quality (e.g., restatements) fail to capture variations in audit quality as discussed earlier in this chapter. Using the probability of a going-concern opinion is another way to measure audit quality. The consistent evidence from prior studies shows that abnormal audit fees do not affect the probability of issuing a going concern opinion. This is consistent with this measurement's lack of statistical power (Guo et al., 2020). Therefore, this measurement is not used in the current thesis. Despite the limitations of the measurement used in this thesis, financial reporting quality, as discussed in the following paragraphs, the current thesis argues that the appropriate measurement of audit quality remains debatable.

One of the popular approaches to measuring audit quality is through the measurement of the financial reporting quality of the audit client. Given that there is no comprehensive or generally accepted measurement of financial reporting quality exists (Knechel et al., 2013), the related literature uses various measurements of financial reporting quality such as discretionary accruals, earnings quality, accounting conservatism, income smoothing, and earnings persistence (Cohen et al., 2005; Francis, 2011).

Financial reporting quality has several advantages that make it a popular measurement of audit quality in many of the prior studies on audit quality. First, financial reporting is a joint product of the company and the auditor, making the quality of financial reporting an integral part of audit quality (Antle and Nalebuff, 1991; DeFond and Zhang, 2014). Second, the audit report and the audited financial statements are the two observable outcomes of the auditor’s work. The study of financial reporting quality is a critical part of assessing the auditor’s work because it assesses one of the two outcomes of an audit (Cohen et al., 2005). Third, financial reporting quality measurements are easy to compute, and they are a continuous measurement of audit quality. Discretionary accruals are a good example of financial reporting quality measurements. The continuous attribute of discretionary accruals allows the researcher to capture the variations in audit quality across companies, which is not possible using other measurements of audit quality (DeFond and Zhang, 2014). Fourth, most of the prior studies on abnormal audit fees use financial reporting quality as a proxy for audit quality (e.g., Hoitash et al., 2007; Mitra et al., 2009; Choi et al., 2010; Eshleman and Guo, 2014).

Despite the advantages of using financial reporting quality measurements, it suffers from a few disadvantages. First, financial reporting quality is a less direct measurement of audit quality compared to other measurements, such as the occurrence of restatements or material misstatements. The reason is that the auditors' influence on the quality of financial reporting is lower than their influence on the occurrence of restatements or material misstatements (DeFond and Zhang, 2014). Second, there is no consensus on the appropriate measurement of financial reporting quality and each of the measurements used in prior studies to capture financial reporting quality suffers from measurement errors (DeFond and Zhang, 2014).

The current study uses two measurements of financial reporting quality, the magnitude and direction of performance-matched discretionary accruals (DACC) and the accrual estimation errors (AEE). These two measurements are the most used in prior studies of abnormal audit fees and audit quality (e.g., Srinidhi and Gul, 2007; Mitra et al., 2009; Asthana and Boone, 2012; Mande and Son, 2015; Moon et al., 2019).

2.6 Abnormal Audit Fees and the Value Relevance of Accounting Information

This section discusses definitions and theoretical background of the value relevance of accounting information and how abnormal audit fees can affect the value relevance of accounting information.

2.6.1 Relevance and Reliability of Accounting Information

The International Accounting Standard Board (IASB) issued Concepts Statement No 8 of the Conceptual Framework for Financial Reporting which describes the objective of the general purpose of financial reporting as "to provide financial information about the reporting entity that is useful to exist and potential investors, lenders, and other creditors in making decisions about providing resources to the entity. Those decisions involve buying, selling, or holding equity and debt instruments and providing or settling loans and other forms of credit. General-purpose financial reports are not designed to show the value of a reporting entity; but they provide information to help current and potential investors, lenders, and other creditors to estimate the value of the reporting entity". The Conceptual Framework for Financial Reporting defines this decision's usefulness for financial reporting in terms of relevance, reliability, and comparability/consistency (Schipper and Vincent, 2003). Relevance and reliability are "the principal qualitative characteristics that financial statements should have to be useful in decision-making" (Bhatia and Mulenga, 2019, p.2).

2.6.2 The Study of Value Relevance of Accounting Information

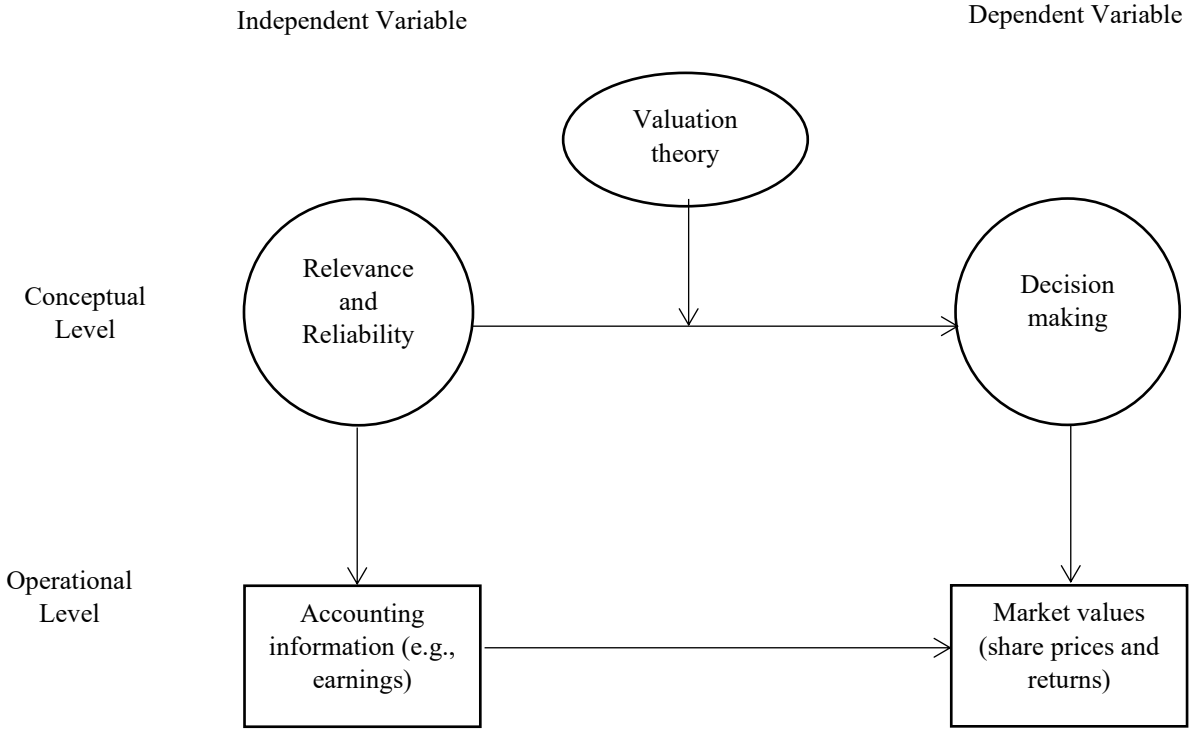
The study of value relevance of accounting information is to make the two fundamental characteristics of relevance and reliability, as outlined in the IASB's Conceptual Framework, empirically operational. Definitions of value relevance of accounting information are consistent to a great extent with slight differences across studies (see, for example, Lambert, 1996; Ali and Hwang, 2000; Barth et al., 2001; Holthausena and Watts, 2001; Beaver, 2002; Bryant, 2003; Brown et al., 2006; Island, 2009; Power et al., 2017; D'Arcy and Tarca, 2018). The fundamental commonality appears to be that the value

relevance of accounting information means a significant association between the accounting figure of interest and some measure of market value. One of the pervasive definitions of value relevance of accounting information is "the association between a security price-based dependent variable and a set of accounting variables". An accounting number is termed 'value-relevant' if it is significantly related to the dependent variable (Beaver, 2002, p.459).

Prior related literature relies on valuation theory to study the value relevance of accounting information (Lev, 1989; Barth, 2015; Lev and Gu, 2016). Relating accounting information to stock prices or/and the changes in prices to reveal whether accounting information is relevant assumes that any information gives useful knowledge if it leads to a shift in prices. Using stock prices comes from the fact that stock prices pool investors' collective judgements about the value of the firm (Lev, 1989; Barth, 2015; Lev and Gu, 2016; Power et al., 2017). Figure 2.2 below provides the general conceptual framework of the studies on the value relevance of accounting information

The studies of the value relevance of accounting information reveal the investor's actions (Lev, 1989; Lev and Zarowin, 1999) because they shed light on investors' actions in assessing the value of the firm and making informed investments using accounting information (Barth, 2000). Also, it reveals whether accounting information carries the fundamental characteristics of relevance and reliability (Barth, 2006, Beisland, 2009; Power et al., 2017). Figure 2.2 presents the conceptual framework of the studies on the value relevance of accounting information.

Figure 2.2: Conceptual Model of Value Relevance of Accounting information



2.6.3 Abnormal Audit Fees and the Value Relevance of Accounting Information

External validation from independent third parties, such as auditors, serves a critical function in oversight by addressing conflicts of interest between managers and shareholders, constraining managerial discretion, and bolstering the reliability of financial statements (Libby et al., 2015). The degree of assurance provided by auditors, whether comprehensive or limited, significantly impacts the precision of financial reporting and the overall financial well-being of a company (Doxey and Ewing, 2021).

Market participants' utilisation of disclosures regarding audits influences their investment decisions, underscoring the importance of audits from market participants' perspectives. Market response to any audits and auditors issues demonstrate the substantive role of such issues in shaping market outcomes (e.g., stock prices, stock returns, bid-ask spread) (Goldie et al., 2018). The relationship between audits and the market is manifested by the wide evidence in prior literature, such as the positive impact of auditor effort on stock market returns (Wang et al., 2020), auditor competence influencing stock prices (Abbott and Buslepp 2022), key audit matters in audit report significantly impacting the value relevance of audit report (Chang et al., 2022; Chan and Liu, 2023), and Big N audit firms having a higher value relevance of accounting information than non-Big N firms.

In line with prior studies, the current thesis argues that abnormal audit fees could impact the value relevance of accounting information through several channels. The first channel is perceived auditor independence, which is a key matter for market participants. Market participants employ observable auditor characteristics that enable them to determine the level of independence (e.g., Big N membership, industry specialisation, audit fees, non-audit fees, outcome of auditor report). The current thesis relies on prior studies' arguments suggesting that the magnitude of audit fees communicates to market participants the level of effort invested by auditors (Goldie, 2018). Since the actual level of auditor effort cannot be observed by market participants due to the lack of disclosures on actual auditor effort, market participants use audit fees as a signal of auditor effort, with an increase in audit fees signalling higher auditor effort. However, recent research (e.g., Kamath et al., 2018) argue that the evidence of audit fees as a signal of auditor effort provides several, yet conflicting conclusions. For example, an increase in audit fees has been associated with lower perceived auditor independence in the market, as it can potentially hinder independence, causing a deterioration in audit quality. Conversely, some research asserts that audit fees may also signify enhanced audit expertise, ultimately improving audit quality (Kamath et al., 2018).

The current thesis separates audit fees into normal and abnormal, yet this separation cannot be observed by market participants (i.e., market participants cannot distinguish normal audit fees from abnormal ones). Prior studies argue that abnormal audit fees could provide several perspectives, including higher auditor effort, a source of economic bonding that decreases auditor independence, and a result of market competition. This argument could be taken a step further by examining the impact of abnormal audit fees on the value relevance of accounting information. Although market participants cannot observe

normal or abnormal audit fees, they have different opinions or judgements on what constitutes an expected amount of audit fee an auditor would charge for auditing financial statements. For example, Chan and Liu (2023) find that key audit matter disclosures are linked to abnormal trading volume, suggesting that they contain new information beneficial for market participants, but the link varies based on factors such as the level of attention and judgement from market participants.

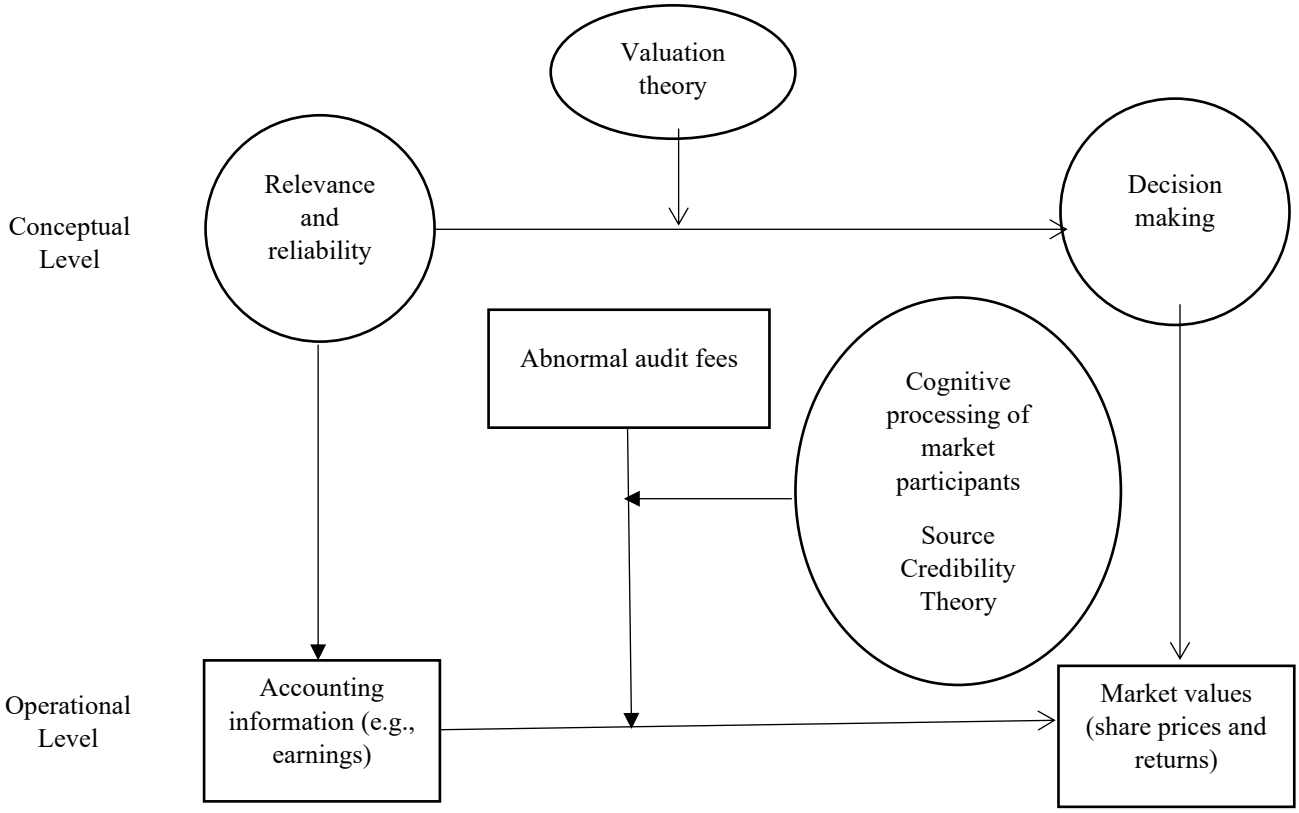
The current thesis argues that market participants could observe a normal audit fee by considering the determinants of audit fees of the company (size, risk, and complexity) and/or referring to certain benchmarks in the industry, taking into account observable factors such as Big N membership and industry specialisations of similar companies. These factors could represent an input system for market participants, enabling them to have a certain level of audit fees in mind that the auditor is expected to charge for auditing the company's financial statements. Comparing this to the actual audit fees, they could make their own judgement on whether the actual audit fees lie within their expectations. Market participants then consider whether this deviation from their expectations of normal audit fees is due to higher auditor effort, a source of economic bonding, or market competition. Some studies (e.g., Elliott et al., 2020) refer to an expected similar process from market participants as intentional cognitive processing that occurs in the market. If market participants engage in similar cognitive processing, the current thesis expects a relationship between abnormal audit fees and the value relevance of accounting information.

The second channel is that audit quality is a multifaceted concept influenced by various contextual factors, including social and regulatory factors that play a crucial role in shaping the quality of audits conducted by auditors. The social construction of the audit profession is a key determinant of audit methodology and effectiveness. This construction influences how auditors perceive their roles, apply their expertise, and exhibit behaviours that are essential for establishing their professional credibility within the industry. The commercial aspects of audit firms can also impact audit credibility, potentially leading to a prioritisation of auditors' business interests over audit quality. Scholars and regulators have raised concerns about the negative consequences of economic bonding (from audit and non-audit fees) between auditors and their clients, suggesting that such relationships may compromise the independence and credibility of audits.

In the realm of accounting literature, the effects of source credibility theory have been extensively explored. This theory posits that information from less credible sources is often discounted in decision-making processes. The perceived credibility of auditors, influenced by factors such as audit behaviour and expertise, plays a significant role in how market participants evaluate the quality of audits. For instance, the market tends to place greater value on audits conducted by Big N firms, perceiving them as more credible and of higher quality. This perception can substantially impact their decision-making processes regarding investments. Stakeholders' assessments of auditor credibility and expertise are crucial in shaping how audit information is perceived and utilised in various decision-making contexts.

Focusing on the various interpretations of abnormal audit fees, the current thesis argues that source credibility theory may provide different insights into these interpretations. Charging audit fees is a primary aspect of auditor behaviour, where the auditor assesses various factors that affect their judgement of the amount of audit fees charged. Source credibility theory suggests that there are two main drivers of source credibility: expertise and trustworthiness (Pornpitakpan, 2004). These drivers could influence market participants' judgements on the audited accounting information. If market participants value the level of auditor expertise and trust the auditor, they are likely not to question the auditor's behaviour, including the amount of audit fees charged. Source credibility theory contrasts with the concerns of regulators and scholars regarding abnormal audit fees. Under source credibility theory, market participants would trust the auditor and their judgement of audit fees. Regardless of the possible market interpretation (as in the first channel) of a normal level of audit fees, the market would respond positively, or not at all, but would not respond negatively to the auditor's behaviour regarding audit fees.

Figure 2.3: Conceptual Model of Value Relevance of Accounting Information and Abnormal Audit Fees



2.7 Summary

This chapter has discussed the following propositions. First, auditor independence is the cornerstone of the audit function, and, without it, the audit function loses its value. Several threats to auditor independence have been discussed in prior literature and by professional accounting bodies. Among those threats is the threat the auditor may become financially dependent on the client from audit fees and non-audit fees.

Second, the chapter discussed the two views of abnormal audit fees, the audit rent view and the auditor effort view. The auditor rent view suggests that abnormal audit fees may threaten auditor independence. Therefore, audit quality may be negatively affected by it. Nevertheless, there is an argument that claims the opposite, that abnormal audit fees do not threaten auditor independence; instead, they may lead to an increase in audit quality. Third, this chapter has discussed the theories and rational arguments relevant to the current thesis because it explains the role of audit in the context of agency theory, the relationship between abnormal audit fees and economic bonding, the argument of auditor effort and abnormal audit fees, auditor reputation, and the role of audit market competition. Finally, this chapter, in theory, adds a new implication of abnormal audit fees by arguing the possible effect of abnormal audit fees on the value relevance of accounting information.

CHAPTER 3

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

3.1 Introduction

This chapter discusses the literature that examines the relationship between abnormal audit fees and audit quality. It also discusses the relevant literature on the value relevance of accounting information. The summary in this chapter highlights the gaps in the prior literature and how the current study can address these gaps.

3.2 Abnormal Audit Fees

As discussed in the theoretical framework chapter, abnormal audit fees refer to the difference between actual audit fees and normal audit fees. Actual audit fees are fees paid to the auditor for the auditing of financial statements and normal audit fees are the fees that reflect the cost of the auditor's effort, risk premia, and normal profit for the auditor (Choi et al., 2010; Asthana and Boone, 2012; Doogar et al., 2015). Prior studies estimate normal audit fees by relying on the audit fees model developed by Simunic (1980). The model is discussed in detail in Chapter 5 of the current thesis, variables selection chapter. Prior studies present two views of abnormal audit fees, the auditor effort view, and the auditor rent view. The two views are discussed below.

3.2.1 Auditor Effort View

Actual audit efforts are measured by a set of factors such as audit hours for each audit engagement, analytical procedures, and tests of financial statement balances (Gul et al., 2006; Caramanis and Lennox, 2008). However, in most cases, researchers cannot measure actual auditor effort because of the unavailability of data on audit hours and audit procedures (Caramanis and Lennox, 2008). For this reason, researchers rely on audit fees as a proxy of actual auditor effort because there is a bulk of studies that find a positive relationship between audit fees and actual auditor effort (see, for example, Schelleman and Knechel, 2010; Cameran et al., 2015). Some studies on abnormal audit fees suggest that, since audit fees are considered as a proxy of auditor effort and the audit fees model does not capture all the factors that determine audit fees, it is plausible to argue that abnormal audit fees reflect the unobservable auditor effort. Therefore, prior studies that adopt this view suggest that abnormal audit fees increase audit quality.

3.2.2 Auditor Rent View

Prior literature that supports this view argues that normal audit fees reflect the normal profit for the auditors and abnormal audit fees are auditor rent that economically bonds the auditor to the client (DeFond et al., 2002). As discussed in the theoretical framework chapter, economic bonding is one of the major threats to auditor independence, and it may harm audit quality (DeAngelo, 1981; Bazerman et al., 1997).

3.2.3 Positive and Negative Abnormal Audit Fees

Positive abnormal audit fees occur when audit fees are higher than normal audit fee. On one hand, positive abnormal audit fees may compromise auditor independence by creating a financial dependency on the client, leading to potential biases in the audit process. The economic bonding between the auditors receive and the clients may increase, potentially leading to conflicts of interest where auditors prioritise client retention over rigorous auditing, adversely affecting the quality of the audit (REF). On the other hand, when audits become fundamentally more complex due to the client's size, scope, or unique risk considerations, factors not fully reflected by the usual determinants of audit fees, abnormal audit fees are likely to represent increased auditor effort rather than economic bonding. In other words, these abnormal audit fees are used to offset the additional labour and specialised resources needed to carry out a comprehensive audit.

In addition, it is plausible that decreased audit market competition enhances the auditor's negotiation power, resulting in auditors earning higher than normal fees due to the auditor's strong bargaining position. This unaccounted market competition might cause the residuals in the audit fee model to reflect negotiation power dynamics rather than economic bonding or additional auditor effort.

These diverse perspectives on positive abnormal audit fees could have various effects on audit quality and the value relevance of accounting information. Positive abnormal audit fees may result in lower audit quality due to the creation of economic bonding. Conversely, they could lead to higher audit quality if they reflect the additional labour and specialised resources required for a comprehensive audit. However, positive abnormal audit fees might simply reflect market competition and the negotiation power of auditors, which may not necessarily impact audit quality.

Regarding the value relevance of accounting information, market participants may interpret positive abnormal audit fees through a cognitive process and their belief in the credibility of the auditor. If market participants hold a positive view of their interpretation of abnormal audit fees, this could lead to a positive impact of positive abnormal audit fees on the value relevance of accounting information.

Negative abnormal audit fees occur when audit fees are lower than normal audit fee. On one hand negative abnormal audit fees may lead auditors to limit the scope of their audit or allocate fewer resources to the audit process, meaning a lower audit effort. This limitation can result in a less thorough audit, potentially overlooking significant financial discrepancies or misstatements. The reduction in resources and the possible rush to complete audits within tighter budget constraints can lead to lower audit quality. Inadequate audits may fail to detect critical issues, leading to financial statements that do not accurately reflect the company’s financial position. On the other hand, negative abnormal audit fees could be a sign of poor independence. Auditors might offer discounts to maintain long-term relationships with clients, aiming to benefit from sustained business and additional service opportunities over time. However, offering discounts can squeeze profit margins and potentially compromise audit quality if fees do not cover the necessary resources.

Furthermore, it's possible that when there's more competition among auditors, they cannot negotiate higher fees because they hold less power. This overlooked competition could make the residuals in the audit fee model show that the clients have more bargaining power.

These varying perspectives on negative abnormal audit fees could yield different impacts on audit quality and the value relevance of accounting information. Negative abnormal audit fees might lead to lower audit quality due to potential limitations in audit scope or resource allocation and a reflection of the discount to maintain the client. However, negative abnormal audit fees could also be a reflection of market competition and the weakened bargaining power of auditors, which may not necessarily affect audit quality. Regarding the value relevance of accounting information, market participants may interpret negative abnormal audit fees through a cognitive process and their belief in the credibility of the auditor. If market participants hold a negative view of their interpretation of abnormal audit fees and the credibility of the auditor, this could lead to an adverse impact of negative abnormal audit fees on the value relevance of accounting information.

3.3 Abnormal Audit Fees and Audit Quality

This section discusses the related literature on the relationship between abnormal audit fees and audit quality. This section divides the related literature into three themes based on three categories. As discussed in Chapter Two, prior studies use several measurements to capture audit quality. These measurements can be classified into three broad categories based on the prior studies that examine abnormal audit fees and audit quality. These categories are financial reporting quality, perception-based measures, and auditor communication. The study belongs to one of these categories based on the measurement used by the author(s) to measure audit quality. The next three sections discuss each of the three themes.

3.3.1 Abnormal Audit Fees and Financial Reporting Quality

Prior studies on the link between abnormal audit fees and financial reporting quality use several measurements to capture financial reporting quality, such as discretionary accruals (Jones, 1991 and its later modifications), accrual quality (Dechow and Dichev, 2002 and its later modifications; Allen et al., 2013), accounting conservatism (Ball and Shivakumar, 2006), and material misstatements. Discretionary accruals are measured by absolute, signed, income-increasing, and income-decreasing discretionary accruals. Discretionary accruals are an inverse measurement of financial reporting quality, meaning the increase in discretionary accruals reflects lower financial reporting quality. Accrual quality is measured by accrual estimation error, which is similar to discretionary accruals in terms of their implication. Higher accrual estimation errors reflect lower financial reporting quality. Accounting conservatism is measured by the asymmetric timeliness of earnings. The increase in accounting conservatism reflects higher financial reporting quality. The occurrence of restatements and some unique measurements, such as waiving material misstatements by auditors, measure material misstatements. These measurements are also an inverse measurement of audit quality, meaning it implies lower financial reporting quality.

Overall, the studies on the relationship between abnormal audit fees and financial reporting quality provide mixed evidence. On one hand, the studies that find abnormal audit fees decrease the quality of financial reporting argue that abnormal audit fees cause a compromise in auditor independence. According to these studies, the auditors compromise their independence because of the economic bonding to the client created by abnormal audit fees. Therefore, abnormal audit fees cause a decrease in financial reporting quality, hence a decrease in audit quality (e.g., Mitra et al., 2009). On the other hand, the studies that find abnormal audit fees increase the quality of financial reporting argue that abnormal audit fees could not lead the auditors to compromise their independence. According to these studies, abnormal reflects the unobservable auditor effort that would lead to an increase in financial reporting quality, hence, audit quality (e.g., Srinidhi and Gul, 2007). Also, there is some mixed evidence on the effect of the change in the regulatory environment proxied by the passaging of the SOX in the year 2002 (e.g., Hoitash et al., 2007; Mitra et al., 2009). The enactment of SOX motivates a researcher to investigate the consequences of this regulation on the relationship between abnormal audit fees and audit quality. For example, prior studies report an increase in audit and abnormal audit fees after SOX (Ghosh and Pawlewicz, 2009), a decrease in using discretionary accruals to manage earnings after SOX (Cohen et al., 2008), and an increase in financial statements restatements after SOX (Burks, 2011).

Studies using discretionary accruals to measure financial reporting quality bring mixed evidence. Mitra et al. (2009), use data covering six years (2000-2005) from the U.S. market and report that abnormal audit fees decrease the absolute values and income-increasing discretionary accruals. However, they report that only positive abnormal audit fees show similar results, while negative abnormal audit fees insignificantly decrease the absolute values and income-increasing discretionary accruals. Further, they report that SOX does not affect this relationship. They argue that these results suggest that abnormal audit fees increase audit quality, and do not lead to compromised auditor independence. By contrast, Choi et al. (2010) report that positive abnormal audit fees increase the absolute values of discretionary accruals in the U.S. market using data from 2002 to 2003. They argue that only positive abnormal fees make the auditors compromise their independence and the quality of their work. According to them, the reason is that only positive abnormal audit fees are better linked to economic bonding compared to negative abnormal audit fees. Therefore, Similar to Mitra et al. (2009), they find weak evidence that negative abnormal audit fees decrease the absolute values of discretionary accruals.

Kanagaretnam et al. (2010), report weak evidence that abnormal audit fees increase the absolute values and income-increasing discretionary accruals in the U.S. banking sector from 2000 to 2006. They argue that abnormal audit fees could be a threat to auditor independence in a regulated industry (i.e., the banking sector) similar to non-financial sectors. Asthana and Boone (2012), argue that the mixed evidence reported in those studies overlooks the expected influence of management incentives to use discretionary accruals to manipulate earnings to meet or beat earnings forecasts. Using data from the U.S. market from 2000 to 2009, they find that the absolute values of discretionary accruals and the probability of meeting or beating earnings forecasts increase with the increase in abnormal audit fees. They also find that SOX weakens this relationship. They argue that, after the regulation, auditors limit

the manipulation of earnings through discretionary accruals more. Eshleman and Guo (2014), partition abnormal audit fees into positive and negative parts, using data from the U.S. market from 2000 to 2011. They find that increasing income-increasing accruals to meet or beat earnings forecasts is associated with negative abnormal audit fees. They also report that the sample of companies with positive abnormal audit fees is less likely to use income-increasing accruals to manage earnings to meet or beat earnings forecasts. Jacob et al. (2019) found no evidence that abnormal audit fees decreased the absolute and signed values of discretionary accruals in the Indian market from 2000 to 2013. They argue that this result suggests that the impact of abnormal audit fees could be different from one market to another.

The evidence on the relationship between abnormal audit fees and financial reporting quality measured by accruals quality is consistent to a great extent. It shows that abnormal audit fees decrease accrual quality. Therefore, these studies suggest that abnormal audit fees decrease audit quality. Srinidhi and Gul (2007) report weak evidence that abnormal audit fees decrease the accrual quality U.S. market during the period 2000 to 2003. Hoitash et al. (2007), found that abnormal audit fees significantly decreased accrual quality in the U.S. market from 2000 to 2003. They also report that the relationship is not affected by SOX because the results do not change in the period pre-SOX compared with the period post-SOX. Mande and Son (2015) report, using data from the U.S. market covering eight years from 2000 to 2007, that abnormal audits decrease accrual quality only in the post-SOX period. Campa and Donnelly (2016) use data from the U.K. market during the period 2006-2011, and they report that there is weak evidence that abnormal audit fees increase accrual quality. Lin et al. (2018) report no evidence that abnormal audit fees affect accruals quality in the U.S. market from 2004 to 2012. However, positive abnormal audit fees show a negative and significant impact on accrual quality.

A unique measurement of financial reporting quality found, mostly, in the studies that use data from the U.S. is the use of material misstatements. The evidence on the relationship between abnormal audit fees and material misstatements is inconsistent. Blankley et al. (2012) find that abnormal audit fees increase the occurrence of restatements in the U.S. market during the period 2002-2009. However, Lobo and Zhao (2013) argue that prior studies that use the occurrence of restatements as a measurement of financial reporting quality suffer from two weaknesses. First, they do not separate restatements of audited financial statements from restatements of unaudited financial statements, and the auditor is only responsible for restatements in audit financial statements. Second, they do not control for endogeneity bias. Endogenous bias refers to omitting the risk of restatements in the empirical models used in these studies. Controlling these two issues, they report abnormal audit fees to decrease the occurrence of restatements in the U.S. market for the period from 2000 to 2009. According to them, this result suggests that abnormal audit fees increase audit quality because the auditor exerts more effort in reducing material misstatements in client financial statements.

Keune and Johnstone (2012), use a different operational measurement of material misstatements. Instead of using restatements, they rely on the probability of waiving material and immaterial misstatements by the auditor. Auditors identify and notify client managers and audit committees of misstatements, and

these parties must agree on whether managers will correct the misstatements before releasing the financial statements. Managers waive correcting misstatements if auditors and audit committees confirm the misstatements do not deliver materially incorrect financial statements. They refer to this process as the probability of waiving material and immaterial misstatements by the auditor. Using a sample of U.S. firms from the period 2003 to 2006, they find that abnormal audit fees significantly decrease the probability of waiving material and immaterial misstatements by the auditor. According to the authors, abnormal audit fees do not compromise auditor independence because the auditor does not allow the waiving of material misstatements. Therefore, abnormal audit fees increase audit quality.

By contrast and by using the same measurement, Asare et al. (2019) use data from the Netherlands during the period 2005 to 2015, and they find abnormal audit fees significantly increase the probability of waiving material misstatements by the auditor. The authors suggest that the impact of abnormal audit fees is different from the evidence which is based on the U.S. market. Zhao et al. (2017) report using data from the U.S. market from 2002 to 2010, a negative (positive) and significant relationship between negative (positive) abnormal audit fees and misstatements detection by auditors. This result is only for firms under section 404(A) of SOX, which requires the management to run the test for internal control. However, this relationship is positive and significant for the firms under section 404(B) of SOX that require the auditor to run the test for internal control. They suggest that these results indicate that the auditors increase (decrease) their efforts for companies under section 404(B) compared to the companies under section 404(A). Albring et al. (2018) report that abnormal audit fees in the year before the announcement of the internal control weakness under section 404 of SOX are positively and significantly related to the predicted probability of internal control material weakness in the US market from 2004 to 2012. According to them, this result suggests that the auditors increase their effort (measured by abnormal audit fees) for the companies with a high probability of reporting material weakness in internal control. However, when they divide the sample based on the type of weakness account and company-level weakness, they find that this relationship is only significant in firms with company-level weakness. They suggest this result could be an indicator that the auditor exerts more effort on the company-level weakness compared to the account-level weakness.

Related literature that uses less common measurements of financial reporting quality shows inconsistent evidence as well. Garven et al. (2018) report a positive and significant relationship between abnormal audit fees and a set of unique measurements of financial reporting quality in a sample of non-profit organisations in the U.S. market from 1997 to 2008. They argue that the various threats to auditor independence (including abnormal audit fees) for non-profit organisations lead to a decrease in the financial reporting quality of these organisations. Amir et al. (2019) report a positive relationship between positive abnormal audit fees and the asymmetric timeliness of earnings in the U.S. market from 2001 to 2007. They suggest that positive abnormal audit fees lead to more conservative reporting, which is a favourable attribute of financial reporting quality.

3.3.2 Abnormal Audit Fees and Perception-based Measurements

Prior studies on this theme rely on the earnings response coefficient (ERC) and the cost of capital as perception-based measures of audit quality (Krishnan et al., 2005; Hope and Langli, 2010). As discussed in the theoretical framework chapter, the major advantage of perception-based measurements is that these measurements capture the investors' perceptions of audit quality (DeFond and Zhang, 2014).

The evidence on the relationship between abnormal audit fees and ERC is inconsistent. On the one hand, studies find that investors react negatively to abnormal audit fees, suggesting that the investors believe that they are a threat to auditor independence. Frankel et al. (2002) find that investors do so because they report a negative and significant relationship between abnormal audit fees and ERC in the U.S. market during the year 2000. Krishnan et al. (2005) find that this relationship is negative and insignificant in the first quarter of the year 2000 after the release of financial statements. However, they report that this relationship becomes significant and negative in the second and third quarters of the U.S. market. Campa and Donnelly (2016) find that this relationship is negative but insignificant in using data from the U.K. market from 2006 to 2011. Other studies find that investors react positively to abnormal audit fees, indicating that investors perceive abnormal audits as a positive sign of increased auditor effort. Higgs and Skantz (2006) use data from the U.S. market during the year 2000 and show that only firms with positive abnormal audit fees have a significant and positive relationship with ERC. Also, they report that negative abnormal audit fees show a negative and significant relationship with ERC.

Prior studies on the relationship between abnormal audit fees and the cost of capital are consistent. Hope and Langli (2010) report that abnormal audit fees have a significant and positive relationship with the cost of capital, measured by the internal rate of return (IRR), in the U.K. market from 1995 to 2003. The authors argue that abnormal audit fees indicate a higher audit quality that leads the market participants to believe that the auditor of firms with higher abnormal audit fees delivers higher audit quality. Amir et al. (2009) used the bond rating and the yield spreads as measurements of the cost of capital to examine the relationship between abnormal audit fees and the cost of capital using data from the U.S. market from 2000 to 2006. They find abnormal audit fees are positively and significantly related to bond rating, while the relationship between abnormal audit fees and yield spread is negative and significant only in the post-SOX period. Hollingsworth and Li (2012) use data from the U.S. market from 2000 to 2004 in their study and they report a negative and significant relationship between abnormal audit fees and ex-ante cost of capital before SOX. This relationship becomes positive and significant after SOX.

3.3.3 Abnormal Audit Fees and Auditor Communications

Prior studies on this theme rely on the propensity of auditors to issue a going concern opinion to measure audit quality. As discussed in the theoretical framework chapter, the audit report is the responsibility of an auditor, and, if the auditor fails to issue the appropriate opinion or issuing a favourable opinion is conditional on some factors, especially auditor independence, it is a clear sign of low audit quality (DeFond and Zhang, 2014; Rajgopal et al., 2020).

The evidence on the relationship between abnormal audit fees and the propensity to issue going concern opinion is consistent to a great extent. DeFond et al. (2002) find weak evidence that abnormal audit fees decrease the auditor's propensity to issue a going concern opinion in the U.S. using data covering the year 2000. They suggest that these results indicate that abnormal audit fees do not lead the auditors to compromise their independence by issuing a favourable opinion (i.e., an unqualified opinion). Li (2009) reports that abnormal audit fees do not affect the auditor's propensity to issue a going concern opinion in the post-SOX period. Consistent with her results, Ratzinger-Sakel (2013) finds that the relationship between abnormal audit fees and auditor propensity to issue a going concern is positive and insignificant in the German market from 2005 to 2009. Hope and Langli (2010) report similar results, as they find an insignificant and positive relationship between unsigned abnormal audit fees and auditor propensity to issue a modified opinion for private firms in Norway from 1997 to 2002. Read (2015) uses a sample of bankruptcy companies in the U.S. from 2002 to 2013 and finds weak evidence that abnormal audit fees decrease the auditor's propensity to issue a going concern opinion for bankruptcy firms. Collectively, the studies on the relationship between abnormal audit fees and the auditor's propensity to issue going concern opinion show no significant evidence that abnormal audit fees lead the auditors to compromise their independence by issuing a favourable opinion.

3.3.4 Settling the Debate on the Relationship Between Abnormal Audit Fees and Audit Quality

As discussed in the previous section, prior studies find inconsistent evidence on the relationship between abnormal audit fees and audit quality[1]. For this reason, some studies attempt to settle this debate by using various methodologies.

Hribar et al. (2014) find that abnormal audit fees increase the probability of predicting future earnings. They argue that this evidence suggests abnormal audit fees convey useful information to investors and, therefore, it supports the auditor effort view of abnormal audit fees. However, they did not consider the asymmetric impact of positive and negative abnormal audit fees because the related literature reveals that positive abnormal audit fees may provide different results compared to negative abnormal audit fees. Doogar et al. (2015) find that, when clients change the auditor, abnormal audit fees persist from the old auditor to the new auditor. According to them, this evidence suggests that abnormal audit fees support the auditor effort view because of the persistence of abnormal audit fees from the old auditor to the new auditor. They argue that the persistence suggests that abnormal audit fees result from common factors to all auditors and clients, and it does not reflect auditor rent as the auditor rent view suggests. In other words, it is highly unlikely that the auditor would earn a similar rent from one client to another. If this is the case, the persistent audit fees will not exist, and one would see no persistent abnormal audit fees from one client to another. Therefore, the persistence of abnormal audit fees is more related to

[1] As discussed in this chapter and previous chapters, there are several measurements of audit quality, and prior literature uses all of them. Although there is some consistent evidence on the relationship between abnormal audit fees and one of the measurements of audit quality (e.g., the propensity of auditor to issue going concern opinion), most of these studies argue that the evidence on the relationship between abnormal audit fees and audit quality is inconsistent.

auditor effort because it is plausible to argue that the auditors exert similar effort for all clients. Nevertheless, they don't study the relationship between abnormal audit fees and audit quality to explore the consequences of abnormal audit fees on audit quality.

Moon et al. (2019) argue that the reason for inconclusive evidence on the effect of abnormal audit fees on audit quality is because of the measurement of abnormal audit fees. Instead of relying on the audit fees model to separate audit fees into normal and abnormal, they separate audit fees into auditor-specific fees and engagement-specific fees. Auditor-specific fees rise with audit firms' reputation, sources, and expertise, all of which render a higher audit quality. Engagement-specific fees reflect a mix of factors that cannot be observed (e.g., unobservable effort and negotiation of audit fees). They report that only auditor-specific fees decreased the occurrence of restatements in the U.S. market.

3.3.5 Hypothesis Development: Abnormal Audit Fees and Audit Quality

Auditing is the cornerstone of the audit profession because it allows the auditor to approve the fair presentation and verify published accounting numbers and disclosures and prevent the management's opportunistic behaviour in manipulating accounting numbers (Francis and Wilson, 1988; Defond, 1992; Church et al., 2018). Professional bodies and prior literature assert that there are several threats to auditor independence. Among these is the threat of economic bonding. Economic bonding occurs because audit firms receive fees from their clients, and, from these fees, the auditor earns client-specific quasi-rents (DeAngelo, 1981). Economic bonding creates incentives for auditors to compromise their independence to retain the client in subsequent years and keep earning quasi-rents. Therefore, it creates an environment where auditors may not exercise sufficient professional scepticism to interpret audit evidence correctly (Bazerman et al., 1997).

Prior literature examines the issue of economic bonding and its effect on auditor independence by examining the effect of various measurements of audit fees and non-audit fees on audit quality. Kinney and Libby (2002) suggest that studies on economic bonding could improve the perception of it by differentiating between audit fees and fees over those predicted from detectable firm characteristics, and they refer to this as abnormal audit fees.

On the other hand, several studies suggest that abnormal audit fees reflect the unobservable auditor effort. These studies argue that audit fees are used as a measurement of auditor effort (Schelleman and Knechel, 2010; Cameron et al., 2015). According to these studies, normal audit fees reflect the observed auditor effort. In contrast, abnormal audit fees reflect unobservable auditor effort.

The above arguments generate a line of research to examine the relationship between abnormal audit fees and audit quality (e.g., Choi et al., 2010; Asthana and Boone, 2012). The literature review shows that there are two views on abnormal audit fees and audit quality. The first view suggests a positive relationship between abnormal audit fees and audit quality. The second view suggests that this relationship is negative. Also, there are studies which find that abnormal audit fees do not affect audit quality. For example, several prior studies find that abnormal audit fees decrease the absolute values

and income-increasing discretionary accruals (e.g., Mitra et al., 2009; Kanagaretnam et al., 2010). Other studies find that positive abnormal audit fees increase the absolute values of discretionary accruals (Choi et al., 2010), the absolute values of discretionary accruals and the probability to meet or beat earnings forecasts increase with the increase in abnormal audit fees (Asthana and Boone, 2012), abnormal audit fees decrease accruals quality (Hoitash et al., 2007; Mande and Son, 2015), and abnormal audit fees increase the occurrence of restatements (Blankley et al., 2012). In addition, several studies find that abnormal audit fees do not or marginally affect audit quality. Jacob et al. (2019), find no evidence that abnormal audit fees decrease the absolute and signed values of discretionary accruals in the Indian market. Srinidhi and Gul (2007), report weak evidence that abnormal audit fees decrease the accrual quality. Campa and Donnelly (2016), report no evidence that abnormal audit fees increase accrual quality in the U.K. market. DeFond et al. (2002), find weak evidence that abnormal audit fees decrease the auditor's propensity to issue a going concern opinion.

Given the evidence on the relationship between abnormal audit fees and audit quality is inconclusive, the following hypothesis is proposed in the null form:

H1: There is no significant relationship between abnormal audit fees and audit quality.

3.4 Value Relevance of Accounting Information

The theoretical framework chapter discussed the definitions, importance, theoretical background, and the measurements of value relevance of accounting information. This section discusses, first, the two types of value relevance studies and the current debate on the value relevance of accounting information. The second section discusses the literature on the relationship between abnormal audit fees and the value relevance of accounting information.

As discussed in Chapter 2, the definition of value relevance of accounting information is slightly different across studies. The fundamental commonality appears to be that the value relevance of accounting information means a significant association between the accounting figure of interest and some measures of market values. The most recent and comprehensive definition is provided by D'Arcy and Tarca (2018) who define value relevance of accounting information as the "statistical tests of the association of an amount of an item recognised or disclosed by a firm (such as goodwill or impairment expense) and its share price (market value) or market return, for a sample of firms for one year or over a number of years" (D'Arcy and Tarca, 2018, p.204).

3.4.1 Types of Value Relevance of Accounting Information Studies

Prior studies classify the studies on the value relevance of accounting information into two types, relative association studies and incremental association (Lambert, 1996; Holthausena and Watts, 2001).

3.4.1.1 Relative Association Studies

Relative association studies aim to compare one piece of information with an alternative piece of information to see which one of those two pieces of information is more value-relevant (Biddle et al.,

1995). Empirically, relative association studies take the prices or returns of stocks as a dependent variable and the book values and/or earnings as an independent variable. To assess the value relevance of accounting information, the researcher looks at the explanatory power of the model (adjusted R^2). As a result, researchers can compare the explanatory power of such a model across years, countries and accounting regimes to make a comparison (Hail, 2013). This research is used for investigations of accounting standards setting, international accounting and managerial accounting choices. (e.g., fair value vs. historical cost). For example, association studies can compare the value relevance of IFRS and U.S. GAAP by examining whether a specific standard in GAAP dealing with one accounting issue produces more value-relevant information than a similar IFRS standard for the same accounting issue (e.g., fair value vs. historical cost for fixed assets). Alford et al.'s (1993) study is an example of relative association studies. Using a sample from seventeen countries around the world, they find that the value relevance of accounting information is different across countries. They argue that these results suggest that the value relevance of accounting information is affected by numerous contextual and economic factors. They suggest that different factors in each country (e.g., legal environment, economic factors, and accounting principles) play a role in the value relevance of accounting information.

3.4.1.2 Incremental Association Studies

According to prior studies (see, for example, Biddle et al.,1995; Holthausena and Watts, 2001; Lev, 2018), incremental association studies compare the collective value relevance of two pieces of information together with the value relevance of one of these two pieces of information alone. This research studies the value relevance of supplement disclosures or one item of annual reports after controlling for other information. The model of incremental association studies takes the prices or the returns of stocks as a dependent variable and supplements disclosures or the items of annual reports as an independent variable and controls for other variables (e.g., earnings and book value). This disclosure or the item is value-relevant if its coefficient is significant given the other variables. Incremental association studies address questions such as the incremental information content of cash flows beyond earnings and the incremental information content of certain disclosures. An example of incremental association studies is the work of Venkatachalam (1996) who investigates the value relevance of banks' derivatives disclosures and finds that these provide value-relevant information to market participants beyond derivatives items.

3.4.2 The Current Debate on the Value Relevance of Accounting Information

There is an ongoing debate on whether accounting information has lost its value. On the one hand, a group of studies claims that accounting information has not lost its value (Hellström, 2006; Fung et al., 2010; Barth et al., 2018). On the other hand, most prior studies show that accounting information has lost its value (Francis and Schipper, 1999; Lev and Zarowin, 1999; Lev and Gu, 2016; Givoly et al., 2017; Srivastava, 2014).

The main reason for the decline in the value relevance of accounting information is the fact that businesses in the modern economy rely on intangible assets to create corporate (Francis and Schipper,

1999; Lev and Zarowin, 1999; Lev and Gu, 2016; Givoly et al., 2017; Srivastava, 2014). Those intangible assets are not appropriately recognised by the current reporting model and many researchers argue that accounting information, to a certain degree, does not reflect the true value of intangible assets for firms. Other reasons include the notion that accounting scandals and financial crises across the years cause investors to lose trust in accounting information (Hail, 2013) and that more firms incur more losses (Lev and Gu, 2016; Givoly et al., 2017).

3.4.3 Abnormal Audit Fees and Value Relevance of Accounting Information

As discussed in the introduction chapter, to the best of the researcher's knowledge, there are no studies that examine the effect of abnormal audit fees on the value relevance of accounting information. However, some studies examine the effect of some issues related to auditor independence and audit reports on the value relevance of accounting information. As the theoretical framework discussed, abnormal audit fees may compromise auditor independence by creating economic bonding between the auditor and the client. These studies could provide a background on the relationship between abnormal audit fees and the value relevance of accounting information even if they don't study this relationship empirically.

Because the study of value relevance of accounting information overlaps with studies on the effect of abnormal audit fees on ERC, this section starts with the differences between the study of ERC and value relevance of accounting information. Then, it discusses the prior literature on auditing and the value relevance of accounting information.

ERC literature uses event studies to see if the announcement of an accounting figure (conditional on other information announcements) is correlated with the changes in stock prices (Lambert, 1996; Holthausena and Watts, 2001). The related literature uses abnormal returns during a short time (a three-day window) as a dependent variable and the accounting number as an independent variable. The coefficient of the accounting number measures the reaction of the investor to this accounting number. This coefficient is called earning response coefficient (ERC). ERC studies investigate the market response during a small window and, therefore, measure the role of this information in transferring certain knowledge to shareholders about issues that may influence their perceptions of the company. For example, many studies investigate the earnings surprise and its effect on abnormal returns by looking at the significance and the direction of ERC.

ERC studies differ from the value relevance of accounting information studies in two aspects. First, as Beaver (2002) elucidates, ERC is only interested in information reflected in a short time (usually a three-day window). As a result, he argues that ERC does not reflect information before the event window or the announcement date, unlike association studies (relative and incremental). Association studies reflect information before the event window and, therefore, are better linked to the study of the value relevance of accounting information. Second and most importantly, it is hard to isolate the effect of a piece of information from other information in the market, which presents a major weakness of ERC (see Dechow et al., 2010). For these two reasons, prior studies argue that to examine the value relevance of

accounting information, the use of relative association studies and/or incremental association studies is more suitable (Barth, 2000). These studies use the model developed by Ohlson (1995) to measure the value relevance of accounting information, which is the model used in the current thesis.

Some studies examine the effect of some issues related to auditor independence and audit reports on the value relevance of accounting information. This section divides these studies into three themes, auditor opinion and the value relevance of accounting information, Big N and non-Big N auditors and value relevance of accounting information, and non-audit fees and value relevance of accounting information.

3.4.3.1 Auditor Opinion and the Value Relevance of Accounting Information

The auditor's report has been criticised because it incorporates a limited communicative value (Chen et al., 2016) and it can be considered a pass/fail report for the client (Church et al., 2008). Several studies examine the communicative value of an auditor's report by studying the impact of the audit report on the value relevance of accounting information (e.g., Lev and Thiagarajan, 1993; Blay et al., 2011).

According to prior studies (see Manry et al., 2003; Blay et al., 2011), the audit report affects the value relevance of accounting information for at least three reasons. First, the audit report consists of information that influences either the evaluation of the number of prospective cash flows and/or the riskiness of potential cash flows (e.g., the fair value amount and discontinued operations). Second, any information that can produce changes in these factors is significant to the share prices. Third, the audit report involves significant information about the ability of the company to continue in the next period (the case of going concern opinion).

Lev and Thiagarajan (1993), suggest that qualified, disclaimer, or adverse audit opinion addresses negative news to shareholders. Consistent with their argument and by using a sample of U.S. firms from 1978 to 1988, they find that there is a negative relationship between those types of audit reports and the value relevance of accounting information. Ghicas et al. (2008), argue that the auditor-qualified opinion for IPO firms involves value-relevant information that affects the investor's valuation of IPO firms in the initial period of trading after the IPO. They find that the valuation of IPO firms in the initial period of trading after the IPO is negatively related to the qualified auditor's opinion. The authors employ a modified model of the original model developed by Ohlson (1995). Tahinakis and Samarinas (2016), report that both unqualified and qualified audit opinions affect the value relevance of accounting information using a sample from 1981 to 2011 in the U.S. market. They used the model developed by Easton and Harris (1991) to measure the value relevance of accounting information. According to them, these results indicate that even a clean audit report provides relevant information to shareholders. Also, they find that the value relevance of auditor opinion is persistent during the period of the study. Such a result suggests that, even with the fluctuations produced by different economic circumstances, the value relevance of audit opinion remains significant. Dang et al. (2011), use Ohlson's (1995) model to compare the value relevance of accounting information for a sample of 779 firm-year observations that encountered audit failure during the period 1980 to 2000 from the U.S. market with a matched group of companies not dealing with such failures. The results show that the value relevance of accounting

information of companies that encounter audit failures is lower than that of a matched group of companies not dealing with such failures.

3.4.3.2 Big N and non-Big N Auditors and Value Relevance of Accounting Information

The role of Big N audit firms in increasing the value relevance of accounting information is consistent among prior studies. These studies employ the model developed by Ohlson (1995) to measure the value relevance of accounting information. Lee and Park (2013), find, using a sample from the U.S. market during the period 2002 to 2009, that other comprehensive income (OCI) components for Big N clients carry more relevant information when compared to those of non-Big N clients. Gul et al. (2002), find that the value relevance of accounting information for firms with low management ownership is higher for Big N compared to the non-Big N in the U.S. market.

3.4.3.3 Non-Audit Fees and Value Relevance of Accounting Information

Gul et al. (2006), show that there is a negative relationship between non-audit fees and the value relevance of accounting information by using a sample from Australia for the period 1993 to 1994, They argue such results are consistent with prior evidence that non-audit fees compromise auditor independence because of the market participants. These results indicate they rely less on accounting information to value the company. Krishnan et al. (2013) use a sample from 2000 to 2008 from the U.S. market to report that there is a positive relationship between tax fees and the value relevance of accounting. Their results support the notion that market participants view the useful role of tax fees in enhancing the financial reporting quality, not as a threat to auditor independence. Both studies use the model developed by Ohlson (1995) to measure the value relevance of accounting information.

3.4.3.4 Hypothesis Development: Abnormal Audit Fees and the Value Relevance of Accounting Information

The current thesis separates audit fees into normal and abnormal categories; however, this separation is not observable by market participants (i.e., market participants cannot distinguish between normal and abnormal audit fees). Although market participants cannot easily observe normal or abnormal audit fees, they still have different opinions or judgements on what constitutes an expected amount of audit fee that an auditor would charge for auditing financial statements. Chan and Liu (2023) find that key audit matter disclosures are linked to abnormal trading volume, suggesting that they contain new information beneficial to market participants. However, the link varies based on factors such as the level of attention and judgement from market participants. The current thesis argues that market participants can expect normal audit fees by considering company size, risk, complexity, and industry benchmarks, including Big N membership and industry specialisations. These factors help form expectations of appropriate audit fees. By comparing these expected fees to actual audit fees, participants can judge if the fees align with their expectations. Deviations might be due to increased auditor effort, economic bonding, or market competition. Elliott et al. (2020) indicate this cognitive process exists in the market.

In addition, charging audit fees is a key aspect of auditor behaviour, involving the auditor's assessment of various factors influencing the fees charged. Source credibility theory identifies two main drivers of credibility: expertise and trustworthiness (Pornpitakpan, 2004). These drivers affect how market participants judge audited accounting information. If participants value the auditor's expertise and trustworthiness, they are unlikely to question the auditor's actions, including the audit fees charged. This theory contrasts with regulators' and scholars' concerns about abnormal audit fees. According to source credibility theory, market participants trust the auditor's judgement on fees and would respond positively or neutrally, but not negatively, to the auditor's fee decisions.

in line with a similar argument, Che et al. (2023) have surveyed the financial market in Sweden and assert that market participants make their own judgements on audit quality by observing the input of the audit process. Other studies (e.g., Chen, 2022) show that market participants value the corrective impact of auditing on the accuracy of fair value estimation, which involves uncertainty and subjectivity. These studies show that market participants are aware of the challenges auditors face when auditing fair value measurements because when market participants believe that the auditing of fair value is accurate, they rely more on the fair value items in financial statements to value the company's stock price. Such recent research provides supporting evidence for the argument that market participants make their own judgements and form expectations regarding the whole audit process, including audit fees.

The current thesis does not propose a relationship between abnormal audit fees and the value relevance of accounting information given the lack of studies in this area. The reason is the mixed evidence on the relationship between abnormal audit fees and audit quality, and the two views of abnormal audit fees, which could generate no relationship between abnormal audit fees and the value relevance of accounting information. Therefore, the current thesis proposes the following hypothesis:

H2: There is no significant relationship between abnormal audit fees and the value relevance of accounting information.

3.5 Summary

This chapter discussed the relevant literature on abnormal audit fees and audit quality. Also, it discussed the literature on abnormal audit fees in some contexts where abnormal audit fees were examined. In addition, the chapter discussed the related literature on a few issues related to the auditor, and its impact on the value relevance of accounting information.

The literature on the relationship between abnormal audit fees and audit quality reveals many observations. First, the evidence is inconclusive regarding whether the impact of abnormal audit fees on audit quality is positive or negative. Second, several measurements of audit quality show different results. The studies that use financial reporting measurements of audit quality provide different results on whether abnormal audit fees increase financial reporting quality or not. Also, the evidence from these studies contradicts the evidence on the relationship between abnormal audit fees and other measurements of audit quality such as auditor communication. Third, there is scarce evidence of this

relationship outside the U.S. market, and there is no evidence in the U.K. This provides interesting issues because the literature shows how this relationship could differ based on the country. This is especially worth examining in light of the recent audit reforms in the U.K., which came as a result of concerns about audit fees and audit quality. Fourth, there is a paucity of research concerning the relationship between various auditing-related issues (e.g., independence) and the value relevance of accounting information. To the best of the researcher's knowledge, there are no studies examining empirically the relationship between abnormal audit fees and the value relevance of accounting information.

Two hypotheses in the current thesis. The first hypothesis proposed that there is no significant relationship between abnormal audit fees and audit quality. The second hypothesis proposed that there is no relationship between abnormal audit fees and value relevance of accounting information, but it does not direct the relationship. The reason for these two null hypotheses is the inconsistent evidence on abnormal audit fees.

CHAPTER 4

VARIABLES SELECTION AND MODELS' SPECIFICATIONS

4.1 Introduction

The current thesis employs the positivism paradigm to examine the current thesis's objectives. Positivism is one of the two most popular research paradigms in social science research (Hussey and Hussey, 1997), and scholars use it extensively in accounting research. The positivism paradigm is an approach that examines studies with various and complex groups of facts and the relationship between these facts (Smith, 1998). This research paradigm is usually applied in quantitative research that aims to examine measurable variables (Bryman, 2008) and generate patterns that can be employed to anticipate future behaviour or patterns. Using this paradigm, the current thesis uses the deductive approach by relying on some theories and rational arguments that explain why abnormal audit fees affect audit quality and the value relevance of accounting information.

As mentioned in the introduction chapter, the current study has two main objectives. The first is to examine the relationship between abnormal audit fees and audit quality. The second objective is to examine the relationship between abnormal audit fees and the value relevance of accounting information, which measures the value relevance of accounting information. The independent variable in the current study is abnormal audit fees, and the two dependent variables are audit quality and the value relevance of accounting information.

This chapter discusses the selection of variables (test and control variables) used in the current study to measure abnormal audit fees, audit quality, and the value relevance of accounting information. Also, the chapter discusses the empirical models used to achieve the two objectives of the study. Finally, the chapter presents the statistical techniques used to conduct univariate and bivariate analyses used in the current study.

4.2 Abnormal Audit Fees

As mentioned in the introduction chapter, an abnormal audit fee is the difference between the actual audit fee paid to the incumbent auditor and a normal audit fee. Normal audit fees are estimated in the prior studies using the well-established audit fee model developed by Simunic (1980). Section 4.2.1 below discusses the general form of the audit fees model, and the selection and justification of variables used in the empirical model of audit fees used in the current study. Section 4.2.2 presents the empirical model of audit fees used in the current study to estimate abnormal audit fees.

4.2.1 General Form of Audit Fees Model

The estimation of the audit fees model by Simunic (1980) is based on a linear regression of audit fees against various variables that capture specific attributes of audit clients such as the client size and some characteristics of the auditor. Those variables are known in the related literature as the determinants of

audit fees, and they can relate to audit fees positively or negatively. The general form of the audit fees model is specified as follows:

$$LAF_i = \alpha + \beta_1 SIZ_i + \sum \beta_{gik} + \sum \beta_{gie} + e_i$$

where: LAF, the dependent variable, is the natural logarithm of the money amount of audit fees; SIZ: the size of the audit client captured by the client's total assets or turnover; gik: the group of control variables; and gie: is the group of independent variables. Prior studies that use this model address one or more independent variables to examine their relationship with audit fees. The above model is presented as a series of control variables (gik) that prior literature shows are related to audit fees, and the independent variable(s) in question (gie) (Hay et al., 2006). (e) is the error term. The error term reflects the unexplained amount of audit fees. If the coefficient of any of the independent variables is significant, it is deemed that this independent variable has a direct positive or negative relationship with audit fees. The main purpose of the audit fees model is to identify the drivers associated with the variation in audit fees. These drivers cause the auditor to perform more or less work during the audit (Hay et al., 2006).

A considerable body of literature has been produced based on the audit fee model since 1980. This literature has been reviewed by Cobbin (2002) and Hay et al. (2006). According to Hay et al. (2006), prior studies have introduced over two hundred various independent variables in hundreds of studies. These variables are categorised, mainly, into; 1) client size, 2) client complexity, 3) audit risk, 4) auditor characteristics, and 5) engagement characteristics. Sections 4.2.1.1 to 4.2.1.5 of this chapter discuss the justification for including these categories in audit fees and variables selected in the current study to measure each of these five categories.

4.2.1.1 Client Size

The size of an audit client is the most notable determinant of audit fees. Hay et al. (2006) provide a comprehensive literature review of the determinants of audit fees, and they find that the size of audit client was used in all prior studies and across all countries such as the U.S. (Simunic, 1980), the U.K. (O'Sullivan, 2009), Singapore (Low et al., 1990), Australia (Craswell and Francis, 1998), Canada (Anderson and Zéghal, 1994), Finland (Niemi, 2002), and New Zealand (Firth, 1985). The auditor consumes more time and effort in auditing large audit clients to gather audit evidence, verify accounting numbers, and analyse various risks related to the audit client (Firth, 1997). Total assets and turnover are the most used measurement of the audit client size (Firth, 1997; Cobbin, 2002; Hay et al., 2006), and the predicted relationship between audit fees and the size of the audit client is positive (Simunic, 1980).

Most of the prior research prefers to use total assets as a measurement of the client size compared to the use of turnover. The use of turnover is subject to the different definitions of turnover across industries and companies. For example, turnover, as defined by a manufacturing company, may be different in concept from the definition adopted by a retail company. Different definitions may lead to errors in the measurement of the client size using the turnover of the client.

Following prior research, (Higgs and Skantz, 2006; Eshleman and Guo, 2014; Jacob et al., 2019), the current study measures the size of the audit client using the figure of total assets from company financial statements.

4.2.1.2 Client Complexity

Audit client complexity is another key determinant of audit fees (Cobbin, 2002; Hay et al., 2006). Prior studies (e.g., Cobbin, 2002) assert that the increase in client complexity increases the time and effort spent by the auditor to audit the financial statements of the client. Client complexity is measured by organisational complexity and geographical complexity (Hay, 2013). Examples of the measurements of organisational complexity are the number of subsidiaries or the number of business segments. Measurement of geographical complexity includes, for example, foreign sales or foreign assets. Most of the prior research measures the complexity of the audit client using the number of subsidiaries and foreign sales (Low et al., 1990; Craswell and Francis, 1999; Anderson and Zéghal, 1994; Niemi, 2002; O'Sullivan, 2009). Following those studies, the current study measures the client's complexity using the total number of company subsidiaries, and the ratio of foreign sales to total sales.

4.2.1.3 Audit Risk

The auditor's perception of the client risk is among the determinants of audit fees. There are various sources of risk the auditor assesses before and during the audit. These include client inherent risk, profitability, and leverage (Hay et al., 2006). Inherent risk is the risk of finding errors and material misstatements in the financial statements of the audit client. The increase of inherent risk increases the auditor's effort because the auditor is required to perform specialised procedures to reduce that risk. For example, the client may have specific items in the balance sheet and income statements (e.g., inventories) that require complex audit procedures to verify that the recognition and measurement of these items are according to accounting standards. Profitability and leverage reflect the extent to which the auditor may incur a loss if the audit client cannot meet its future financial obligations. Prior studies assert that client risk increases audit fees (Cobbin, 2002; Hay et al., 2006; Hay, 2013).

Following prior studies (Low et al., 1990; Craswell and Francis, 1998; Anderson and Zéghal, 1994; Niemi, 2002; O'Sullivan, 2009), the current study measures audit risk using the ratio of current assets to total assets, the current ratio, the ratio of long-term debt to total assets, the return on total assets, and an indicator variable that reflects whether the client reported losses in any of the three prior years or not.

4.2.1.4 Auditor Characteristics

Hay et al. (2006), report that many prior studies include various auditor characteristics in the audit fees model to control the effect of those characteristics on audit fees. Those characteristics include auditor size, auditor tenure, auditor change, auditor industry specialisation, and auditor location. Each of these five characteristics is discussed below.

4.2.1.4.1 Auditor Size

The classification of the auditor is one of the most used to measure auditor size, where the client's incumbent auditor is classified as Big N or non-Big N (Hay et al., 2006; Cobbin, 2002). Auditor size is a measurement of audit quality as well, meaning the larger the size of the auditor, the higher the audit quality (DeFond and Zhang, 2014). Audit firms classified as Big N charge higher fee premiums compared to the fee premiums of non-Big N fees because they have established a reputation for higher audit quality (Simunic, 1980; Palmrose, 1986). Therefore, the expected relationship between the classification of audit firms and audit fees is positive (Palmrose, 1986). Following prior studies, the current study classifies the auditor into three tiers. The first tier includes the Big 4 audit firms, namely Ernst & Young (EY), Price Waterhouse Coopers (PWC), Deloitte (DE), and KPMG. The second tier includes BDO, Grant Thornton, RSM, and Nexia Smith & Williamson (see, for example, Kharuddin and Basioudis, 2018; Kharuddin, Basioudis and Farooque, 2021). The third tier includes all other audit firms.

4.2.1.4.2 Auditor Tenure and Auditor Change

Prior research asserts that auditor tenure and auditor change need to be included in the audit fees model (Hay et al., 2006). Prior studies show that the common reason for an audit client to change its auditor is to benefit from the fee discount from the new auditor (DeAngelo, 1981). The literature often refers to the phenomenon of fee discounts as low-balling (DeAngelo, 1981). Prior literature reports inconsistent empirical evidence on the relationship between auditor tenure and audit fees (Hay et al., 2006; Hay, 2013). Many studies report a negative relationship between audit fees and auditor tenure, while others report an opposite relationship (Hay, 2013). The effect of auditor tenure on audit fees is controversial because there is a different measurement of auditor tenure (Hay, 2013). For example, studies use a dummy variable for short tenure and long tenure, and other studies use the total number of years. However, the recent evidence suggests that the longer the audit tenure, the higher the audit fees.

Following prior studies (see, for example, Choi et al., 2010; Lobo and Zhao, 2013; Ratzinger-Sakel, 2013; Greiner et al., 2017), the current study measures auditor tenure using two variables. The first variable is an indicator variable to reflect if the audit client changed its auditor in each of the years in the period of the current study. The second variable is to measure the duration of time spent by the auditor in auditing the financial statements of the client (i.e., auditor tenure).

4.2.1.4.3 Auditor Industry Specialisation

Solomon et al. (1999) argue that industry experts have a deeper knowledge than non-experts due to greater experience in the industry which enables experts to make more accurate audit judgments. industry specialists are expected to earn fee premiums because they differentiate themself in the market compared to non-specialists (Craswell et al., 1995). Therefore, the relationship between the industry specialisation of the auditor and audit fees is expected to be positive. Following the wide literature on auditor industry specialisation, the current study uses an indicator variable to reflect if a specialist auditor

audits the company's financial statements. A specialist auditor is identified using a market share-based method based on audit fees (Audousset-Coulier et al., 2016: Kharuddin and Basioudis, 2018). Table 4.1 shows the definitions of variables of auditor industry specialisation.

Table: 4.1 Variables Definition of Auditor Industry Speciation

Variable	Definition
JOINT(NAT#1CITY#1)	Indicator variable = 1 if the audit firm is the top-ranked by market share nationally (NAT#1), and the office is the top-ranked by city industry market share (CITY#1), 0 if otherwise
JOINT(CITY#1_ONLY)	Indicator variable = 1 if the audit firm is not the top-ranked by market share nationally, and the office is the top-ranked by city industry market share (CITY#1), 0 if otherwise
JOINT(NAT#1_ONLY)	Indicator variable = 1 if the audit firm is the top-ranked by market share nationally (NAT#1), and the office is not the top-ranked by city-industry market share, 0 if otherwise

4.2.1.4.4 Auditor Location

Prior research shows that when the locations of audit clients' headquarters are in a metropolitan centre; it has a positive and significant relationship with audit fees (Hay et al., 2006). The reason is that the cost of conducting the audit of financial statements for audit clients with headquarters in these metropolitan centres is higher than in the rest of the country, which justifies the positive relationship (Hay et al., 2006). The identification of the Metropolitan centre depends on the country of the study; in the U.K., prior research uses London city as the metropolitan centre (Kharuddin and Basioudis, 2018). The current study measures the locations of the audit client using an indicator variable to reflect if the headquarters of the audit client is in the wider area of the City of London.

4.2.1.5 Engagement Characteristics

There are specific audit engagement characteristics that differ from one year to another for each of the audit clients of the audit firms. Prior research shows that these characteristics need to be included in the audit fees model. Those characteristics include audit report lag, busy season, non-audit fees, auditor opinion and client importance.

Audit report lag refers to the elapsed time from the end date of the fiscal year of the audit client to the date of issuing the audit report (Hay et al., 2006). Audit report lag is considered an indicator of audit efficiency because the increase in audit report lag indicates the auditor encountered difficulties or problems during the audit of financial statements (Knechel and Payne, 2001; Hay et al., 2006). These difficulties require more time and effort by the auditor to resolve, resulting in a positive relationship between audit reports lag and audit fees. The current study measures audit report lag using the number of days between the end date of the fiscal year of the audit client and the date audit report.

Busy season refers to the period when the auditor is busier compared to other periods of the year. Most audit clients in the U.K. have December 31st as the end date of the fiscal year, which makes the busy season for the auditor during the following two months, January, and February. According to Hay et al. (2006), during busy seasons, the audit of financial statements costs more because the members of audit teams have to work overtime to audit the financial statements of a considerable number of clients. The increase in overtime work and workload increases the cost of the audit. Therefore, the busy season of the auditor has a positive and significant relationship with audit fees. The current study measures the busy season of the auditor using an indicator variable to reflect if the end date of the financial statements of audit clients is on the 31st December or the 31st March. Audit clients with a fiscal year-end by the 31st March were included because many firms in the U.K. follow the tax year of the U.K. regulations, which ends on the 31st March.

The final product of the audit of the financial statement is the audit report, where the auditor reports his/her opinion. When the auditor issues a qualified opinion, it shows that the auditor encountered problems during the audit (Simunic, 1980). These problems increase the risk and the work of the auditor, which, in turn, increases the cost of the audit (Hay et al., 2006). For that reason, prior research shows a positive and significant relationship between auditor opinion and audit fees. The current study measures the auditor's opinion using an indicator variable for audit clients with qualified opinion (adverse or disclaimer) and going concern opinion.

The incumbent auditor can provide some non-audit services to the same client. Non-audit services include, for example, taxation consultancy and management. The incumbent auditor is paid for these non-audit services an amount of money known as non-audit fees. Prior research suggests a positive and significant relationship between non-audit fees and audit fees (Hay et al., 2006; Hay, 2013). The current study measures non-audit fees using the figure of the money amount of non-audit fees in company financial statements.

Client importance refers to the proportion of audit fees a client contributes to the total audit fees earned by the incumbent auditor (Craswell et al., 2002). The larger the audit fees from a specific client in the incumbent auditor's portfolio, the stronger the auditor's incentive to keep that client (Chen et al., 2010). This incentive implies that the auditor earns higher audit fees from these large clients, suggesting a positive relationship between client importance and audit fees. Following prior literature (e.g., Craswell et al., 2002), the current study measures client importance as the ratio of client audit fees to the audit firm's total office audit fees.

Table 4.2 provides a summary of the variables used in the current study to measure each of the five categories discussed above. Following prior studies and to reach the normal distribution of the variables, variables AF, SIZE, SUBS, TEN, BUSY, and NAF are transformed using the natural logarithm and square root. Also, all continuous variables are winsorised at the top 1 per cent and bottom 1 per cent to mitigate the effect of outliers.

Table: 4.2 Summary of the definitions of the selected variables in the audit fees model used in the current study

Category	Variable	Definition of variable
Client size	SIZ	Natural logarithm of total assets in GBP
Client Complexity	SUBS	The square root of total subsidiaries
	FOREGIN	Indicator variable = 1 if the company reports foreign sales, 0 = otherwise
Audit risk	ROA	Return on total assets
	CATA	the ratio of current assets to total assets
	CR	Current ratio, defined as current assets/current liabilities
	DE	The ratio of long-term debt to total assets
	LOSS	Indicator variable = 1 if the company reports a negative net income in any of the previous three years, 0 = otherwise
Auditor Characteristics	TIER#1	Indicator variable, 1 = if the auditor is in the tier 1 category, 0 = otherwise. Tier 2 category includes DE, EY, KPMG, and PWC
	TIER#2	Indicator variable, 1 = if the auditor is in the tier 2 category, 0 = otherwise. Tier 2 category includes BDO, Grant Thornton, RSM, and Nexia Smith & Williamson
	AUDCHG	Indicator variable = 1 if the company has changed its auditor in each, 0 = otherwise
	TEN	natural logarithm of the number of years under engagement by the same auditor over the last ten years
	ISP	Indicator variable = 1 if the auditor of the company is an industry specialist auditor, 0 = otherwise. Industry specialised auditor is defined in table 4.1
Engagement characteristics	LONDON	Indicator variable, 1 = London-based company, 0 = otherwise.
	LAG	natural logarithm of the number of days between the date of financial statements and the date of auditor report
	BUSY	indicator variable, 1 = December 31st or March 31st year-end, 0 = otherwise
	OPINION	indicator variable, 1 = qualified or going concern audit report; 0 = otherwise
	NAF	natural log of non-audit fees in the GBP paid to the incumbent auditor
	CLINT_IMPO	The ratio of client audit fees to the audit firm's total office audit fees of the incumbent auditor

4.2.2 Empirical Model of Audit Fees for the Current Thesis

This section discusses the first empirical model in the current study, Model (1), used to estimate abnormal audit fees, the independent variable. Following prior studies on abnormal audit fees (e.g., Hoitash et al., 2007; Mitra et al.,2009; Choi et al., 2010; Eshleman and Guo, 2014; Jacob et al., 2019; Amir et al., 2019), an Ordinary Least Square (OLS) regression of audit fees model is estimated by year and includes the industry fixed-effects to control for systematic differences in audit fees and the

determinants of audit fees across the 13 industries. Then, the residual is estimated by year to control for the variation of the determinants of audit fees from one year to another. To calculate abnormal audit fees, the sum of all estimated coefficients from Model (1) is subtracted from the actual audit fees. Therefore, abnormal audit fees could be positive or negative. The current thesis also examines the asymmetric effect, individually, of positive abnormal audit fees and negative in the analysis chapters. The OLS regression of Model (1) is specified as follows:

$$LAF_{i,t} = \alpha + \beta_1 SIZ_{i,t} + \beta_2 SUBS_{i,t} + \beta_3 FORGEIN_{i,t} + \beta_4 CR_{i,t} + \beta_5 CATA_{i,t} + \beta_6 DE_{i,t} + \beta_7 LOSS_{i,t} + \beta_8 TIER\#2_{i,t} + \beta_9 CHGAUD_{i,t} + \beta_{10} TEN_{i,t} + \beta_{11} JOINT(NAT\#1CITY\#1)_{i,t} + \beta_{12} CITY\#1\_ONLY_{i,t} + \beta_{13} NAT\#1\_Only_{i,t} + \beta_{14} LONDON_{i,t} + \beta_{15} LAG_{i,t} + \beta_{16} BUSY_{i,t} + \beta_{17} OPINION_{i,t} + \beta_{18} NAF_{i,t} + \beta_{19} ROA_{i,t} + \beta_{20} CLINT\_IMPO_{i,t} + \beta_{21} TIER\#2_{i,t} + \varepsilon$$ **Model (1)**

Where is:

LAF = natural logarithm of audit fees in GBP.

The definitions of all independent variables are presented in the table above.

4.3 Audit Quality

The first dependent variable in the current study is audit quality. As discussed in the theoretical framework chapter, one of the popular approaches to measure audit quality is through the measurement of the financial reporting quality of the audit client. Given that there is no comprehensive or generally accepted measurement of financial reporting quality exists (Knechel et al., 2013), the related literature uses various measurements of financial reporting quality such as discretionary accruals, earnings quality, accounting conservatism, income smoothing, and earnings persistent (Cohen et al., 2005; Francis, 2011).

Financial reporting quality has several advantages that make it a popular measurement of audit quality in many of the prior studies on audit quality. First, financial reporting is a joint product of the company and the auditor, making the quality of financial reporting an integral part of audit quality (Antle and Nalebuff, 1991; DeFond and Zhang, 2014). Second, the audit report and the audited financial statements are the two observable outcomes of the auditor's work. The study of financial reporting quality is a critical part of assessing the auditor's work because it assesses one of the two outcomes of an audit (Cohen et al., 2005). Third, financial reporting quality measurements are easy to compute, and they are a continuous measurement of audit quality. Discretionary accruals are a good example of financial reporting quality measurements. The continuous attribute of discretionary accruals allows the researcher to capture the variations in audit quality across companies, which is not possible using other measurements of audit quality (DeFond and Zhang, 2014). Fourth, most of the prior studies on abnormal audit fees use financial reporting quality as a proxy for audit quality (e.g., Hoitash et al., 2007; Mitra et al., 2009; Choi et al., 2010; Eshleman and Guo, 2014).

Despite the advantages of using financial reporting quality measurements, it suffers from a few disadvantages. First, financial reporting quality is a less direct measurement of audit quality compared to other measurements, such as the occurrence of restatements or material misstatements. The reason is that the auditors' influence on the quality of financial reporting is lower than their influence on the occurrence of restatements or material misstatements (DeFond and Zhang, 2014). Second, there is no consensus on the appropriate measurement of financial reporting quality and each of the measurements used in prior studies to capture financial reporting quality suffers from measurement errors (DeFond and Zhang, 2014).

The current study uses two measurements of financial reporting quality, the magnitude and direction of performance-matched discretionary accruals (DACC) and the accrual estimation errors (AEE). These two measurements are the most used in prior studies of abnormal audit fees and audit quality (e.g., Srinidhi and Gul, 2007; Mitra et al., 2009; Asthana and Boone, 2012; Mande and Son, 2015; Moon et al., 2019).

4.3.1 Magnitude and Direction of Discretionary Accruals (DACC)

The performance-matched discretionary accruals model was introduced by Kothari et al. (2005). The model controls for firm performance effects and includes intercept terms to reduce the noise and increase the accuracy of the discretionary accrual measure (Kothari et al., 2005). The absolute value and the signed value of discretionary accruals are used in the current study to measure audit quality. Following prior studies, the discretionary accruals model is estimated using the following equation:

$$\mathrm{DACC_{i,t}} = \mathrm{TACC_{i,t}} - \mathrm{NDACC_{i,t}} \qquad \textbf{Equation (1)}$$

Where is:

DACC = discretionary accruals.

TACC = total accruals for firm calculated using the following equation:

$$\mathrm{TACC_{i,t}} = \Delta\mathrm{CA_{i,t}} - \Delta\mathrm{CASH_{i,t}} - \Delta\mathrm{CL_{i,t}} \qquad \textbf{Equation (2)}$$

where is:

ΔCA = change in current assets.

ΔCASH = change in current cash and cash equivalent.

ΔCL = change in current liabilities.

NDACC = non-discretionary accruals

i = firm index.

t = year index.

Non- discretionary accruals are estimated using the following equation:

$$NDACC_{i,t} = \beta_1 \left(\frac{1}{TA_{i,t-1}}\right) + \beta_2 \left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}}\right) + \beta_3 \left(\frac{PPE_{it}}{TA_{i,t-1}}\right) + \beta_4 (\frac{ROA_{i,t}}{TA_{i,t-1}}) \qquad \textbf{Equation (3)}$$

Where is:

TA = total assets.

ΔREV = change in revenue for firm i, year t between two consecutive years.

ΔREC: = change in receivables.

PPE = property, plant and equipment.

ROA = return on assets.

i = firm index.

t = year index.

Before equation (3) is calculated, the coefficient parameters in the equation need to be estimated using an OLS regression for all the firms with available data within the same industry and year. The following OLS regression is estimated by year and industry:

$$\frac{TACC_{i,t}}{LTA_{i,t-1}} = \alpha + \beta_1 \left(\frac{1}{TA_{i,t-1}}\right) + \beta_2 \left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}}\right) + \beta_3 \left(\frac{PPE_{it}}{TA_{i,t-1}}\right) + \beta_4 (\frac{ROA_{i,t}}{LTA_{i,t-1}}) + \varepsilon$$

All variables are previously defined below in equation (2).

4.3.2 Accrual Estimation Error (AEE)

The second measurement of audit quality is accrual estimation error. The model of accrual estimation errors was developed by Dechow and Dichev (2002). The model was then modified by McNichols (2002) to reduce measurement errors by including two additional variables, namely the changes in revenue and PPE, to the model of Dechow and Dichev (2002) to increase the model's explanatory power. She asserts that this modification of Dechow and Dichev (2002) represents a more robust measurement of accrual quality. Following prior studies (Srinidhi and Gul, 2007; Mande and Son, 2015), accruals quality is measured by estimating the following regression by industry and year:

$$\frac{TACC_{i,t}}{ALTA_{i,t}} = \alpha + \beta_1 \left(\frac{OCF_{i,t-1}}{ALTA_{i,t}}\right) + \beta_2 \left(\frac{OCF_{i,t}}{ALTA_{i,t}}\right) + \beta_3 \left(\frac{OCF_{i,t+1}}{ALTA_{i,t}}\right) + \beta_4 \left(\frac{\Delta REV_{i,t}}{ALTA_{i,t}}\right) + \beta_5 \left(\frac{PPE_{i,t}}{ALTA_{i,t}}\right) + \varepsilon$$

Where is:

TACC = total accruals for is calculated using equation (2) above.

ALTA = average total assets for firm i, year t

OCF = operating cash flow for firm i, year t or t-1 or t+1

ΔREV = change in revenue for firm i, year t for between two consecutive years.

PPE = property, plant and equipment for firm i, year t

i = firm index

t = year index

Prior studies measure accrual quality using the absolute of the residual of the model above (see, for example, Srinidhi and Gul, 2007).

4.4 Value Relevance of Accounting Information

The second dependent variable in the current study is the value relevance of accounting information. The most used model for measuring value relevance of accounting information is the prices model (Barth et al., 2008). The price model depicts the association between stock prices, earnings, and book values.

Most prior studies on the value relevance of accounting information depend on Ohlson's (1995) model (e.g., Barth et al., 2001; Beaver, 2002; D'Arcy and Tarca, 2018). Bernard (1995, p.733) describes it as "among the most important developments in capital markets research in the last several years" and providing "a foundation for redefining the appropriate objective of research on the relationship between financial statement data and firm value". Beaver (2002, p.457) also concludes that the model is "one of the most important research developments in the last ten years".

To develop his model, Ohlson (1995) starts with two assumptions. The first assumption is the clean surplus assumption. Under this assumption, the market value equals the "book value plus the net present value of expected future abnormal earnings (which equals accounting earnings minus an interest charge on opening book value)" (Feltham and Ohlson, 1995, p. 689). The second assumption is the linear information dynamics assumption. Under this assumption, the relationship between current information and future residual income is linear. Ohlson's (1995) model is specified as follows:

$$P_{i,t} = \alpha + \beta_1 BVBS_{i,t} + \beta_2 EPS_{i,t} + \varepsilon$$

Where is:

P = share prices three months after the end of fiscal year

BVBS = book value

EPS = earnings per share

i = firm index

t = year index

The coefficient of BVBS measures the value relevance of book value, the coefficient of EPS measures the value relevance of earnings, and the adjusted R^2 square indicates the total value relevance of book value and earnings. Prior studies extend the above model to incorporate the independent variable(s) in question through the creation of interacted variables consisting of test variables multiplied by the independent variables of the above model. The extension of the model allows testing the relationship between the test variable(s) of the study and the value relevance of accounting information.

4.5 Models' Specifications

Previous sections in this chapter have discussed the selection of variables and models used in the current study to measure abnormal fees, audit quality, and the value relevance of accounting information. This section discusses the empirical models that use the models and variables in previous sections in this chapter. The next four sections are divided based on the models used in the current study to measure audit quality and the value relevance of accounting information, the two dependent variables in the current study.

4.5.1 The Relationship Between Abnormal Audit Fees and Audit Quality is Measured by the Magnitude and the Sign of Discretionary Accruals (Model 2)

The second empirical model (Model 2) is used in the current study to examine the relationship between abnormal audit fees and audit quality measured by the magnitude and the sign of discretionary accruals. Model (2) is an OLS regression that includes the industry-fixed effects and year-fixed effects to control for systematic differences in accruals across the 13 industries and the 10 years examined in the current study sample. Model (2) is specified as follows:

$$\begin{aligned}\mathrm{DACC_{i,t}} = {} & \alpha + \beta_1 \mathrm{ABFEE_{i,t}} + \beta_2 \mathrm{TACC_{i,t}} + \beta_3 \mathrm{SIZ_{i,t}} + \beta_4 \mathrm{DE_{i,t}} + \beta_5 \mathrm{LOSS_{i,t}} + \beta_6 \mathrm{CFO_{i,t}} + \\ & \beta_7 \mathrm{GROWTH_{i,t}} + \beta_8 \mathrm{Z\_SCORE_{i,t}} + \beta_9 \mathrm{ROA_{i,t}} + \beta_{10} \mathrm{NEG\_CFO}_{\mathrm{i,t}} + \beta_{11} \mathrm{NAF_{i,t}} + \\ & \beta_{12} \mathrm{CLINT\_IMPO}_{\mathrm{i,t}} + \beta_{13} \mathrm{TIER\#2_{i,t}} + \beta_{14} \mathrm{JOINT(NAT\#1CITY\#1)}_{i,t} + \beta_{15}\, \mathrm{CITY\#1\_ONLY_{i,t}} + \\ & \beta_{16}\, \mathrm{NAT\#1\_ONLY_{i,t}} + \beta_{17} \mathrm{TEN_{i,t}} + \varepsilon \end{aligned} \quad \textbf{Model (2)}$$

Where is:

DACC = absolute or positive or negative value of discretionary accruals based on the model by Kothari et al. (2005) which controls for the firm's performance as discussed in section 4.3.1 of this chapter.

ABFEE = abnormal audit fees measured by the residual of audit fees model as discussed in section 4.2.1.2 of this chapter

TACC = total accruals scaled by total assets in year t-1

SIZ = natural logarithm of total assets

DE = ratio of long-term debt to total assets

LOSS = indicator variable = 1 if the company reports a negative net income in any of the previous three years, 0 = otherwise

CFO = operating cash flow in year t scaled by total assets in year t-1

GROWTH = one-year growth rate in sales

Z_SCORE = Zmijewski's (1983) Score

ROA = return on total assets

NEG_CFO = indicator variable = 1 if the company reports a negative operating cash flow, 0 = otherwise

NAF = natural log of non-audit fees in GBP'000 paid to the incumbent auditor

CLINT_IMPO = ratio of client audit fees to audit firm's total office audit fees of the incumbent auditor

TIER#2 = indicator variable, 1 = if the auditor is in the tier 2 category, 0 = otherwise. Tier 2 category includes BDO, Grant Thornton, RSM, and Nexia Smith & Williamson

JOINT (NAT#1CITY#1 = indicator variable = 1 if the audit firm is the top-ranked by market share nationally (NAT#1), and the office is the top-ranked by city industry market share (CITY#1), 0 if otherwise

CITY#1_ONLY = indicator variable = 1 if the audit firm is not the top-ranked by market share nationally, and the office is the top-ranked by city industry market share (CITY#1), 0 if otherwise

NAT#1_ONLY = indicator variable = 1 if the audit firm is the top-ranked by market share nationally (NAT#1), and the office is not the top-ranked by city-industry market share, 0 if otherwise

TEN = natural logarithm of the number of years under engagement by the same auditor over the last ten years

i = firm index

t = year index

4.5.2 The Relationship Between Abnormal Audit Fees and Audit Quality Measured by Accrual Estimation Error (Model 3)

The third empirical model (Model 3) is used in the current study to examine the relationship between abnormal audit fees and audit quality measured by accrual estimation error. Model (3) is an OLS regression that includes the industry-fixed effects and year-fixed effects to control for systematic differences in accruals across the 13 industries and the 10 years examined in the current study sample. Model (3) is specified as follows:

$$AEE_{i,t} = \alpha + \beta_1 ABFEE_{i,t} + \beta_2 TACC_{i,t} + \beta_3 SIZ_{i,t} + \beta_4 DE_{i,t} + \beta_5 LOSS_{i,t} + \beta_6 CFO_{i,t} + \beta_7 GROWTH_{i,t} + \beta_8 Z\_SCORE_{i,t} + \beta_9 ROA_{i,t} + \beta_{10} NEG_{CFO_{i,t}} + \beta_{11} NAF_{i,t} + \beta_{12} CLINT\_IMPO_{i,t} + \beta_{13} TIER\#2_{i,t} + \beta_{14} JOINT(NAT\#1CITY\#1)_{i,t} + \beta_{15} CITY\#1\_ONLY_{i,t} + \beta_{16} NAT\#1\_ONLY_{i,t} + \beta_{17} TEN_{i,t} + \varepsilon$$ **Model (3)**

where:

AEE = accruals estimation error based on Dechow and Dichev's modified accrual quality model by McNichols (2002), as discussed in section 4.3.2 of this chapter.

Other variables are previously defined in section 4.5.1 of this chapter.

Following Ashbaugh et al. (2003), TACC is included in the model controlling for the reverse of accruals across time. Pincus and Rajgopal (2002) assert that large firms are more engaged in discretionary accruals to meet or beat the targets. Therefore, SIZ is included in the model to control for the size of the company. DE is included following DeFond and Jiambalvo (1994) who show that companies with higher leverage have higher discretionary accruals to meet debt covenants. Prawitt et al. (2009) assert that companies with negative net income have greater incentives to manage earnings using discretionary accruals. Therefore, LOSS is included in the model.

CFO and NEG_CFO are included in the model to control for the correlation between accruals and cash flows. Francis et al. (2013) show that companies with more growth opportunities are associated with higher earnings management activities. GROWTH is included as a proxy for the growth of the company. Z_SCORE measures the likelihood of company bankruptcy, the lower the value of Z_SCORE, the higher the bankruptcy risk attached to the company. ROA includes controlling the performance of the company. NAF, CLINT_IMPO, and TEN are included in the model proxies of auditor independence, which may affect discretionary accruals. The literature is inconsistent on the relationship between these three variables and discretionary accruals, either negative or positive (DeFond and Zhang, 2014).

JOINT(NAT#1CITY#1), CITY#1_ONLY and NAT#1_ONLY are included in the model to control for the effect of industry-specialised auditors. Prior studies show that industry-specialised auditors limit discretionary accruals (Kharuddin et al., 2021).

4.5.3 The Relationship Between Abnormal Audit Fees and the Value Relevance of Accounting Information Using the Prices Model (Model 4)

The fourth empirical model (Model 4) is used in the current study to examine the relationship between abnormal audit fees and the value relevance of accounting information measured by the Ohlson (1995) model. Model (4) is an OLS regression that includes the industry-fixed effects and year-fixed effects to control for systematic differences across the 13 industries and the 10 years examined in the current study sample. Model (4) is specified as follows:

$$P_{i,t} = \alpha + \beta_1 BVBS_{i,t} + \beta_2 EPS_{i,t} + \beta_3 ABNFEE_{i,t} + \beta_4 (BVBS \times ABNFEE)_{i,t} + \beta_5 (EPS \times ABNFEE)_{i,t} + \beta_6 SIZ_{i,t} + \beta_7 LOSS_{i,t} + \beta_8 DE_{i,t} + \beta_9 JOINT(NAT\#1CITY\#1)_{i,t} + \beta_{10} CITY\#1\_ONLY_{i,t} + \beta_{11} NAT\#1\_ONLY_{i,t} + \beta_{12} NAF_{i,t} + \beta_{13} TEN_{i,t} + \beta_{14} CLINT\_IMPO_{i,t} + \varepsilon$$ **Model (4)**

Where is:

P = share price for firm i three months after the end of year t.

BVBS = book value for firm i, year t divided by the number of shares outstanding for year t.

EPS = net income for firm i, year t divided by the number of shares outstanding for year t.

i = firm index.

t = year index.

All other variables are defined earlier. The coefficients of $(\mathrm{BVBS} \times \mathrm{ABNFEE})$ and $(\mathrm{EPS} \times \mathrm{ABNFEE})$ in Model (4) are the main interests in the current study because they measure the relationship between abnormal audit fees and the value relevance of accounting information. Following the wide literature on the value relevance of accounting information, three control variables were included. These variables are the most common variables used in prior studies (see, for example, Huffman, 2018; Griffin et al., 2017; Gonçalves et al., 2017; Baboukardos and Rimmel, 2016; Tahat and Alhadab, 2016). The first control variable included is SIZ to control for the size of the company. Large companies are expected to have higher value relevance of accounting information compared to small companies. Large (small) firms have large (small) accounting variables, which affect how the users of financial statements use these accounting variables. For example, some types of assets could be small for certain types of companies, but large for other companies. This affects how the users of financial statements use these various accounting variables, in terms of size, to value the company's share price. Therefore, the difference in size among firms needs to be controlled (Ota, 2003; Dunham and Grandstaff, 2022). LOSS is included to control loss-making companies, which have lower value relevance of accounting information compared to profit-making companies. Conservative accounting systems suggest that companies incorporate bad news into earnings in a quicker manner than good news (Basu, 1997). The asymmetric treatment of bad and good news causes losses to be much more transitory than earnings increases (Hayn, 1995). Therefore, the increased frequency of negative earnings over time could contribute to the temporal decline in the incremental value-relevance of earnings (Hayn, 1995; Collins et al., 1997). Finally, DE is included to control for financial leverage. Companies with higher long-term debt have higher value relevance information. Barth et al. (2001) assert that one of the balance sheet's roles is to deliver information on liquidation values to enable appropriate loan decisions and debt contracts. Liquidation values of assets become more relevant as long-term debt increases. Hence, companies with higher long-term debt are expected to have higher value relevance of accounting information.

The current thesis includes four other control variables, namely, non-audit fees, auditor tenure, auditor industry specialisation, and client importance. Although these variables are used in a limited number of prior studies (e.g., Krishnan et al., 2013; Cimini et al., 2022; Chen et al., 2020), these studies show that these variables influence the share price and the value relevance of accounting information. In addition, these control variables were used in the regression analysis of abnormal audit fees and audit quality

measurement, and for consistency, they were included in the regression analysis of abnormal audit fees and the value relevance of accounting information.

The current thesis suggests that these variables are more prevalent to market participants than abnormal audit fees because the market participants can easily observe the longer tenure and non-audit fees for example. Market participants could use these variables to determine the level of reliance on accounting information to value the company. In addition, these are auditor characteristics that could affect the relationship between abnormal audit fees and the value relevance of accounting information. As will discussed later in this section, these variables affect the value relevance of accounting information, and there are primary variables in the audit fees model that estimate abnormal audit fees. Therefore, it affects both, the value relevance of accounting information and abnormal audit fees. Failing to control these variables could bias the results from the regression analysis.

The first variable is non-audit fees. Krishnan et al. (2013) find that paying non-audit fees to the incumbent auditor increases the valuation of shares by market participants, while Cimini et al. (2022) find evidence that non-audit fees decrease the share price, so decreases the valuation of share prices by market participants. These studies suggest that the perception of market participants of non-audit fees in the valuation context of shares could affect the provision of non-audit fees. Also, these studies report that there is a positive impact of non-audit fees on the value relevance of accounting information. Both studies argue that these results support the knowledge spillover of non-audit fees and that providing non-audit fees allows the auditor better knowledge of accounting systems and estimates. According to these studies, market participants are convinced that these knowledge spillovers enhance the quality of accounting numbers, and they rely more on accounting information when the incumbent auditor provides non-audit services to the company. The second variable is auditor tenure. Cimini et al. (2022) report that auditor tenure does not affect share prices. The authors suggest auditor tenure does not affect the perception of market participants on auditor tenure when valuing share prices. They also report that there is a negative effect of audit tenure on the value relevance of accounting information.

The third variable is auditor industry specialisation. Chen et al. (2020) argue that employing an industry specialist auditor enhances the predicted value relevance because industry specialists have greater experience serving different clients in the same industry and can help implement the best practices across peer firms. The authors find that when the company is audited by a specialist auditor, the share price increases. These results suggest that market participants increase the valuation of share prices when the auditor is a specialist. Also, they report that auditor industry specialisation has a positive (negative) impact on the value relevance of earnings (book values).

The fourth variable is client importance, which refers to fees from a client to the total revenues of the audit firm. Prior studies, (e.g., Ghosh et al., 2009 and Dart, 2011), suggest that the market participants could perceive the dependence on large clients by the auditor as a threat to auditor independence. Therefore, these studies find client importance harms the perception of market participants of auditor independence. It is possible to find a negative relationship between client importance and share prices,

showing that market participants value the company less when it is a major client in the auditor portfolio of clients. In addition, Ghosh et al. (2009) assert including this variable when studying the potential effect of any measurement of auditor independence, as they report that client importance is perceived to be a larger threat to auditor independence compared to non-audit fees. In addition, some studies on abnormal audit fees (see, for example, Griffin and Lont, 2011) suggest that client negotiation power could harm abnormal audit fees, meaning the client may refuse to pay abnormally high audit fees. Although there are no studies that directly examine the relationship between client importance and the value relevance of accounting information, there are several studies that find client importance could affect the perception of market participants of the independence of the auditor. Therefore, there is a possible effect of client importance that could trigger a change in how the market participants value the company's share price. Therefore, the current thesis includes client importance as a control variable.

4.5.4 Test of Positive and Negative Abnormal Audit Fees

The examination of positive and negative abnormal audit fees involves dividing the sample into two distinct groups: one for positive abnormal audit fees and the other for negative abnormal audit fees. Subsequently, the models detailed in Section 4.5 are applied to each group independently.

4.6 Mitigating Endogeneity: The Impact of Omitted Variable Bias and Reverse Causality

Based on a comprehensive review of prior studies, the researcher has integrated a broad range of control variables in the audit fees model, considering various perspectives. Li and Liu (2024) assert that prior studies on abnormal audit fees, which include different combinations of control variables, suggest a strong foundation for the model's robustness. Although the audit fee estimation model used to estimate abnormal audit fees appears well specified and demonstrates good explanatory power, the researcher cannot entirely exclude the possibility of endogeneity due to omitted variables. According to Li and Liu (2024), this issue may arise primarily from a lack of internal data, as a substantial portion of audit process information is not publicly disclosed (e.g., audit hours). Additionally, omitted control variables could introduce endogeneity; for example, audit fees and non-audit fees might be determined by the same factors. Furthermore, audit fees may be influenced by both demand-side and supply-side attributes. Hay et al. (2006) support this view, highlighting endogeneity problems due to the omission of demand attributes. To mitigate this concern, the researcher followed the methodology of Gombola et al. (2016) by using one-year lagged values for all covariates on the right-hand side of empirical model 1. In untabulated results, the outcomes of empirical model 1 using one-year lagged values are qualitatively similar to the results of empirical model 1 in the current thesis.

The control variables in empirical models 3 and 4 were selected based on a comprehensive review of those used in prior studies on abnormal audit fees, discretionary accruals, and accrual quality. This review involved examining a wide range of academic literature to identify the most commonly employed variables. However, the researcher cannot entirely exclude the possibility of endogeneity due to omitted variables. Additionally, Antle et al. (2006) suggest that audit fees, non-audit fees, and financial reporting quality might be jointly determined. For instance, abnormal accruals may arise from various complex

accounting treatments, prompting a company to seek additional audit and/or non-audit services to mitigate audit risk. Alternatively, if the audit fee model does not fully capture risk characteristics, a risky company might incur higher audit fees while simultaneously allowing only low audit quality. To mitigate this concern, the researcher has adopted the methodology of using one-year lagged values for all covariates on the right-hand side of empirical models 2 and 3. In untabulated results, the outcomes of empirical models 2 and 3 using one-year lagged values are qualitatively similar to the results of empirical models 2 and 3 in the current thesis.

4.7 Statistical Techniques

The current study uses a set of statistical techniques and tests to analyse the data to achieve the two objectives of the study. Those techniques and tests include diagnostics tests of the data, descriptive statistics, correlations, and various types of regressions.

The data analysis starts with descriptive statistics of all variables and models discussed in this chapter. Descriptive statistics include fundamental values, such as the mean, median and standard deviation. Also, it includes the distribution of samples based on the market shares of audit firms in terms of the number of clients and the money amount of audit fees paid to the incumbent auditor. In addition, detailed descriptive statistics of auditor industry specialisation variables are represented.

Then, the Pearson correlation matrix is conducted to investigate the bivariate association among the variables in the five models used to achieve the two objectives of the study. Finally, various OLS multivariate regression is performed to examine the relationship between the various dependent variables and the independent variable of the current study.

4.8 Summary

This chapter discussed the selection of variables, model specifications, and statistical techniques used in the current study. The chapter discussed how the current study measures abnormal audit fees using the residual audit fees model. Also, it discussed the two models selected to measure audit quality, namely, the magnitude and the sign of discretionary accruals and accrual estimation errors. In addition, the chapter discussed the model used in the current study to measure the value relevance of accounting information, namely, the Ohlson (1995) model. Then, the model's specification sections discussed the four empirical models used to examine the two objectives of the current study mentioned earlier in this chapter. Finally, the chapter discussed the statistical techniques used to analyse the data using a set of univariate and multivariate tests. The following chapters provide more detailed facts on data collection and analysis.

CHAPTER 5
DATA COLLECTION

5.1 Introduction

This chapter discusses the data collection phase of the current study. It describes data collection in terms of data sources, sample selection, and data collection procedures. Data collection procedures include the validity of using the FAME database as data sources in the current study, categorisation of industry classification, and calculations of market shares for auditor industry specialisation variables.

5.2 Data Sources

The current study uses two sources of data; the Financial Analysis Made Easy (FAME) database and firms' annual reports. FAME database is a vast database that provides comprehensive data for the U.K. and Irish private and publicly listed companies and is maintained by the Bureau Van Dijk. As mentioned earlier in the variables selection chapter, the current study uses several empirical models to examine the two objectives of the current study. FAME database was used to collect the financial data required to measure numerical variables in these models (e.g., audit fees, total assets, share prices, and long-term debt). In addition, the FAME database was used to collect data on nominal variables, such as the name of the auditor who audited the company's financial statements. Other databases, such as the Datastream database, were examined to see whether they provide additional data beyond what is available on the FAME database. However, it was found that the FAME database provides more data compared to these databases.

The current study required data on the audit partner's name who signed the audit report, auditor opinion (e.g., unqualified, qualified, and going concern), the date of the auditor's report, and the city of audit office. The data are required to construct various variables used in models discussed in the variables selection chapter. For example, the city of audit office must identify industry specialist auditors at the city level. Data on audit opinion and audit partner names are available on the FAME database but are inaccurate or incomplete across companies and the study period. Therefore, annual reports of companies were downloaded from the FAME database or the companies' official website in case of unavailability of the report on the FAME database. A substantial amount of time and effort was invested in collecting the data above manually from annual reports and ensuring the accuracy and completeness of this data.

5.3 Sample Selection

The population in the current study is all companies listed on the London Stock Exchange (LSE). The sample in the current study is all non-financial companies over ten years from 2010 to 2019. The exclusion of financial companies and other services companies is consistent with prior literature, which asserts that financial companies have unique characteristics (e.g., nature of business and regulatory environment) that distort the inferences from non-financial firms.

As mentioned earlier in previous chapters, the current study has two main objectives. The first objective is to examine the relationship between abnormal audit fees and audit quality. The second objective is to examine the relationship between abnormal audit fees and the value relevance of accounting information. As discussed in the variables selection chapter, the current study employs several models to measure audit quality and value relevance of accounting information. Each model uses a distinct set of variables. Therefore, the sample size varies depending on the model used to measure audit quality and value relevance of accounting information. Table 5.1 below summarises the sample selection procedures for the two objectives of the current study and shows these procedures in years to see how the sample size changes over the years.

In this current study, the sample comprises companies that operated over ten years between 2010 to 2019. As per the prevailing literature, the sample of companies listed on the LSE during the same period was carefully screened to exclude those belonging to the financial and service sectors. These sectors include financial services, public administration and defence, health and education, and other services. It's noteworthy that the LSE operates two primary markets, which are the main market for listed companies and the alternative investment market (AIM).

The prior research often examines various issues using companies listed on the 350 FTSE index of LSE and draws conclusions about the entire market. Nevertheless, there is previous literature, (see for example, Reid et al., 2019; Carcello and Li, 2013, Elshandidy and Neri, 2014, Kim et al., 2012), that use all companies in multiple markets that are listed on the LSE. The index of the FTSE represents all companies that are listed on the main market of the LSE which compromises 98% of companies listed on the LSE including companies listed on the secondary market.

This renders an opportunity to study small and medium-sized enterprises (SMEs), which are of significant interest to multiple stakeholders, including public policy, as they provide employment opportunities and competition to larger companies. SMEs have access to a diverse group of institutional investors, a thriving group of retail investors, and an unparalleled reservoir of foreign capital due to London's unique status (Al-Najjar and Al-Najjar, 2017). As a result, both policymakers and researchers are interested in SMEs due to their importance in the private sector and their ability to develop and invest, which are critical for any economy seeking to prosper (Berger and Udell, 2006).

By examining all companies listed on the LSE, researchers can gain a better understanding of SMEs' performance, governance, and financial reporting practices, which may differ from those of larger firms (De la Torre et al., 2010). For example. SMEs face a higher risk of default and present "opaqueness" in their financial statements, making it more challenging to transmit reliable information about their real status and performance (Yoshino et al., 2016). SMEs follow different recommendations for good governance practices, such as appointing independent directors and having board sub-committees, to minimise information asymmetry. Uhlaner et al. (2007) assert that agency problems in SMEs are minimal, as their management is mostly in the hands of shareholders.

Table 5.1: Sample selection procedures in the current study

Panel A: Sample selection procedures for the first empirical model (Model 1): The calculation of abnormal audit fees using the audit fees model											
Description	***2019***	***2018***	***2017***	***2016***	***2015***	***2014***	***2013***	***2012***	***2011***	***2010***	***Pooled***
All listed firms on LSE follow the FAME database	1,622	1,617	1,634	1,625	1,612	1,600	1,575	1,556	1,540	1,513	15,894
Less: Financial firms, public administration and defence, health and education, and other services firms.	916	911	928	919	906	894	869	850	834	807	8,834
Less: Firms with incomplete data on the variables of the audit fees model	112	72	69	85	100	125	143	160	188	224	1,278
Less: Sample with less than two observations per city-industry combination for the calculations of market shares for auditor industry specialisation variables	14	13	11	7	8	7	11	14	10	10	105
Final sample with complete data to calculate abnormal audit fees	**580**	**621**	**626**	**614**	**598**	**574**	**552**	**532**	**508**	**472**	**5,677**
Panel B: Sample selection procedures for the second empirical model (Model 2): The relationship between abnormal audit fees and audit quality measured by discretionary accruals											
Final sample with complete data to calculate abnormal audit fees (Panel A final sample)	**580**	**621**	**626**	**614**	**598**	**574**	**552**	**532**	**508**	**472**	**5,677**
Less: Additional Firms with incomplete data to calculate discretionary accruals	5	9	6	11	14	13	15	20	22	26	141
The final sample for the first empirical model (the relationship between abnormal audit fees and discretionary accruals)	**574**	**612**	**620**	**603**	**584**	**561**	**537**	**512**	**486**	**446**	**5,536**
Panel C: Sample selection procedures for the Third empirical model (Model 3): The relationship between abnormal audit fees and audit quality measured by accruals quality											
Final sample with complete data to calculate abnormal audit fees (Panel A final sample)	580	621	626	614	598	574	552	532	508	472	5,677
Less: Additional Firms with incomplete data to calculate accruals quality	6	46	28	21	16	19	20	21	16	28	221

The final sample for the second empirical model (the relationship between abnormal audit fees and accruals quality)	**574**	**575**	**598**	**593**	**582**	**555**	**532**	**511**	**492**	**444**	**5,456**
Panel D: Sample selection procedures for the fourth empirical model (Model 4): The relationship between abnormal audit fees and value relevance of accounting information measured by the Ohlson Model											
Final sample with complete data to calculate abnormal audit fees (Panel A final sample)	580	621	626	614	598	574	552	532	508	472	5,677
Less: Additional Firms with incomplete data on the variables of the Ohlson Model	11	26	34	37	42	56	67	71	66	61	360
The final sample for the fourth empirical model (the relationship between abnormal audit fees and value relevance of accounting information) (Ohlson Model)	**582**	**608**	**604**	**588**	**564**	**524**	**496**	**474**	**448**	**429**	**5,317**

In addition, Xue and O'Sullivan (2023) report that for SMEs, represented by companies listed on the secondary market in the LSE, there are differences in the behaviour of the auditor in charging audit fees.

Taken together with all of these different characteristics, the current thesis tests the possibility that the relationship examined in chapters 7 and 9 could be different for SMEs. Therefore, in the aforementioned chapter, an additional analysis is conducted to examine the relationship between abnormal audit fees and each audit quality and the value relevance of accounting information.

The period represents the time after the financial crisis of 2008. The crisis, corporate failures and accounting scandals during that period in many countries raise significant questions about the effectiveness of financial reporting and auditing. Auditing firms and professional and regulatory bodies become subject to criticism and face pressures to restore confidence in auditing (Holm and Zaman, 2012; Magnan and Markarian, 2011; Humphrey et al., 2011; Sikka et al., 2009). For example, through exploring the perception of the stakeholder views on audit quality after the financial crisis, Holm and Zaman (2012) report that concerns are centring on issues related to the expertise and professionalism of auditors, commercialisation of audit, and transparency of the audit process and of audit firms that have not received much regulatory attention.

The major reforms in the U.K. during the last ten years have also received considerable attention from scholars (Kend and Basioudis, 2018). The period of the current thesis covers major reforms that occurred during the last ten years. These reforms include, for example, the extension of audit reports, which require further effort from the auditors. also, the mandatory audit rotation changes the auditor selection. In addition, the period of the current study covers the concerns on audit quality and audit fees in recent years, such as the BEIS proposals.

Panel A details the data attrition for Model (1) used to estimate abnormal audit fees. Panel A shows the number of companies listed on LSE and follows the FAME database with 15,894 firm-year observations. The number is then reduced after excluding financial companies, public administration and defence, health and education, and other services firms. After deleting companies with unavailable data on the variables used in Model (1), the final sample for Model (1) is 5,677 firm-year observations for the period 2010-2019.

Panel B details the data attrition Model (2) used to examine the relationship between abnormal audit fees and audit quality measured by the magnitude and sign of discretionary accruals. Panel B starts with the final sample from panel A; then, it is reduced after deleting companies with unavailable data required to estimate discretionary accruals. The final sample for Model (2) is 5,536 firm-year observations. Which is a small reduction from the final sample on Model (1). Panel C shows the data attrition for Model (3) used to examine the relationship between abnormal audit fees and audit quality measured by the accrual estimation errors. Similar to panel B, it starts with the final sample from panel A. The sample

is reduced after deleting companies with unavailable data on variables used to estimate the accrual estimation errors. The final sample for Model (3) is 5,456 firm-year observations.

Panel D details the data attrition for Model (4) used to examine the relationship between abnormal audit fees and the value relevance of accounting information measured by Ohlson's (1995) model. Panel C starts with the final sample from panel A; it is reduced after deleting companies with unavailable data on variables used in Ohlson's (1995) model. The final sample for Model (4) is 5,317 firm-year observations.

5.4 Data Collection Procedures

Through the phase of data collection, several procedures were made to prepare the data for analysis. These procedures include the validity of using the FAME database as a data source in the current study, the categorisation of industry classification, and the calculations of market shares for auditor industry specialisation variables.

5.4.1 The Validity of Using the FAME Database as a Data Source

As panel A of Table 5.1 shows, the number of companies listed on the LSE. which follows the FAME database is 15,894 firm-year observations from 2010 to 2019. Data on the number of companies listed on the LSE were s downloaded from the official website of the LSE. The data show that the number of all companies listed on the LSE from 2010 to 2019 is 23,644 firm-year observations, higher than the number of companies listed on the LSE, followed by the FAME database. The concern here is whether the sample in the current study represents the entire population of the current study. Another concern is related to the size of companies listed on the LSE and followed by FAME. There is a possibility that the FAME database follows small companies, which may introduce bias to the sample in the current study, hence the results. This possibility was a concern in the current thesis; therefore, the next part sheds light on this concern.

To shed light on these concerns, some comparison was made between the total number of companies listed on the LSE based on the data from the LSE website mentioned earlier in this section (data from the LSE website), and the total number of companies listed on the LSE and follows the FAME database (data from the FAME database). A similar comparison was made after excluding financial and other services companies to compare the two samples (the one in the LSE and the one in FAME that is used by the current study). The comparison between the two data sets is limited only to the descriptive statistics of the market capitalisation in the year 2019. This is because the data from the LSE website do not provide any numerical data on companies listed on the LSE, except for market capitalisation. Another reason is the comparison requires a matching between the data from the LSE website and data from the FAME database. The purpose of matching is to identify the companies that follow the FAME database. For example, to see whether company X in the data from the LSE website is followed by the

FAME database or not, it needs to check whether this company is in the data from the FAME database using the name of that company. Using the company's name is the only way to match the two datasets because the data from the LSE website do not provide any identification numbers of the companies, such as the registered number or ticker symbol. The matching becomes problematic given the fact the companies on the LSE change their names. Another reason that makes the matching more difficult is that the FAME database uses a different industry classification than the one used in data from the LSE website. That creates a difficulty in excluding financial and other services companies while matching the two data sets. Table 5.2 shows that the number of companies and the mean of the market capitalisation based on the data from the LSE website are 954 and £2,958 million, respectively. In comparison, the number of companies and the mean of market capitalisation based on the data from the FAME database are 922 and £1,895 million, respectively. The data from the LSE website were examined carefully, and it was found that there are several companies with immense values of market capitalisation. These companies are enormous, and they may be considered outliers, which distort the mean of the market capitalisation in the data from the LSE website.

Figure 5.1 below shows the boxplot of the market capitalisation of all companies based on data from the LSE website. The box plot is usually used to identify the outliers in a group of continuous data. The stars in the boxplot indicate outliers. Figure 5.1 shows that the market capitalisation of companies from the LSE website has outliers because there are several values of market capitulations, shown as stars in the boxplot. The current study assumed that any company with a market capitalisation of one billion (pounds sterling) or more is an outlier. Based on this assumption, 32 companies were identified as outliers. The mean market capitalisation of these companies is £33,029 million. After excluding these companies, the mean of the market capitalisation of companies based on data from the LSE website decreased to £1,895 million, as Table 5.2 shows. The mean of the market capitalisation of companies based on the data from the FAME database (£2,475 million) becomes higher than the average market capitalisation of companies based on data from the LSE website (£1,895 million). The difference between the two datasets equals 263 firms with a mean market capitalisation of £211 million. The aforementioned shows that the FAME database does not follow only small firms, indeed it focuses on large firms. This explanation provides an argument that the companies followed by the FAME database are a good representation of all companies listed on the LSE.

5.4.2 Categorisation of Industry Classification

The current study uses the U.K. primary Standard Industrial Classification code (SIC code), where the numerous SIC codes of similar industry nature were categorised into only 13 major industry sectors. Table 5.3 shows which are the SIC codes merged to identify the 13 major industry sectors.

Also, it shows the distribution of samples per sector for each of the empirical models used in the current study. Table 5.3 below shows that the largest sector in the current study sample across all models is the primary sector. In contrast, the smallest sectors are the textiles, wearing apparel, and leather sectors.

Table 5.2: A comparison between firms listed on LSE and listed firms followed by the FAME database for the year 2019*

Description	Initial data from LSE's website	Less: firms with a market capitalisation of one billion or higher	Final Data from LSE's website	Data from the FAME database	Difference
Number of companies after excluding financial companies, public administration and defence, health and education, and other services companies.	954	32	922	659*	263
Mean of market capitalisation (in millions and GBP)	£2,958	£33,029	£1,895	£2,475	£211
Median of market capitalisation (in millions and GBP)	£71	£10,998	£65	£97	£29
Mean of the market capitalisation of companies with a market capitalisation above the median (in millions and GBP)	£5,919	£61,602	£3,822	£4,931	£413
Mean of the market capitalisation of companies with a market capitalisation below the median (in millions and GBP)	£21	£4,455	£19	£28	£10
The standard deviation of market capitalisation (in millions GBP)	£13,807	£44,484	£9,823	£10,141	£659

* 706 companies is the initial sample that includes all non-financial companies listed in the LSE and followed by the FAME database. This number decreased to 659 companies after deleting companies with unavailable data on market capitalisation.

Figure 5.1: The Boxplot of the Market Capitalisation of all Companies Based on Data from the LSE Website for the Year 2019

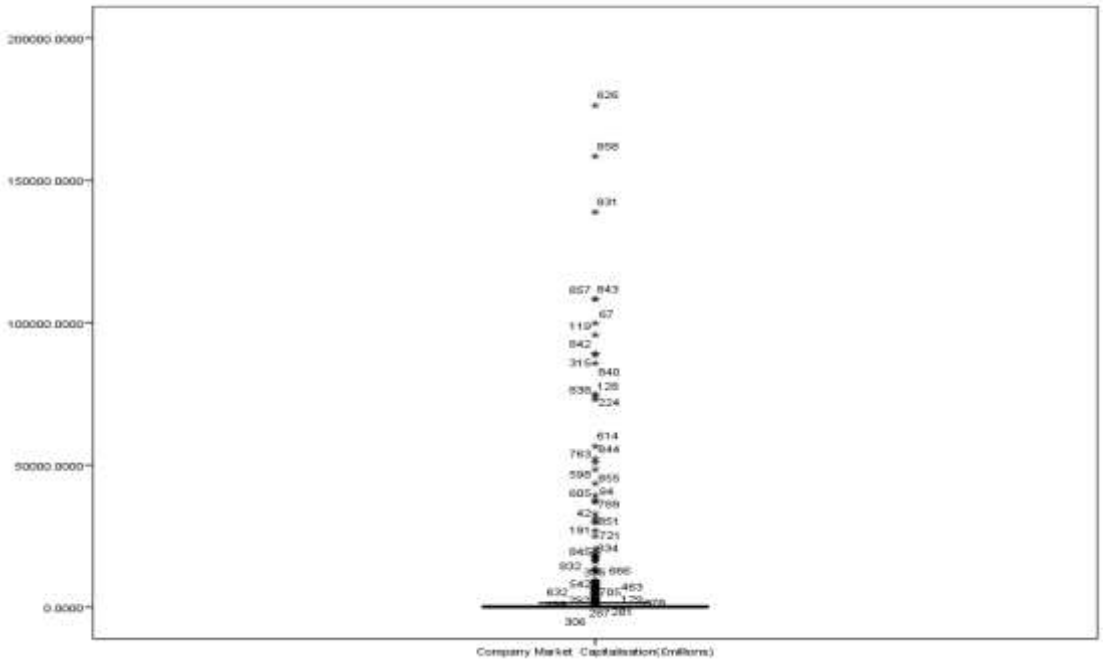


Table 5.3: Sample size, industry distribution and SIC codes in each sector.

Sector number	Major Industry Sector Name	2 Digit SIC Codes	Model (1)		Model (2)		Model (3)		Model (4)	
			N	%	N	%	N	%	N	%
1	Primary sector (agriculture, mining, etc.)	1,5,6,7,8,9,19	1297	22%	1261	22%	1255	22%	1197	23%
2	Chemicals, rubber, plastics, non-metallic products	20,21,22,23	457	8%	446	8%	451	8%	427	8%
3	Construction	41,42,43	553	10%	548	10%	537	10%	497	9%
4	Food, beverages, tobacco	10,11,12	217	4%	203	4%	199	4%	189	4%
5	Gas, water, electricity	35,36,37	131	2%	128	2%	121	2%	116	2%
6	Hotels, restaurants and entertainment	55,56,74,91,92,93	343	6%	327	6%	313	6%	293	6%
7	Machinery, equipment, furniture, recycling	26,27,28,29,30,31,32,33	648	11%	645	11%	642	11%	637	12%
8	Metals and metal products	24,25	170	3%	168	3%	167	3%	154	3%
9	Post and telecommunications	59,60,61,62,63	695	12%	677	12%	663	12%	632	12%
10	Publishing, printing wood, cork, paper,	16.17.18,58	195	3%	189	3%	187	3%	163	3%
11	Textiles, wearing apparel, leather	13,14,15	81	1%	79	1%	80	1%	75	1%
12	Transport	45,49,50,51,52,53,77,79	332	6%	331	6%	317	6%	315	6%
13	Wholesale and retail trade	46,47	669	12%	662	12%	656	12%	625	12%
	Total		**5788**	**100%**	**5664**	**100%**	**5588**	**100%**	**5320**	**100%**

5.4.3 Calculation of Market Shares for Auditor Industry Specialisation Variables

As mentioned earlier in Chapter 4, the variables selection chapter, the current study includes variables to control the industry specialisation of auditors in Model (1). These variables are based on three levels, national level, city level, and partner level. As discussed in Chapter 4, the current study uses audit fees to calculate the market shares of each auditor on the three levels of each industry by year. Following prior studies, the market share of each auditor in each of the 13 industries in Table 5.3 is calculated annually using the companies that have data on audit fees and auditor names before deleting companies with unavailable data on other variables used in Model (1). Therefore, the sample size in the calculation of market share on the three levels of auditor industry specialisation is larger than the sample size in Model (1) (N= 5,788). At the national level, the market share of each auditor is calculated annually based on a sample size of 6,093 firm-year observations.

On the city level, for companies with unavailable data in the city of the audit office, it was assumed the location (city) of the company headquarters is the same as the city of the audit office of the auditor who audits the company's financial statements. Data on the city of audit office collected manually from annual reports showed that there are 78 unique cities of audit offices. Some of these cities showed that they have one company for a particular industry, which means the calculation of market shares is not reasonable (i.e., in cities with one company it means that the market shares of auditor i for client J in industry K is 100%). Therefore, prior research stipulates at least two companies per industry for a particular city to calculate the market shares at the city level (Kharuddin and Basioudis, 2018).

To resolve this issue, some nearby cities were merged with other cities, given that the U.K. is a small geographical country, and some cities are very close to each other (Kharuddin and Basioudis, 2018). The merging of cities produces five metropolitan areas, London area, Manchester area, Reading area, Glasgow area, and Birmingham area. The merging of cities provides a bolder and larger grouping of cities than in previous U.K. studies (see Kharuddin and Basioudis, 2018). However, it avoids deleting observations in various industries within cities or one auditor in one industry. The market share of each auditor is calculated annually based on these five metropolitan areas using a sample size of 6,093 firm-year observations.

5.5 Summary

This chapter discussed the data collection in the current thesis. The sample of the current thesis includes all non-financial companies listed on the LSE for the period 2010 to 2019. It also presents the sample size of each of the four empirical models used in the current thesis. Data on the variables were collected from FAME databases and manually from the annual reports of the companies included in the sample. It also disused the statistical techniques used in the current thesis.

CHAPTER 6

DESCRIPTIVE STATISTICS: THE RELATIONSHIP BETWEEN ABNORMAL AUDIT FEES AND AUDIT QUALITY

6.1 Introduction

This chapter discusses the descriptive statistics of the sample in the current study and the descriptive statistics of Models 1 to 3. It also discusses the pairwise correlation matrix, which reveals the significant associations among the independent variables examined in each of the three models mentioned earlier.

6.2 Descriptive Statistics of the Sample

Panel A of Table 6.1 presents the sample distribution of audit firms based on the number of clients using the classification of Tier#1, Tier#2, and other audit firms. Panel B presents the sample distribution of audit firms based on the percentage of audit fees in GBP using the same firm classification. In the two panels, separate sections are presented for the audit firms in the two categories of audit firms, Tier#1 and Tier#2.

The findings in Panel A report that Tier#1 audit firms have performed, on average, over the period 2010-2019, 55.1% (336 audit engagements) of audits in the sample and received, on average, audit fees equal to 96% (£398.646 million) of audit fees paid to the auditor of companies included in the sample. These results are consistent with prior literature in the U. K[2]. For example, Kharuddin et al. (2021) report that the mean audit fee received by Tier#1 audit firms over 2008-2011 is equal to 96%.

Panel A reports that Tier#2 audit firms have performed, on average, over the period 2010-2019, 26.5% (162 audit engagements) of audits in the sample (second line in Panel A) and received, on average, audit fees equal to 3.1% (£13.160 million) of audit fees paid to the auditor of companies included in the sample. Similarly, these results are consistent with prior literature in the U.K. Kharuddin et al. (2021) report that the average audit fees received by Tier#2 audit firms over the period 2008-2011 are equal to 3%. Furthermore, Panel A shows that PWC is the leading firm in auditing because it has performed, on average, over the period 2010-2019 21.1% (105 audit engagements) of audits in the sample and received, on average, audit fees equal to 37.6% (£152.135 million) of audit fees paid to the auditor of companies included in the sample. These results are consistent with prior literature in the U.K. (Kharuddin, Basioudis and Farooque, 2021). The distribution of audit fees based on the number of clients in Table 6.1 highlights the fluctuations in market shares of various categories in the current thesis. For example,

[2] The current thesis compares its results with prior studies in the U.K. conducted by Basioudis and Francis (2007), Kharuddin and Basioudis (2018) and Kharuddin et al. (2021). These studies include all firms listed on the LSE. Other studies use data from the U.K, but their samples are limited to Big 4 samples or large firms, or firms listed only in the FTSE 350. In addition, these studies do not report detailed descriptive statistics similar to one in the current thesis. For these reasons, it does make these studies less compared to the results of the current thesis where the sample includes all companies listed on the LSE.

Table 6.1: Sample distribution of audit firms

Panel A: Sample distribution of the audit firms based on number of clients

	2019		2018		2017		2016		2015		2014	
	N	%	N	%	N	%	N	%	N	%	N	%
Tier#1	298	56.5	314	56.8	326	57.1	332	56	344	55.4	363	57.1
Tier#2	127	24.1	136	24.6	139	24.3	154	26	162	26.1	160	25.2
Other	102	19.4	103	18.6	106	18.6	107	18	115	18.5	113	17.8
Total	527	100	553	100	571	100	593	100	621	100	636	100
PWC	90	17.1	93	16.8	98	17.2	101	17	103	16.6	117	18.4
KPMG	88	16.7	90	16.3	96	16.8	101	17	102	16.4	107	16.8
DE	77	14.6	90	16.3	86	15	83	14	85	13.7	85	13.4
Grant Thornton	63	12	64	11.6	63	11	67	11.3	70	11.3	69	10.8
BDO	33	6.3	38	6.9	44	7.7	58	9.8	62	10	60	9.4
EY	43	8.2	41	7.4	46	8.1	47	7.9	54	8.7	54	8.5
RSM	22	4.2	22	4	21	3.7	19	3.2	16	2.6	18	2.8
Nexia Smith & Williamson	12	2.3	15	2.7	13	2.3	12	2	14	2.3	13	2

Panel B: Sample distribution of the audit firms based on the money amount of audit fees and the percentage of audit fees

	2019		2018		2017		2016		2015		2014	
	GBP	%	GBP	%	GBP	%	GBP	%	GBP	%	GBP	%
Tier#1	480,174,475	94.0%	469,221,672	95.3%	462,536,975	95.6%	437,776,038	95.8%	413,550,933	96.5%	372,722,427	96.4%
Tier#2	23,612,734	4.6%	19,006,578	3.9%	16,858,402	3.5%	15,510,336	3.4%	11,445,881	2.7%	10,297,433	2.6%
Other audit firms	6,984,682	1.4%	4,182,461	0.8%	4,635,053	1.0%	3,882,516	0.8%	3,375,513	0.8%	3,798,837	1.0%
Total	510,771,891	100.0%	492,410,711	100%	484,030,430	100%	457,168,890	100%	428,372,327	100%	386,818,697	100%
PWC	114,632,376	22.4%	123,976,638	25.2%	178,369,106	36.9%	155,481,999	34.0%	183,324,197	42.8%	156,395,316	40.4%
KPMG	117,471,269	23.0%	104,569,280	21.2%	108,751,303	22.5%	96,244,816	21.1%	100,821,241	23.5%	85,331,304	22.1%
DE	153,822,091	30.1%	149,747,639	30.4%	83,308,111	17.2%	75,119,108	16.4%	70,625,495	16.5%	74,843,179	19.3%
EY	94,248,739	18.5%	90,928,115	18.5%	92,108,456	19.0%	110,930,115	24.3%	58,780,001	13.7%	56,152,628	14.5%
Grant Thornton	10,221,150	2.0%	8,472,662	1.7%	7,588,282	1.6%	7,761,202	1.7%	5,161,412	1.2%	4,828,284	1.2%
BDO	10,872,629	2.1%	8,476,000	1.7%	7,488,800	1.5%	6,077,809	1.3%	4,597,723	1.1%	3,973,961	1.0%
RSM	1,797,925	0.4%	1,475,764	0.3%	1,343,950	0.3%	1,225,552	0.3%	1,072,081	0.3%	881,438	0.2%
Nexia Smith & Williamson	721,030	0.1%	582,152	0.1%	437,370	0.1%	445,773	0.1%	614,665	0.1%	613,750	0.2%[c]

N: is the number of audit clients. Tier#1 includes PWC, KPMG, DE, and EY. Tier#2 includes Grant Thornton, BDO, RSM, and Nexia Smith & Williamson. Definition of audit Firms: PWC is PricewaterhouseCoopers, DE is Deloitte & Touche, and EY is Ernst & Young.

Table 6.1: Sample distribution of audit firms (continued)

Panel A: Sample distribution of the audit firms based on number of clients (continued)

	2013		2012		2011		2010		Average	
	N	%	N	%	N	%	N	%	N	%
Tier#1	365	55.6	364	54.6	345	52.9	308	50.1	336	55.1
Tier#2	170	25.9	173	25.9	198	30.4	196	31.9	162	26.5
Other	122	18.6	130	19.5	109	16.7	111	18	112	18.4
Total	657	100	667	100	652	100	615	100	609	100
PWC	119	18.1	118	17.7	110	16.9	104	16.9	105	21.1
KPMG	113	17.2	107	16	100	15.3	84	13.7	99	19.8
DE	82	12.5	87	13	86	13.2	71	11.5	83	16.7
Grant Thornton	71	10.8	70	10.5	90	13.8	78	12.7	71	14.1
BDO	68	10.4	71	10.6	74	11.3	82	13.3	59	11.8
EY	51	7.8	52	7.8	49	7.5	49	8	49	9.8
RSM	20	3	21	3.1	22	3.4	24	3.9	21	4.1
Nexia Smith & Williamson	11	1.7	11	1.6	12	1.8	12	2	13	2.5

Panel B: Sample distribution of the audit firms based on the money amount of audit fees and the percentage of audit fees(continued)

	2013		2012		2011		2010		Average	
	GBP	%	GBP	%	GBP	%	GBP	%	GBP	%
Tier#1	364,144,458	96.7%	347,990,909	96.5%	328,216,337	96.6%	310,133,027	96.5%	398,646,725	96.0%
Tier#2	9,439,649	2.5%	9,037,480	2.5%	8,491,059	2.5%	7,905,428	2.5%	13,160,498	3.1%
Other audit firms	3,100,158	0.8%	3,415,474	0.9%	2,957,870	0.9%	3,221,553	1.0%	54,334,133	0.9%
Total	376,684,265	100%	360,443,863	100%	339,665,266	100%	321,260,008	100.0%	466,141,356	100.0%
PWC	157,443,171	41.8%	155,912,616	43.3%	153,229,234	45.1%	142,589,831	44.4%	152,135,448	37.6%
KPMG	75,985,626	20.2%	73,941,907	20.5%	64,193,579	18.9%	60,945,816	19.0%	88,825,614	21.2%
DE	79,674,256	21.2%	70,656,743	19.6%	68,621,787	20.2%	56,583,567	17.6%	88,300,198	20.9%
EY	51,041,405	13.6%	47,479,643	13.2%	42,171,737	12.4%	50,013,814	15.6%	69,385,465	16.3%
Grant Thornton	4,117,292	1.1%	4,053,468	1.1%	4,328,467	1.3%	4,245,476	1.3%	6,077,770	1.4%
BDO	3,814,211	1.0%	3,348,593	0.9%	2,698,841	0.8%	2,495,025	0.8%	5,384,359	1.2%
RSM	1,100,046	0.3%	1,264,164	0.4%	1,062,179	0.3%	837,292	0.3%	1,206,039	0.3%
Nexia Smith & Williamson	460,100	0.1%	448,225	0.1%	472,292	0.1%	387,740	0.1%	518,310	0.1%[d]

N: is the number of audit clients. Tier#1 includes PWC, KPMG, DE, and EY. Tier#2 includes Grant Thornton, BDO, RSM, and Nexia Smith & Williamson. Definition of audit Firms: PWC is PricewaterhouseCoopers, DE is Deloitte & Touche, and EY is Ernst & Young.

Table 6.2: Industry Distribution Based on Audit Fees

Sector number	Major Industry Sector Name	2 Digit SIC Codes	2019		2018		2017		2016		2015	
			GBP	%	GBP	%	GBP	%	GBP	%	GBP	%
1	Primary sector (agriculture, mining, etc.)	1,5,6,7,8,9,19	118,742,850	23%	122,025,391	25%	101,960,869	21%	135,723,833	30%	124,341,753	29%
2	Chemicals, rubber, plastics, non-metallic products	20,21,22,23	60,684,404	12%	57,819,060	12%	54,184,199	11%	50,935,391	11%	56,353,499	13%
3	Construction	41,42,43	22,708,739	4%	19,500,000	4%	22,449,000	5%	21,379,300	5%	20,348,500	5%
4	Food, beverages, tobacco	10,11,12	35,201,719	7%	33,876,498	7%	53,035,305	11%	24,541,920	5%	23,051,447	5%
5	Gas, water, electricity	35,36,37	11,089,438	2%	10,789,559	2%	11,238,635	2%	10,323,166	2%	9,522,237	2%
6	Hotels, restaurants and entertainment	55,56,74,91,92,93	22,012,243	4%	21,558,842	4%	16,563,524	3%	15,670,480	3%	13,288,774	3%
7	Machinery, equipment, furniture, recycling	26,27,28,29,30,31,32,33	48,384,258	9%	44,520,374	9%	41,687,613	9%	37,154,929	8%	35,555,754	8%
8	Metals and metal products	24,25	10,525,000	2%	9,888,000	2%	9,334,000	2%	11,125,000	2%	10,455,000	2%
9	Post and telecommunications	59,60,61,62,63	31,435,215	6%	28,882,839	6%	37,234,461	8%	33,367,760	7%	30,416,061	7%
10	Publishing, printing wood, cork, paper,	16.17.18,58	40,320,000	8%	33,737,000	7%	29,985,000	6%	27,831,000	6%	25,116,000	6%
11	Textiles, wearing apparel, leather	13,14,15	5,092,000	1%	4,896,000	1%	4,474,000	1%	4,536,000	1%	3,818,000	1%
12	Transport	45,49,50,51,52,53,77,79	26,410,587	5%	27,610,859	6%	26,983,041	6%	25,283,257	6%	22,626,910	5%
13	Wholesale and retail trade	46,47	78,165,437	15%	77,306,289	16%	74,900,783	15%	59,296,854	13%	53,478,392	12%
	Total		510,771,890	100%	492,410,711	100%	484,030,430	100%	457,168,890	100%	428,372,327	100%

Table 6.2: Industry Distribution Based on Audit Fees (continued)

2014		2013		2012		2011		2010		Average	
GBP	%	GBP	%	GBP	%	GBP	%	GBP	%	GBP	%
120,231,312	31%	117,726,728	31%	108,852,833	30%	103,053,760	30%	104,883,732	33%	115,754,306	28%
37,146,531	10%	35,702,019	9%	33,423,542	9%	33,850,972	10%	30,238,325	9%	45,033,794	11%
19,231,059	5%	18,538,715	5%	18,626,300	5%	18,625,000	5%	18,621,250	6%	20,002,786	5%
22,795,986	6%	23,287,186	6%	24,833,141	7%	25,240,841	7%	15,821,025	5%	28,168,507	7%
9,519,939	2%	8,105,091	2%	7,409,512	2%	7,416,042	2%	7,030,347	2%	9,244,397	2%
12,594,626	3%	11,079,633	3%	11,376,400	3%	10,297,351	3%	10,507,611	3%	14,494,948	3%
33,430,514	9%	33,791,961	9%	31,261,095	9%	26,895,773	8%	25,136,583	8%	35,781,885	9%
11,512,000	3%	10,641,000	3%	8,811,000	2%	4,584,000	1%	4,159,000	1%	9,103,400	2%
25,475,386	7%	24,002,322	6%	22,844,464	6%	23,191,180	7%	21,925,449	7%	27,877,514	7%
21,152,704	5%	20,744,150	6%	20,597,000	6%	19,940,050	6%	19,692,350	6%	25,911,525	6%
4,224,000	1%	3,970,000	1%	3,868,000	1%	3,860,000	1%	4,113,000	1%	4,285,100	1%
18,378,095	5%	18,746,560	5%	16,774,441	5%	15,453,765	5%	12,109,000	4%	21,037,652	5%
51,126,545	13%	50,348,919	13%	51,766,135	14%	47,256,532	14%	47,022,336	15%	59,066,822	14%
386,818,697	100%	376,684,284	100%	360,443,863	100%	339,665,266	100%	321,260,008	100%	415,762,637	100%

the market share of Tier#1 audit firms increased from 2010 to 2011, then slightly decreased since 2018, which is logical given the audit reforms in the UK related to audit tenure.

Additionally, the market share of Tier 2 firms decreased from 31% in 2010 to 24% in 2019, suggesting that companies listed on the LSE are increasingly demanding audit services from Tier#1 firms. However, in terms of the percentage of audit fees, Tier#1 audit firms still dominate the audit market in the U.K. across the period of the study.

Table 6.2 above reports the sample distribution based on audit fees and the 13 major industry codes used in the study. The industry sector that seems to be paying the highest audit fees, on average, is the primary sector (28%), followed by the wholesale and retail trade sector (14%) and the chemicals sector (11%). Similar results are reported by prior literature in the U.K. (Kharuddin, Basioudis and Farooque, 2021).

The distribution of audit fees based on sectors shows that the share of each sector from audit fees has slightly fluctuated over the years, except for the Primary sector (agriculture, mining, etc.), which saw its share decrease from 30% in 2010 to 23% in 2019. Economic factors may explain this decline, as the Primary sector is particularly sensitive to changes in economic conditions. For instance, economic downturns or shifts towards more sustainable and technologically advanced industries may have contributed to the reduced market share of the Primary sector in audit fees.

6.3 Descriptive Statistics for Empirical Model (1)

Table 6.3 below contains the descriptive statistics for all variables used in empirical Model (1) to estimate abnormal audit fees using a sample size of 5,776 firm-year observations for 2010-2019, as discussed in Table 6.1 of the current study.

As Table 6.3 shows, the mean of audit fees and the natural logarithm of audit fees (LAF) in the study period are £0.719 million and 11.811 respectively. These means are lower than compared to prior audit fee literature in the U.K., such as the study of Kharuddin and Basioudis (2018). They reported a mean of audit fees equal to £0.918 million for the period 2004-2011. The larger sample size used in this study was the primary cause of the difference. The sample size for the study by Kharuddin and Basioudis (2018) was 2,388 firm-year observations. In addition, their study was only for the sample of firms audited by the Big 4 audit firms. The mean of non-audit fees and the natural logarithm of non-audit fees (NAF) in the period of the current study are £0.297 million and 8.928, respectively. These means are lower than compared to prior audit fees literature in the U.K., such as the study of Campa and Donnelly (2016) and Kharuddin and Basioudis (2018). For example, Kharuddin and Basioudis (2018) report a mean of non-audit fees equal to £0.693 million. Their study is limited only to the firms audited by Big 4 audit firms, and the study of Campa and Donnelly (2016) was limited only to the firms listed in the Financial Times-Stock Exchange 350 share index (FTSE 350).

The mean of total assets and the natural logarithm of total assets (SIZ) equal £3,070 million and 18.495. The mean of auditor industry specialisation variables, JOINT (NAT#1#CITY#1), JOINT (NAT#1_ONLY), and JOINT (CITY#1_ONLY), is 0.141, 0.044, and 0.067 respectively.

Table: 6.3 Descriptive Statistics of Empirical Model (1) for the Period 2010-2019

Variables	Mean	Median	Std. Deviation	Minimum	Maximum
Audit Fees (£)	719,188	105,000	2,593,152	4,000	39,700,000
LAF	11.811	11.562	1.596	8.294	17.497
Total Assets (£)	3,070,000,000	87,300,000	16,700,000,000	14,000	332,000,000,000
SIZ	18.495	18.285	2.614	9.547	26.529
CATA	0.436	0.410	0.265	0.002	1.000
CHGAUD	0.094	0.000	0.292	0.000	1.000
CR	2.956	1.542	6.126	0.007	144.360
FOREIGN	0.530	1.000	0.499	0.000	1.000
LOSS	0.507	1.000	0.500	0.000	1.000
DE	0.389	0.042	8.905	0.000	433.714
Non-Audit Fee (£)	297,651	28,000	1,373,302	0	52,600,000
NAF	8.928	10.240	4.531	0.000	17.778
ROA	-0.088	0.036	0.725	-34.220	7.076
Number of subsidiaries	62	14	140	0	1,495
SUBS	5.731	3.742	5.398	0.000	38.665
Audit tenure (in years)	4	4	3	1	10
TEN	1.189	1.386	0.706	0.000	2.303
TIER#1	0.565	1	0.496	0	1
TIER#2	0.264	0.000	0.441	0.000	1.000
OPINION	0.098	0.000	0.297	0.000	1.000
BUSY	0.613	1.000	0.487	0.000	1.000
LAG (in days)	94	81	43	7	629
LAG	4.453	4.394	0.416	1.946	6.444
LONDON	0.383	0.000	0.486	0.000	1.000
CLINT_IMPO	0.132	0.035	0.242	0.000	1.000
JOINT(NAT#1#CITY#1)	0.141	0.000	0.349	0.000	1.000
JOINT(NAT#1_ONLY)	0.044	0.000	0.206	0.000	1.000
JOINT(CITY#1_ONLY)	0.067	0.000	0.251	0.000	1.000

Definition of variables: LAF = natural logarithm of audit fees in GBP, SIZ = natural logarithm of total assets in GBP, CATA = ratio of current assets to total asset, CHGAUD = indicator variable = 1 if the company has changed its auditor in, 0 = otherwise, CR = Current ratio. Current ratio = current assets/current liabilities, FORGEIN = indicator variable = 1 if the company reports foreign sales, 0 = otherwise, LOSS = indicator variable = 1 if the company reports a negative net income in any of the previous three years, 0 = otherwise, DE = ratio of long-term debt to total assets, NAF = natural log of non-audit fees in GBP'000 paid to the incumbent auditor, ROA = return on total assets, SUBS = square root of total subsidiaries, TEN = natural logarithm of the number of years under engagement by the same auditor over the last ten years, TIER#2 = indicator variable, 1 = if the auditor the tier 2 category, 0 = otherwise. Tier 2 category includes BDO, Grant Thornton, RSM, and Nexia Smith & Williamson, OPINION = indicator variable, 1 = qualified or going concern audit report; 0 = otherwise, BUSY = indicator variable, 1 = December 31st or March 31st year-end, 0 = otherwise, LAG = natural logarithm of the number of days between the date of financial statements and the date of auditor report, LONDON = indicator variable, 1 = London-based company, 0 = otherwise, CLINT_IMPO = the ratio of client audit fees to audit firm's total office audit fees, JOINT(NAT#1#CITY#1) = Indicator variable = 1 if the audit firm is the top-ranked by market share nationally (NAT#1), and the office is the top-ranked by city industry market share (CITY#1), 0 if otherwise, JOINT(NAT#1_ONLY)= Indicator variable = 1 if the audit firm is the top-ranked by market share nationally (NAT#1), and the office is not the top-ranked by city-industry market share, 0 if otherwise, JOINT(CITY#1_ONLY) = Indicator variable = 1 if the audit firm is not the top-ranked by market share nationally, and the office is the top-ranked by city industry market share (CITY#1), 0 if otherwise.

These figures mean that 14% of the sample is audited by an industry leader auditor who is an industry leader both on the national and city level.

Also, 0.04% is audited by an auditor who is only a national leader, and only 0.07% is audited by an auditor who is an industry leader only on the city level. These figures are lower compared to prior literature in the U.K., such as the study of Basioudis and Francis (2007) and Kharuddin and Basioudis (2018). The reason is the different sample sizes in these studies.

The mean of CHGAUD equal to 0.094 indicates that approximately 10% of the firms in the sample have changed their auditors in 2010-2019. This number is lower than prior literature in the U.K. which reported a mean between 16% and 32% of firms that have changed their auditors (Basioudis and Francis 2007; Kharuddin and Basioudis, 2018). This may be driven by the higher sample size in the current study compared to these studies, as discussed earlier. Also, the mean of TEN and auditor tenure in years equals 1.189 and four years, respectively. These figures mean that the firm in the sample retains its auditors, on average, for four years. It is higher than what is reported in prior literature in the U.K., for example, Kharuddin et al. (2021) reported a mean of TEN equal to 0.677 for 2008-2011, which is lower than the sample of the current study. Overall, prior studies show a higher percentage of firms that changed their auditor and lower auditor tenure. In comparison, the current study reported a lower percentage of firms that changed their auditor and higher auditor tenure.

The mean of CATA and CR is equal to 0.436 and 2.956, respectively, which means that firms have, on average, 43% of their total assets as current assets and have a ratio of 3:1 of current assets to current liabilities. The results are consistent with prior literature in the U.K. that reported a mean of CATA equal to 0.43 and a mean of CR equal to 2.1:1 (Kharuddin and Basioudis, 2018). The mean of FOREIGN is equal to 0.53, meaning that more than half of the firms in the sample reported foreign sales. The mean of SUBS and the number of subsidiaries is equal to 62 and 5.731, respectively, and is consistent with prior literature in the U.K. that reported a mean of SUBS equal to 5.259 (Kharuddin and Basioudis, 2018). The mean ROA is equal to -0.088. Campa and Donnelly (2016) reported a mean of ROA equal to 0.018, which is higher than the sample of the current study shows. However, their sample size is smaller, and they only include firms listed in the FTSE350. The mean of LOSS and DE is equal to 0.530 and 0.507, respectively. That shows that more than half of the firms in the sample reported a loss in one year or at least in the three years before the year 2019. The mean of TIER#1 is equal to 0.565, meaning 56% of the firms in the sample were audited by First-tier audit firms. The mean of TIER#1 is equal to 0.264, meaning 26% of the firms in the sample were audited by First-tier audit firms. Prior literature in the U.K. shows that the percentage of firms audited by second-tier audit firms is equal to 20%. This shows that the market share of second-tier audit firms increased. The mean of BUSY equal to 0.613 shows that more than half of firms in the current sample use a fiscal year-end reporting date of 31st December or 31st of March. The mean of LAG and LAG (in days) is equal to 4.453 and 94, respectively. This indicates that the auditor needs, on average, 94 days to complete the financial audit statement of the company and issue the audit report.

The mean of OPINION is equal to 0.098 indicating that 10% of the firms in the sample received a going concern or a modified audit opinion, which is higher than prior literature in the U.K., for example, Basioudis and Francis (2007) reported a mean equal to 0.071 for the period 2002-2003. The mean of LONDON is equal to 0.383, which indicates that 38% of companies in the sample are located in the wider area of the City of London. This is consistent with prior literature in the U.K. that reported a mean of LONDON equal to 38% (Basioudis and Francis, 2007). The mean of CLINT_IMPO is equal to 0.132, which indicates that the average contribution of the largest client in the audit firm portfolio of clients on the city level is equal to 13%.

6.4 Descriptive Statistics for Empirical Model (2)

This section reports the descriptive statistics of empirical Model (2) that examines the relationship between abnormal audit fees and audit quality measured by discretionary accruals, which control a firm's performance. As Table 6.1 in the data collection chapter shows, the sample size of empirical Model (2) is 5,536 firm-year observations that cover the period 2010-2019. Panel A of Table 6.4 presents the descriptive statistics for all variables included in empirical Model (2). The discussion of descriptive statistics in this section is limited only to the variables ABSLT_DACC, ABNFEE, TACC, CFO, Z_SCORE, GROWTH, and NEG_CFO. The descriptive statistics of other variables included in empirical Model (2) are previously discussed in this chapter.

The mean and median of ABSLT_DACC are equal to 0.157 and 0.073, respectively. Prior literature in the U.K. reported a mean and a median equal to 0.10 and 0.06, respectively, from 2008 to 2011 (Kharuddin et al., 2021). This indicates an increase in discretionary accruals throughout the current study. The increase may be due to several reasons. For example, the study period of Kharuddin et al. (2021) covers the financial crisis period (2008-2009). Prior studies show that discretionary accruals have decreased, significantly, during the period of financial crisis (Filip and Raffournier, 2014). Also, the increase in the sample of empirical Model (1) is driven by the discretionary accruals of the year 2010. In untabulated results, the mean and the median of ABSLT_DACC for the period 2011-2019 excluding the year 2010 are equal to 0.111 and 0.066, respectively. Overall, the results of the current study are consistent with prior studies in the U.K. The mean and median of ABNFEE are equal to 0.38 and 0.315, respectively. Campa and Donnelly (2016) report a mean and a median of ABNFEE equal to 0.491 and 0.50. However, their sample is limited only to firms listed in the FTSE350, and the sample size (868 firm-year observations) is much smaller than the sample size of the current study. In respect of the control variables, the mean (standard deviation) of TACC, CFO, Z_SCORE, GROWTH, and NEG_CFO is equal to 0.04 (0.198), 0.011 (0.299), -1.205 (3.020), 0.173 (0.615), and 0.300 (0.459) respectively. These results are comparable to prior literature in the U.K. For example, TACC is equal to 0.08 (Kharuddin et al., 2021), CFO is equal to a value between 0.029 and 0.11 (Campa and Donnelly, 2016; Kharuddin et al., 2021), and GROWTH is equal to 0.18 (Kharuddin, Basioudis and Farooque, 2021).

Table 6.4: Descriptive Statistics for Empirical Model (2) and Model (3) for the Period 2010-2019

Panel A: Descriptive Statistics for Empirical Model (2)					
Variables	**Mean**	**Median**	**Std. Deviation**	**Minimum**	**Maximum**
ABSLT_DACC	0.157	0.073	0.220	0.000	1.010
ABNFEE	0.388	0.315	0.346	0.000	4.232
TACC	0.040	0.007	0.198	-0.558	0.941
CFO	0.011	0.068	0.299	-1.888	0.455
Z_SCORE	-1.205	-1.777	3.020	-4.922	17.900
GROWTH	0.173	0.048	0.615	-0.625	4.205
NEG_CFO	0.300	0.000	0.459	0.000	1.000
Panel B: Descriptive Statistics for Empirical Model (3)					
Variables	**Mean**	**Median**	**Std. Deviation**	**Minimum**	**Maximum**
AEE	0.108	0.048	0.184	0.000	1.212
ABNFEE	0.387	0.314	0.352	0.000	4.232
TACC	0.040	0.007	0.199	-0.570	0.948
CFO	0.013	0.068	0.287	-1.765	0.456
Z_SCORE	-1.205	-1.777	3.020	-4.922	17.871
GROWTH	0.179	0.049	0.615	-0.625	4.205
NEG_CFO	0.300	0.000	0.458	0.000	1.000

6.5 Descriptive Statistics for Empirical Model (3)

This section reports the descriptive statistics of empirical Model (3) that examines the relationship between abnormal audit fees and audit quality measured by accrual estimation error. As Table 6.1 in the data collection chapter shows, the sample size of empirical Model (3) is 5,456 firm-year observations that cover the period 2010-2019. Panel B of Table 6.4 above presents the descriptive statistics for variables included in empirical Model (3). The discussion of descriptive statistics in this section is limited only to the variables AEE, ABNFEE, TACC, CFO, Z_SCORE, GROWTH, and NEG_CFO[63]. The descriptive statistics of other variables included in empirical Model (3) are previously discussed in this chapter.

[3] The descriptive statistics of other control variables included in Model (2) and Model (3) are very similar to descriptive statistics presented in Table 7.4. The reason is that the sample size only decreased from 5,781 firm-year observations for the empirical Model (1) to 5,536 for empirical Model (2) and to 5,456 firm-year observations for empirical Model (2).

The mean and the median of AEE are equal to 0.108 and 0.048, respectively. These results are consistent with the prior literature in the U.K. For example, prior literature in the U.K. reported a mean and a median equal to 0.091 and 0.05, respectively, from 2008 to 2011 (Kharuddin et al., 2021). Regarding ABNFEE and other control variables, there is a very small change in the descriptive statistics of Model (3) compared to the descriptive statistics of Model (2). The reason is that the difference in the sample size between the two models is minimal, which doesn't affect the descriptive statistics. For this reason, no further discussion on ABNFEE and other control variables is presented in this section.

6.6 Correlation Matrix

This section discusses the correlation matrix for the three empirical models used to examine the relationship between abnormal audit fees and audit quality, as discussed in the introduction section of the current chapter.

6.6.1 Correlation Matrix of Empirical Model (1)

Table 6.5 below includes a correlation matrix displaying the two-way Pearson correlations between all variables included in empirical Model (1). The correlations are interesting as they show the associations between audit fees and the explanatory variables and identify the significant correlations among the independent variables. According to Hair et al. (2014), any correlation above 0.9 reveals the presence of a multicollinearity problem, which may considerably influence the predictive power of the regression model and the estimation of the regression coefficients. Table 6.5 shows the highest value of correlation among the independent variables is equal to 0.800, lower than 0.9. These results suggest that multicollinearity is not a problem. In addition, the variance inflation factor (VIF) was calculated to ensure further that there is no multicollinearity problem among the independent variables of Model (1). Gujarati (2003) asserts that, if the independent variable has a value of VIF exceeding ten or a tolerance value less than 0.10, then it indicates a multicollinearity problem with that independent variable with other independent variables. The results of VIF presented in Table 6.7 show that none of the VIF values exceeded 10, and none of the tolerance values exceeded 0.10. These results suggest that no multicollinearity problem exists for empirical Model (1).

The single asterisks in Table 6.6 indicate statistically significant correlations at a 10% level ($p<0.10$). Overall, the table shows that all independent variables in empirical Model (1) have a significant correlation with the dependent variable of Model (1), the natural logarithm of audit fees. These results are consistent with prior studies in the U.K. (Basioudis and Francis, 2007; Kharuddin and Basioudis, 2018) and the audit fees literature in general (Hay et al., 2006). LAF is significantly and positively correlated to each of JOINT (NAT#1#CITY#1), JOINT (NAT#1_ONLY), JOINT (CITY#1_ONLY), BUSY, TEN, SUBS, SIZ, NAF, DE, FOREIGN, and ROA.

However, LAF is significantly and negatively correlated to CLINT_IMPO, CHGAUD, CR, LOSS, TIER#2, OPINION, LAG, LONDON, and CATA. It's important to note that the coefficient sign may change in the multivariate analysis because these correlations are pair-wise (Reichelt and Wang, 2010).

Table: 6.5 Pairwise Correlation Matrix for Empirical Model (1)

Variables		A	B	C	D	E	F	G	H	I	J	K	L
A	LAF	1.000											
B	SIZ	0.900*	1.000										
C	CATA	-0.153*	-0.250*	1.000									
D	CHGAUD	-0.075*	-0.077	-0.013*	1.000								
E	CR	-0.197*	-0.149*	0.156*	0.007	1.000							
F	FOREIGN	0.222*	0.133*	0.084*	-0.043*	-0.112*	1.000						
G	LOSS	-0.409*	-0.450*	-0.045*	0.065*	0.140*	-0.169*	1.000					
H	DE	0.306*	0.313*	-0.195*	-0.012	-0.144*	0.018*	-0.052*	1.000				
I	NAF	0.504*	0.488*	-0.014	-0.108*	-0.081*	0.148*	-0.258*	0.136*	1.000			
J	ROA	0.343*	0.455*	-0.116*	-0.069*	-0.039*	0.171*	-0.391*	-0.003	0.218*	1.000		
K	SUBS	0.800*	0.761*	-0.129*	-0.052*	-0.148*	0.149*	-0.335*	0.262*	0.425*	0.259*	1.000	
L	TEN	0.127*	0.113*	-0.021*	-0.377*	-0.007	0.057*	-0.096*	0.010*	0.020*	0.056*	0.040*	1.000
M	TIER#2	-0.320*	-0.330*	0.031*	0.017*	0.003	0.011	0.160*	-0.122*	-0.109*	-0.095*	-0.286*	0.009
N	OPINION	-0.261*	-0.311*	-0.095*	0.043*	-0.018*	-0.172*	0.301*	-0.034*	-0.205*	-0.373*	-0.216*	-0.014
O	BUSY	0.102*	0.069*	-0.076*	-0.007*	0.036*	0.026*	0.048*	0.065*	0.031*	-0.065*	0.072*	0.011
P	LAG	-0.577*	-0.612*	0.005	0.098*	0.126*	-0.184*	0.420*	-0.159*	-0.400*	-0.374*	-0.498*	-0.095*
Q	LONDON	-0.025*	-0.060*	-0.198*	0.018*	0.080*	-0.152*	0.217*	-0.013	-0.092*	-0.185*	-0.003	-0.008
R	CLINT_IMPO	-0.189*	-0.186*	0.061*	0.058*	0.012	-0.023*	0.045*	0.002	-0.106*	-0.050*	-0.089*	-0.060*
S	JOINT(NAT#1#CITY#1)	0.364*	0.331*	-0.049*	-0.035*	-0.059*	0.066*	-0.110*	0.118*	0.197*	0.073*	0.340*	0.023*
T	JOINT(NAT#1_ONLY)	0.018*	0.023*	0.078*	-0.015	-0.010	0.027*	-0.076*	-0.014	0.016	0.047*	-0.020*	0.042*
U	JOINT(CITY#1_ONLY)	0.124*	0.135*	-0.021*	-0.018	-0.048*	0.036*	-0.093*	0.074*	0.068*	0.080*	0.085*	0.021*
Variables		M	N	O	P	Q	R	S	T	U			
M	TIER#2	1.000											
N	OPINION	0.068*	1.000										
O	BUSY	0.002	0.020*	1.000									
P	LAG	0.218*	0.358*	0.046*	1.000								
Q	LONDON	0.053*	0.203*	0.083*	0.158*	1.000							
R	CLINT_IMPO	-0.076*	0.048*	-0.017*	0.142*	-0.047*	1.000						
S	JOINT(NAT#1#CITY#1)	-0.243*	-0.077*	0.043*	-0.206*	-0.009	-0.132*	1.000					
T	JOINT(NAT#1_ONLY)	-0.129*	-0.037*	-0.043*	-0.064*	-0.102*	-0.056*	-0.087*	1.000				
U	JOINT(CITY#1_ONLY)	-0.161*	-0.079*	-0.025*	-0.114*	-0.175*	-0.001	-0.109*	-0.058*	1.000			

* Is significant at $p<0.10$. Refer to Table 6.1 and the variables selection chapter for the definition of variables.

Table: 6.6 Pairwise Correlation Matrix for Empirical Model (2)

Variables		A	B	C	D	E	F	G	H	I	J	K	L
A	ABSLT_DACC	1											
B	ABNFEE	-0.002	1										
C	TACC	0.532*	-0.005	1									
D	SIZ	-0.125*	0.009	-0.045*	1								
E	DE	0.008	0.005	-0.047*	0.328*	1							
F	LOSS	0.087*	-0.005	-0.01	-0.444*	-0.053*	1						
G	CFO	0.055*	0.000	0.027*	-0.228*	-0.061*	0.117*	1					
H	Z_SCORE	-0.029*	-0.005	-0.011	0.237*	0.105*	-0.124*	-0.737*	1				
I	GROWTH	0.052*	-0.043*	0.027*	-0.004	-0.045*	-0.078*	-0.013	0.030*	1			
J	ROA	-0.064*	0.005	0.092*	0.452*	-0.008	-0.394*	-0.17*	0.159*	0.129*	1		
K	NEG_CFO	0.000	-0.001	0.012	-0.012	-0.019	0.015*	0.009	-0.007	0.002	-0.032*	1	
L	NAF	-0.017	-0.005	0.020*	0.484*	0.141*	-0.256*	-0.098*	0.110*	0.026*	0.224*	0.014	1
M	TEN	-0.378*	-0.001	-0.326*	0.101*	0.012	-0.096*	-0.045*	0.021	-0.037*	0.052*	0.002	0.027*
N	CLINT_IMPO	0.053*	-0.003	0.040*	-0.193*	-0.004	0.046*	0.057*	-0.041*	0.039*	-0.058*	-0.004	-0.116*
O	JOINT(NAT#1#CITY#1)	-0.032*	0.001	-0.018	0.332	0.125*	-0.108*	-0.054*	0.064*	-0.041*	0.071*	0.004	0.198*
P	JOINT(NAT#1_ONLY)	-0.013	-0.002	0.014	0.018	-0.015	-0.069*	-0.011	0.010	0.019	0.044*	-0.029*	0.008
Q	JOINT(CITY#1_ONLY)	-0.035*	-0.001	-0.012	0.135*	0.081*	-0.093*	-0.026*	0.026*	-0.004	0.080*	-0.008	0.068*
R	TIER#2	0.026*	-0.005	-0.016	-0.329*	-0.126*	0.153*	0.051*	-0.06*	0.035*	-0.081*	0.021	-0.109*
Variables		M	N	O	P	Q	R						
M	TEN	1											
N	CLINT_IMPO	-0.066*	1										
O	JOINT(NAT#1#CITY#1)	0.024*	-0.131*	1									
P	JOINT(NAT#1_ONLY)	0.039*	-0.055*	-0.089*	1								
Q	JOINT(CITY#1_ONLY)	0.016*	0.004	-0.113*	-0.058*	1							
R	TIER#2	0.012	-0.081*	-0.246*	-0.127*	-0.162*	1						

* Is significant at $p<0.05$. Refer to Table 6.1 and the variables selection chapter for the definition of variables.

Table: 6.7 VIF and Tolerance Value for Empirical Model (1)

Variable	VIF	Tolerance value
SIZ	4.780	0.209
SUBS	2.720	0.368
TEN	2.110	0.474
LAG	1.930	0.517
ROA	1.600	0.624
LOSS	1.530	0.653
CATA	1.520	0.657
NAF	1.440	0.696
CHGAUD	1.370	0.730
OPINION	1.340	0.744
TIER#2	1.310	0.764
LONDON	1.300	0.770
JOINT(NAT#1#CITY#1)	1.280	0.779
DE	1.270	0.787
FOREIGN	1.260	0.795
CR	1.160	0.866
JOINT(CITY#1_ONLY)	1.140	0.875
CLINT_IMPO	1.130	0.883
BUSY	1.110	0.897
JOINT(NAT#1_ONLY)	1.100	0.908

6.6.2 Correlation Matrix of Empirical Model (2)

Table 6.6 above includes a correlation matrix displaying the two-way Pearson correlations between all variables included in the empirical Model (2). ABSLT_DACC is negatively correlated with ANFEE but insignificant. SIZ, Z_SOCRE, ROA, TEN, JOINT (NAT#1#CITY#1), and JOINT (CITY#1_ONLY) are negatively and significantly associated with ABSLT_DACC. On the other hand, TIER#2, TACC, LOSS, CFO, GROWTH, CLINT_IMPO, and TIER#2 are positively and significantly associated with ABSLT_DACC. As discussed earlier, the correlation coefficient is counterintuitive; meaning the sign of the coefficient may change in the multivariate analysis. The highest value of the correlation coefficient in Table 6.8 is equal to 0. 0.532, which is less than 0.9. VIF is calculated for the empirical Model (2), and the results of VIF presented in Table 6.9 below show that none of the VIF values exceeded 10, and none of the tolerance values exceeded 0.10. These results suggest that no multicollinearity problem exists.

6.6.3 Correlation Matrix of Empirical Model (3)

Table 6.8 below includes a correlation matrix displaying the two-way Pearson correlations between all variables included in the empirical Model (3). AEE is positively correlated with ANFEE but insignificant. As discussed earlier, the correlation coefficient is counterintuitive; meaning the sign of the coefficient may change in the multivariate analysis.

Table 6.8 Pairwise Correlation Matrix for Empirical Model (3)

Variables		A	B	C	D	E	F	G	H	I	J	K	L
A	AEE	1.000											
B	ABNFEE	0.012*	1.000										
C	TACC	0.025*	-0.003	1.000									
D	SIZ	-0.278*	0.005	-0.050*	1.000								
E	DE	-0.074*	0.013	-0.053*	0.324*	1.000							
F	LOSS	0.223*	-0.002	-0.009	-0.445*	-0.055*	1.000						
G	CFO	-0.262*	0.033*	-0.111*	0.424*	0.007	-0.387*	1.000					
H	Z_SCORE	0.239*	0.053*	-0.074*	-0.168*	0.363*	0.169*	-0.406*	1.000				
I	GROWTH	-0.037*	-0.045*	0.024*	-0.002	-0.042*	-0.079*	0.106*	-0.042*	1.000			
J	ROA	-0.306*	0.006	0.093*	0.450*	-0.012	-0.393*	0.651*	-0.699*	0.130*	1.000		
K	NEG_CFO	0.204*	-0.035*	-0.012	-0.517*	-0.183*	0.381*	-0.342*	0.096*	-0.089*	-0.351*	1.000	
L	NAF	-0.145*	-0.002	0.013	0.485*	0.147*	-0.256*	0.229*	-0.059*	0.025*	0.221*	-0.329*	1.000
M	TEN	-0.105*	-0.004	-0.325*	0.104*	0.013*	-0.095*	0.081*	-0.058*	-0.037*	0.057*	-0.066*	0.029*
N	CLINT_IMPO	0.023*	0.001	0.051*	-0.202*	0.000	0.052*	-0.081*	0.096*	0.042*	-0.067*	0.149*	-0.118*
O	JOINT(NAT#1#CITY#1)	-0.082*	0.004	-0.025*	0.334*	0.126*	-0.108*	0.088*	0.020	-0.041*	0.070*	-0.181*	0.199*
P	JOINT(NAT#1_ONLY)	-0.038*	0.001	0.015	0.017	-0.016*	-0.066*	0.041*	-0.007	0.015	0.043*	-0.071*	0.011
Q	JOINT(CITY#1_ONLY)	-0.051*	0.001	-0.012*	0.135*	0.083*	-0.092*	0.085*	-0.003	-0.002	0.084*	-0.096*	0.066*
R	TIER#2	0.048*	-0.005	-0.016	-0.325*	-0.128*	0.150*	-0.072	-0.014	0.033*	-0.069*	0.128*	-0.102*
Variables		M	N	O	P	Q	R						
M	TEN	1.000											
N	CLINT_IMPO	-0.071*	1.000										
O	JOINT(NAT#1#CITY#1)	0.025*	-0.132*	1.000									
P	JOINT(NAT#1_ONLY)	0.040*	-0.056*	-0.089*	1.000								
Q	JOINT(CITY#1_ONLY)	0.014	0.002	-0.114*	-0.059*	1.000							
R	TIER#2	0.013	-0.082*	-0.244*	-0.127*	-0.162*	1.000						

* Is significant at $p<0.05$. Refer to Table 6.1 and the variables selection chapter for the definition of variables.

Table: 6.9 VIF and Tolerance Value for Empirical Model (2)

Variable	VIF	Tolerance value
ABNFEE	4.010	0.249
TACC	2.980	0.335
SIZE	2.770	0.361
DE	2.010	0.499
LOSS	1.760	0.568
CFO	1.670	0.600
Z_SCORE	1.570	0.639
GROWTH	1.560	0.643
ROA	1.530	0.652
NEG_CFO	1.410	0.709
NAF	1.300	0.767
TEN	1.270	0.785
CLINT_IMPO	1.130	0.883
JOINTNAT1CITY1	1.120	0.892
JOINTNAT1_ONLY	1.100	0.913
JOINTCITY1_ONLY	1.070	0.938
TIER#2	1.020	0.984

The highest value of the correlation coefficient in Panel B is equal to 0.532, which is less than 0.900. These results suggest that multicollinearity is not a problem. In addition, VIF was calculated for the empirical Model (3), and the results of VIF presented in Table 6.10 show that none of the VIF values exceeded 10, and none of the tolerance values exceeded 0.10. These results suggest that no multicollinearity problem exists for the empirical Model (1).

Table: 6.10 VIF and Tolerance Value for Empirical Model (3)

Variable	**VIF**	**Tolerance value**
TIER#1	3.120	0.320
SIZ	2.590	0.386
TIER#2	2.020	0.494
CFO	1.990	0.503
Z_SCORE	1.880	0.532
TACC	1.720	0.580
LOSS	1.610	0.621
DE	1.520	0.659
BM	1.320	0.759
GROWTH	1.290	0.778
ABNFEE	1.090	0.913

6.7 Summary

This chapter presented and discussed the descriptive statistics of all three models used in examining the relationship between abnormal audit fees and audit quality. It also presented and discussed the descriptive statistics of the sample in terms of the distribution of audit fees, audit firms, and auditor industry specialisation. It also presented the correlation matrix for all three models and the VIF test for each one of them.

CHAPTER 7

FINDINGS AND DISCUSSIONS: THE RELATIONSHIP BETWEEN ABNORMAL AUDIT FEES AND AUDIT QUALITY

7.1 Introduction

The previous chapter discussed descriptive statistics and correlation analysis for the relationship between abnormal audit fees and audit quality. This chapter presents the multivariate regression analysis performed to estimate abnormal audit fees and to examine the relationship between abnormal audit fees and audit quality.

7.2 Abnormal Audit Fees

This section presents the results of the multivariate regression analysis of empirical Model (1). As discussed in Chapter 4, empirical Model (1) is used to measure abnormal audit fees using the residual of audit fees model. Empirical Model (1) is an ordinary least squares (OLS) regression of audit fees model estimated by year and includes the industry fixed effects to control for systematic differences in audit fees and the determinants of audit fees across the 13 industries. Then, the residual is estimated by year to measure abnormal audit fees. Significance levels for model coefficients are reported as two-tailed p-values. Industry fixed-effects and year fixed-effects are not reported for brevity. Table 7.1 displays the yearly and pooled coefficient estimates, and the adjusted R^2 from the OLS regressions run separately for each year. It is important to note here that Model (1) is only used to measure abnormal audit fees. The current chapter reports the results of the empirical Model (1) with a brief discussion for completeness because it is not the main interest of the current thesis. The discussion of the results in Table 7.1 is comparable with prior studies only for the result of a pooled sample. The reason is that prior studies usually provide the results of audit fee regression using a pooled sample.

The adjusted R^2 empirical Model (1) for the pooled sample is equal to 0.881. The high adjusted R^2 is an attribute of the audit fees model (Hay et al, 2006; Hay, 2013) and is consistent with prior studies. For example, Doogar et al. (2015) report an adjusted R^2 equal to 0.830 in the U.S. during the period 2003 to 2010. Hribar et al. (2014) report a value equal to 0.854 in the U.S. during the period 2000 to 2010. It is also consistent with the prior studies in the U.K., which find it equal to 0.775 for the period 2002 to 2003 (Basioudis and Francis, 2007) and it is equal to 0.861 for the period 2004 to 2011(Kharuddin and Basioudis, 2018). The coefficients of SIZ and CATA are positive and both of them are significant ($p<0.01$), which shows that the increase in the company's size and its current assets increase audit fees. This is because the auditing of large clients increases the effort and the cost of the audit, while the increase in current assets increases the audit risk of the client; therefore, it increases the effort and the cost of the audit. These results are consistent with prior studies in general (Hay, 2013; Doogar et al., 2015; Hribar et al., 2014), and with the prior studies in the U.K. (Basioudis and Francis, 2007; Kharuddin and Basioudis, 2018).

Table 7.1: Yearly and Pooled Regression of Empirical Model (1)

	2019			2018			2017			2016		
Variables	**coef.**	**t-stat**	**p-value**	**coef.**	**t-stat**	**p-value**	**coef.**	**t-stat**	**p-value**	**coef.**	**t-stat**	**p-value**
intercept	3.040	4.951	0.000	2.798	4.496	0.000	3.261	5.308	0.000	3.074	5.518	0.000
SIZ	0.705	20.871	0.000	0.712	21.911	0.000	0.662	20.537	0.000	0.718	23.970	0.000
CATA	0.087	4.337	0.000	0.119	6.133	0.000	0.094	5.031	0.000	0.097	5.439	0.000
CHGAUD	0.021	0.944	0.346	0.003	0.139	0.889	0.015	0.701	0.483	0.033	1.597	0.111
CR	-0.070	-4.063	0.000	-0.081	-4.890	0.000	-0.064	-3.914	0.000	-0.063	-4.046	0.000
FOREIGN	0.036	2.053	0.041	0.036	2.192	0.029	0.050	3.082	0.002	0.027	1.702	0.089
LOSS	-0.039	-2.024	0.043	0.005	0.285	0.776	0.016	0.906	0.365	0.041	2.331	0.020
DE	0.026	1.446	0.149	0.005	0.300	0.764	0.009	0.557	0.578	0.032	2.036	0.042
NAF	0.033	1.836	0.067	0.023	1.328	0.185	0.029	1.712	0.087	0.052	3.155	0.002
ROA	-0.036	-1.810	0.071	-0.018	-0.978	0.328	-0.019	-1.031	0.303	-0.043	-2.310	0.021
SUBS	0.211	8.303	0.000	0.241	10.152	0.000	0.274	11.588	0.000	0.239	10.517	0.000
TEN	-0.015	-0.688	0.492	0.001	0.032	0.975	0.020	0.965	0.335	0.062	2.964	0.003
TIER#2	-0.003	-0.139	0.889	-0.037	-2.106	0.036	-0.029	-1.742	0.082	-0.016	-1.035	0.301
OPINION	-0.014	-0.805	0.421	0.017	0.965	0.335	0.013	0.746	0.456	0.011	0.659	0.510
BUSY	0.041	2.464	0.014	0.043	2.791	0.005	0.050	3.283	0.001	0.036	2.412	0.016
LAG	0.002	0.092	0.927	0.006	0.260	0.795	-0.006	-0.291	0.771	-0.029	-1.480	0.139
LONDON	0.047	2.682	0.008	0.050	2.950	0.003	0.030	1.821	0.069	0.050	3.195	0.001
CLINT_IMPO	-0.019	-1.130	0.259	-0.037	-2.363	0.018	-0.036	-2.322	0.021	-0.036	-2.457	0.014
JOINT(NAT#1#CITY#1)	0.066	3.683	0.000	0.041	2.445	0.015	0.059	3.546	0.000	0.031	1.950	0.052
JOINT(NAT#1_ONLY)	0.005	0.305	0.761	-0.014	-0.920	0.358	-0.003	-0.204	0.838	-0.022	-1.460	0.145
JOINT(CITY#1_ONLY)	0.030	1.812	0.071	0.010	0.623	0.533	0.001	0.059	0.953	0.030	1.977	0.048
Industry fixed-effects	Included			Included			Included			Included		
Year fixed-effects	Excluded			Excluded			Excluded			Excluded		
R	0.865			0.870			0.871			0.884		
N	580			621			626			614		

Table 7.1: Yearly and Pooled Regression of Empirical Model (1) (continued)

	2015			2014			2013			2012		
Variables	**coef.**	**t-stat**	**p-value**	**coef.**	**t-stat**	**p-value**	**coef.**	**t-stat**	**p-value**	**coef.**	**t-stat**	**p-value**
intercept	2.375	4.228	0.000	2.500	4.184	0.000	2.710	4.502	0.000	3.091	4.704	0.000
SIZ	0.743	24.483	0.000	0.710	22.158	0.000	0.694	20.930	0.000	0.693	20.886	0.000
CATA	0.093	5.351	0.000	0.082	4.481	0.000	0.062	3.414	0.001	0.075	4.027	0.000
CHGAUD	0.012	0.547	0.585	0.025	0.998	0.319	-0.018	-0.653	0.514	-0.038	-0.992	0.322
CR	-0.062	-4.038	0.000	-0.056	-3.473	0.001	-0.056	-3.307	0.001	-0.084	-4.828	0.000
FOREIGN	0.041	2.665	0.008	0.052	3.067	0.002	0.061	3.626	0.000	0.067	3.893	0.000
LOSS	0.037	2.085	0.038	0.028	1.495	0.135	0.004	0.231	0.817	0.014	0.722	0.471
DE	0.034	2.170	0.030	0.029	1.756	0.080	0.024	1.340	0.181	0.019	1.075	0.283
NAF	0.045	2.613	0.009	0.059	3.236	0.001	0.082	4.420	0.000	0.087	4.513	0.000
ROA	-0.042	-2.402	0.017	-0.018	-0.983	0.326	-0.026	-1.321	0.187	-0.035	-1.799	0.073
SUBS	0.220	9.549	0.000	0.228	9.259	0.000	0.236	9.630	0.000	0.222	8.830	0.000
TEN	0.050	2.250	0.025	0.054	2.087	0.037	-0.017	-0.594	0.553	-0.028	-0.714	0.476
TIER#2	-0.025	-1.608	0.108	-0.024	-1.431	0.153	-0.023	-1.368	0.172	-0.023	-1.339	0.181
OPINION	0.030	1.817	0.070	0.028	1.584	0.114	0.013	0.757	0.450	0.032	1.787	0.075
BUSY	0.034	2.319	0.021	0.022	1.437	0.151	0.017	1.084	0.279	0.023	1.463	0.144
LAG	-0.009	-0.484	0.629	-0.003	-0.123	0.902	0.013	0.666	0.506	-0.013	-0.608	0.543
LONDON	0.053	3.433	0.001	0.062	3.734	0.000	0.054	3.144	0.002	0.066	3.775	0.000
CLINT_IMPO	-0.038	-2.556	0.011	-0.030	-1.903	0.058	-0.015	-0.946	0.345	-0.007	-0.446	0.656
JOINT(NAT#1#CITY#1)	0.034	2.178	0.030	0.048	2.902	0.004	0.025	1.443	0.149	0.019	1.090	0.276
JOINT(NAT#1_ONLY)	0.015	1.023	0.307	-0.009	-0.568	0.570	0.013	0.841	0.401	0.012	0.726	0.468
JOINT(CITY#1_ONLY)	0.020	1.296	0.196	0.023	1.487	0.138	-0.002	-0.122	0.903	0.015	0.910	0.363
Industry fixed-effects	Included			Included			Included			Included		
Year fixed-effects	Excluded			Excluded			Excluded			Excluded		
R	0.888			0.880			0.881			0.881		
N	598			574			552			532		

Table 7.1: Yearly and Pooled Regression of Empirical Model (1) (continued)

	2011			2010			pooled			
Variables	**coef.**	**t-stat**	**p-value**	**coef.**	**t-stat**	**p-value**	**coef.**	**t-stat**	**p-value**	**sig.**
intercept	1.980	2.794	0.005	2.925	4.603	0.000	2.891	15.440	0.000	***
SIZ	0.727	21.295	0.000	0.706	19.420	0.000	0.710	70.631	0.000	***
CATA	0.081	4.309	0.000	0.085	4.291	0.000	0.089	15.422	0.000	***
CHGAUD	0.081	1.873	0.062	-0.024	-1.394	0.164	0.004	0.700	0.484	
CR	-0.086	-4.729	0.000	-0.100	-5.191	0.000	-0.072	-13.897	0.000	***
FOREIGN	0.070	4.114	0.000	0.060	3.338	0.001	0.051	9.930	0.000	***
LOSS	-0.001	-0.028	0.978	-0.004	-0.186	0.853	0.008	1.382	0.167	*
DE	0.011	0.607	0.544	0.018	0.961	0.337	0.021	4.140	0.000	***
NAF	0.077	4.036	0.000	0.066	3.100	0.002	0.049	8.901	0.000	***
ROA	-0.049	-2.549	0.011	-0.057	-2.807	0.005	-0.034	-5.938	0.000	***
SUBS	0.216	8.406	0.000	0.220	8.047	0.000	0.229	30.205	0.000	***
TEN	0.068	1.574	0.116	-	-	-	0.014	1.694	0.090	**
TIER#2	-0.010	-0.569	0.570	-0.036	-1.974	0.049	-0.022	-4.271	0.000	***
OPINION	0.004	0.248	0.804	-0.014	-0.743	0.458	0.014	2.626	0.009	***
BUSY	0.019	1.159	0.247	0.025	1.461	0.145	0.031	6.348	0.000	***
LAG	0.005	0.232	0.817	0.003	0.119	0.906	-0.006	-0.905	0.365	
LONDON	0.053	2.979	0.003	0.048	2.523	0.012	0.051	9.823	0.000	***
CLINT_IMPO	-0.019	-1.159	0.247	-0.013	-0.723	0.470	-0.025	-5.196	0.000	***
JOINT(NAT#1#CITY#1)	0.028	1.617	0.107	0.023	1.232	0.219	0.036	6.898	0.000	***
JOINT(NAT#1_ONLY)	0.017	1.069	0.286	0.005	0.300	0.764	0.003	0.538	0.590	
JOINT(CITY#1_ONLY)	0.013	0.749	0.454	0.005	0.279	0.780	0.016	3.201	0.001	***
Industry fixed-effects	Included			Included			Included			
Year fixed-effects	Excluded			Excluded			Included			
R	0.885			0.880			0.881			
N	508			472			5677			

The coefficient of CHGAUD is positive but insignificant at all conventional levels ($p<0.10$) showing that the appointment of a new auditor does not increase audit fees. These results are consistent with Kharuddin and Basioudis (2018) who found that the appointment of a new auditor does not increase audit fees in a sample of U.K. companies during the period 2008 to 2011. The coefficients of CR and FOREIGN are negative and positive, respectively, and both of them are significant ($p<0.01$). The results show that the decrease in the current ratio increases audit fees, while the companies that report foreign sales are charged higher audit fees. The decrease in the current ratio increases audit risk, while the reporting of foreign sales increases the complexity of conducting the audit (Basioudis and Francis, 2007; Kharuddin and Basioudis, 2018).

The coefficient of LOSS is positive and significant ($p<0.10$), which shows weak evidence that the loss-making firms are charged higher audit fees. Loss-making increases audit risk, and it increases the amount of audit fees charged. These results are similar to prior studies (e.g., Kharuddin and Basioudis, 2018; Doogar et al., 2015; Hribar et al., 2014) as they find LOSS coefficient is positive and significant ($p<0.01$), while Basioudis and Francis (2007) find it positive and insignificant in the U.K. The coefficients of DE and NAF are positive and both of them are significant ($p<0.01$), which shows an increase in the company's long-term debt and its paid non-audit fees, and increased audit fees. The increase in the company's long-term debt increases the audit risk because of the risk of not meeting future obligations, while the positive relationship between audit fees and non-audit fees is consistent with prior studies (Hribar et al., 2014; Hay, 2013). These results are consistent with prior studies in audit pricing literature (Hay, 2013; Doogar et al., 2015), and with prior studies in the U.K. (Basioudis and Francis, 2007; Kharuddin and Basioudis, 2018).

The coefficients of ROA and SUBS are negative and positive, respectively, and both of them are significant ($p<0.01$). This indicates that profitable companies are charged lower audit fees, while the increase in the company's number of subsidiaries increases audit fees. ROA decreases audit risk, and the number of subsidiaries increases the client complexity; therefore, it increases audit fees. These results are in line with prior studies in the literature on audit pricing (Hay, 2012; Doogar et al., 2015;), and with the prior studies in the U.K. (Basioudis and Francis, 2007; Kharuddin and Basioudis, 2018).

The coefficients of TIER#2 ($p<0.05$) and TEN ($p<0.01$) are negative and positive, respectively. The results show that, when the company is audited by audit firms belonging to the tier two category, they are charged lower audit fees (compared to tier one, i.e., Big N audit firms) According to Hay et al. (2006), these results could be because of the competitive market for audit services. The current thesis finds that the increase in the number of years of auditing the client increases audit fees. The audit fees literature is inconclusive regarding the effect of auditor tenure on audit fees (Hay et al., 2006). Nevertheless, the increase in auditor tenure measured by the number of years a company audited by the same audit firm is positive and significant in many studies (Hay et al., 2006). The current ratio increases audit fees, while the companies that report foreign sales are charged higher audit fees. The coefficients of OPINION and BUSY are positive and significant ($p<0.01$), suggesting that firms that receive going

concern and/or qualified opinions are charged higher audit fees, and when the company has a fiscal year-end date of 31st December or 31st March, they are charged higher audit fees. This is because companies that receive going concern or qualified opinions increase audit risk, while the auditing of the company during the busy season increases the effort of the auditor (Hay et al., 2006: Hribar et al., 2014). These results are consistent with prior studies on audit pricing and studies in the U.K. (Basioudis and Francis, 2007; Kharuddin and Basioudis, 2018).

The coefficient of LAG is positive and insignificant at all conventional levels, suggesting an elapsed period from the financial statement date to issuing the audit report does not increase audit fees. These results are consistent with some studies that report similar results (e.g., Hribar et al., 2014). The coefficient of LONDON is positive and significant ($p<0.01$), showing that companies located in the wider area of the City of London are charged higher audit fees. These results are consistent with the prior studies in the U.K. (Basioudis and Francis, 2007; Kharuddin and Basioudis, 2018). The coefficient of CLINT_IMPO is negative and significant ($p<0.01$), showing that larger audit clients in the auditor portfolio of clients on the city level are charged lower audit fees. These results are also consistent with prior studies in the U.K. (Basioudis, 2011). The coefficients of JOINT (NAT#1#CITY#1), JOINT (NAT#1_ONLY), JOINT (CITY#1_ONLY) are positive, but only JOINT (NAT#1#CITY#1) and JOINT (CITY#1_ONLY) are significant ($p<0.01$). These results suggest that, when the auditor is a top-ranked national leader and a top-ranked city leader, they charge higher audit fees, but if the auditor is a national leader, but not a city leader, it does not affect audit fees. It also suggests that, if the auditor is a city leader, but not a national leader, they charge higher audit fees. Prior literature in the U.K. reports similar results (Kharuddin and Basioudis, 2018).

7.3 Multivariate Analysis of the Relationship Between Abnormal Audit Fees and Discretionary Accruals.

Table 7.2 represents the results of regression analysis that examines the relationship between abnormal audit fees and each absolute value of discretionary accruals, income-increasing discretionary accruals, and income-decreasing discretionary accruals. This analysis examines the impact of the magnitude of the discretionary accruals and the direction. All models have an adjusted R^2 between 0.494 and 0.728 and are significant ($p>0.01$), suggesting that the models are valid[4]. Panel A of Table 8.2 shows the results of the regression analysis that examines the relationship between abnormal audit fees and absolute values of discretionary accruals for the full sample (N=5,536). The coefficient of ABNFEE, as derived from Model (1) above, is negative and insignificant at all conventional levels (coefficient = -0.003 and $p>0.10$), suggesting that there is no significant evidence that abnormal audit fees affect audit quality (decreasing the magnitude of discretionary accruals). These results support neither the two views of abnormal audit fees.

[4] The conventional wisdom in statistics suggests that the model is valid when the F value and the intercept are significant.

Table 7.2: Regression Analysis of Abnormal Audit Fees and each of the Magnitude and the Sign of Discretionary Accruals

	Panel A: Absolute discretionary accruals				Panel B: Income-increasing discretionary accruals				Panel C: Income-decreasing discretionary accruals			
Variables	**coef.**	**t-stat**	**p-value**	**sig.**	**coef.**	**t-stat**	**p-value**	**sig.**	**coef.**	**t-stat**	**p-value**	**sig.**
intercept	0.206	9.559	0.000	***	0.111	3.979	0.000	***	-0.172	-6.683	0.000	***
ABNFEE	-0.003	-0.415	0.678		-0.001	-0.154	0.877		0.017	1.104	0.270	
TACC	0.206	22.210	0.000	***	0.317	27.514	0.000	***	0.108	6.671	0.000	***
SIZE	-0.058	-4.801	0.000	***	-0.004	-0.314	0.753		0.128	5.359	0.000	***
DE	0.036	4.213	0.000	***	0.034	3.455	0.001	***	-0.042	-2.503	0.012	***
LOSS	0.018	1.951	0.051	**	0.007	0.642	0.521		-0.040	-2.206	0.028	**
CFO	0.013	1.129	0.259		0.004	0.322	0.747		-0.103	-4.535	0.000	***
Z_SCORE	0.020	1.658	0.097	**	0.010	0.712	0.477		-0.066	-2.898	0.004	***
GROWTH	0.035	4.371	0.000	***	0.028	3.085	0.002	***	-0.044	-2.731	0.006	***
ROA	-0.038	-4.007	0.000	***	-0.031	-2.885	0.004	***	0.047	2.510	0.012	***
NEG_CFO	0.000	0.000	1.000		-0.008	-0.904	0.366		-0.027	-1.688	0.092	**
NAF	0.007	0.779	0.436		-0.004	-0.350	0.726		-0.016	-0.901	0.368	
TEN	-0.098	-11.358	0.000	***	-0.123	-12.095	0.000	***	-0.001	-0.081	0.935	
CLINT_IMPO	0.000	0.023	0.982		0.012	1.251	0.211		0.019	1.168	0.243	
JOINTNAT1CITY1	0.003	0.348	0.728		0.004	0.433	0.665		0.006	0.332	0.740	
JOINTNAT1_ONLY	0.003	0.335	0.738		0.005	0.533	0.594		0.010	0.632	0.527	
JOINTCITY1_ONLY	-0.012	-1.471	0.141	*	-0.008	-0.841	0.401		0.022	1.325	0.185	*
TIER#2	0.004	0.497	0.619		0.014	1.354	0.176	*	0.031	1.719	0.086	*
Industry fixed-effects		Included				Included				Included		
Year fixed-effects		Included				Included				Included		
R		0.655				0.728				0.472		
N		5,536				3,365				2,171		

*** are significant at p<0.01, ** are significant at p<0.05 and *at p<0.10. All p-values are two-tailed. Industry fixed-effects and year fixed-effects are not reported for brevity.

It does not show that abnormal audit fees reflect a higher auditor effort, which is expected to limit the manipulation of earnings through discretionary accruals and does not support the argument that abnormal audit fees decrease audit quality, and the auditor would agree to client pressure for allowing the manipulation of earnings.

This result is inconsistent with prior studies by Mitra et al. (2009), Asthana and Boone (2012), and Eshleman and Guo (2014), but these studies are conducted using data from the U.S.[5] Mitra et al. (2009) report a negative and significant effect of abnormal audit fees on the absolute values of discretionary accruals during the period 2000 to 2005, while Asthana and Boone (2012) and Eshleman and Guo (2014) report similar results over the periods of 2000 to 2009 and 2000 to 2011, respectively. But these results are in line with Choi et al. (2010) and Jacob et al. (2019). Choi et al. (2010) find a negative and insignificant effect of abnormal audit fees using data from the U.S. during the period 2002 to 2003. Also, Jacob et al. (2019) report similar results using data from the Indian market during the period 2000 to 2013. Overall, the current thesis does not find that abnormal audit fees affect audit quality measured by discretionary accruals. It is important to note here that these results cover only the analysis based on the values of abnormal audit fees without separating them into positive and negative abnormal audit fees[6]. Regarding control variables, the coefficients of TACC, DE, and GROWTH are positive and significant ($p<0.01$) and are consistent with prior studies, suggesting that discretionary accruals increase with the increase of total accruals, long-term debt, and the change in revenue.

For robustness purposes, the current thesis also examines the effect of abnormal audit fees on income-increasing and income-decreasing accruals. The analysis shows whether the results reported using absolute values of discretionary accruals hold or not. It also reveals if there is an asymmetric effect of abnormal audit fees on income-increasing versus income-decreasing accruals.

Panel B of Table 7.2 represents the outcome of the regression analysis that examines the relationship between abnormal audit fees and income-increasing discretionary accruals. The adjusted R^2 increased to 0.728 and the model is significant ($p<0.0$), which is consistent with prior studies. Panel B shows that the coefficient of ABNFEE is still negative and insignificant at all conventional levels (coefficient = 0.003 and $p>0.10$), showing that abnormal audit fees do not affect the income-increasing discretionary accruals. Similar to the analysis of the relationship between abnormal audit fees and the absolute values of discretionary accruals, these results cover only the analysis based on the values of abnormal audit fees without separating them into positive and negative abnormal audit fees. These results indicate that abnormal audit fees do not constrain client management's manipulation of earnings through upward adjustment of earnings through accrual management. In other words, the abnormal component of audit fees does not lead to an increase in audit quality. These results are inconsistent with the findings reported

[5] Compared to the U.K., the U.S. market has a higher litigation risk for auditors, different auditing standards, several differences in financial reporting, and different auditing regulations and oversight bodies This is discussed in the current thesis.

[6] Section 7.4 of this chapter discusses the analysis of positive and negative abnormal audit fees.

by Mitra et al. (2009) who reported weak evidence that abnormal audit fees decrease income-increasing accruals. The results of the current thesis do not find an effect of abnormal audit fees on the absolute values of discretionary accruals; therefore, the insignificant effect of abnormal audit fees on income-increasing accruals is expected. Panel C of Table 7.2 represents the results of the regression analysis that examines the relationship between abnormal audit fees and income-decreasing discretionary accruals. The adjusted R^2 decreased to 0.494, and the model is significant (p<0.0), which is consistent with prior studies. Panel C shows that the coefficient of ABNFEE becomes positive and insignificant at all conventional levels (coefficient = 0.017 and p>0.10), suggesting that abnormal audit fees do not affect the income-decreasing discretionary accruals. Also, these results indicate that abnormal audit fees do not constrain client management's manipulation of earnings through downward adjustment of earnings through accrual management.

Overall, the current thesis does not find evidence that abnormal audit fees affect audit quality, measured by discretionary accruals. Therefore, this evidence supports neither of the two views of abnormal audit fees. It does not show that abnormal audit fees reflect auditor effort, which leads to an increase in audit quality (lower discretionary accruals) and does not support the second view that abnormal audit fees compromise auditor independence, hence a decrease in audit quality (higher discretionary accruals)[7].

7.4 Multivariate Analysis of the Relationship Between Positive (Negative) Abnormal Audit Fees and Discretionary Accruals

As mentioned in the literature review chapter, the reasons for splitting abnormal audit fees into positive and negative are: 1) Positive abnormal audit fees could reflect the overpayment of the auditor, which could provide more financial incentive to the auditor to compromise their independence, hence, audit quality. 2) The measurement of abnormal audit fees is the error term or the residual of the audit fees model. This creates higher noise in abnormal audit fees, and the significant effect of abnormal audit fees on audit quality in some of the prior studies could be attributable to positive abnormal audit fees. 3) Since negative abnormal audit fees reflect underpayment, it could be a result of the negotiation power of the client over the auditor.

The current thesis split the whole sample based on the sign of abnormal audit fees into two sub-samples. If ABNFEE is higher than zero, then it is considered as positive abnormal audit fees and included in the positive abnormal audit fees sub-sample, otherwise, it is included in the negative abnormal audit fees sub-sample.

7.4.1 Positive Abnormal Audit Fees

Table 7.3 (Appendix A in the current thesis) presents the results of regression analysis for the sub-sample of positive abnormal audit fees (N= 2,826 firm-year observations). Panel A of Table 7.3 shows the results of the regression analysis that examines the relationship between positive abnormal audit fees

[7] These results cover only the analysis based on the values of abnormal audit fees (full sample) without separating them into positive and negative abnormal audit fees.

and absolute values of discretionary accruals. The coefficient of positive ABNFEE is positive and insignificant at all conventional levels (coefficient = 0.012 and p>0.10), suggesting that positive abnormal audit fees do not affect the magnitude of discretionary accruals. These results indicate that when the auditor charges the client an amount of audit fees higher than normal, it does not reflect a significant effect on audit quality. These results do not support the argument that only positive abnormal audit fees create an incentive for the auditor to agree to client pressure for manipulation of earnings through discretionary accruals, hence decreasing audit quality. These results are inconsistent with prior studies. For example, Mitra et al. (2009) find that positive abnormal audit fees significantly decrease the absolute values of discretionary accruals, while Choi et al. (2010) report the opposite. Both studies use data from the U.S., while the current thesis uses data from the U.K.[10]

For robustness purposes, the current thesis also examines the effect of positive abnormal audit fees on income-increasing and income-decreasing accruals. Panel B of Table 7.3 represents the results of the regression analysis that examines the relationship between positive abnormal audit fees and income-increasing discretionary accruals. The adjusted R^2 increased to 0.735 and it is significant (p<0.01), suggesting the model is valid. Panel B shows that the coefficient of positive ABNFEE is still positive and insignificant at all conventional levels (coefficient = 0.004 and p>0.10), suggesting that abnormal audit fees do not affect the income-increasing discretionary accruals. These results also indicate that, when the auditor charges an amount of audit fees higher than normal, it does not translate into limiting the manipulation of earnings through decreasing upward discretionary accruals. Panel C of Table 7.3 represents the results of the regression analysis that examines the relationship between abnormal audit fees and income-decreasing discretionary accruals. The adjusted R^2 increased to 0.494, which is consistent with prior studies. Panel C shows the coefficient of positive ABNFEE is negative and insignificant at all conventional levels. The results suggest that positive abnormal audit fees do not affect the income-decreasing discretionary accruals. These results indicate that, when the auditor charges audit fees higher than normal, it does not reduce the manipulation of earnings for higher conservative accounting numbers. These results are consistent with prior studies (Mitra et al., 2009; Choi et al., 2010).

7.4.2 Negative Abnormal Audit Fees

Table 7.4 (Appendix A in the current thesis) presents the results of regression analysis for the sub-sample of negative abnormal audit fees (N= 2,826 firm-year observations). Panel A of Table 7.4 shows the results of the regression analysis that examines the relationship between positive abnormal audit fees and absolute values of discretionary accruals. The coefficient of negative ABNFEE is negative and insignificant at all conventional levels (coefficient = -0.006 and p>0.10), suggesting that negative abnormal audit fees do not affect the magnitude of discretionary accruals. These results do not support the argument that there is an asymmetric effect of positive abnormal audit fees and negative abnormal audit fees, as discussed earlier in this chapter. However, these results are consistent with prior studies. Mitra et al. (2009) find that negative abnormal audit fees have no significant impact on the absolute

[10] Refer to Chapter 1 for the differences between the U.S. and U.K. markets.

values of discretionary accruals. It is also consistent with the findings by Choi et al. (2010) who report weak evidence that negative abnormal audit fees decrease the absolute values of discretionary accruals.

Panel B of Table 7.4 represents the results of the regression analysis that examines the relationship between negative abnormal audit fees and income-increasing discretionary accruals. The adjusted R^2 increased to 0.722 and it is significant ($p<0.01$), suggesting the model is valid. Panel B shows that the coefficient of negative ABNFEE is still negative and insignificant at all conventional levels (coefficient = 0.004 and $p>0.10$), suggesting that abnormal audit fees do not affect the income-decreasing discretionary accruals. These results suggest that, when the auditor charges the client audit fees lower than expected, it does not lead the auditor to curb the manipulation of earnings through income-increasing accruals. Panel C of Table 7.4 represents the results of the regression analysis that examines the relationship between negative abnormal audit fees and income-decreasing discretionary accruals. The adjusted R^2 decreased to 0.436 and it is significant ($p<0.01$), suggesting the model is valid. Panel C shows the coefficient of negative ABNFEE is positive and insignificant at all conventional levels. The results suggest that negative abnormal audit fees do not affect the income-decreasing discretionary accruals. These results also do not show that, when the auditors charge the client audit fees lower than expected, it does not affect income-decreasing accruals. Also, these results are consistent with prior studies (Mitra et al., 2009; Choi et al., 2010).

7.5 Multivariate Analysis of the Relationship Between Abnormal Audit Fees and Accruals Estimation Errors (accruals quality)

Table 7.5 represents the results of regression analysis that examines the relationship between abnormal audit fees and each accrual estimation error. It also shows the results of regression analysis that examines the relationship between positive abnormal audit fees, negative abnormal audit fees and accruals estimation errors. It is important to mention here that accrual estimation errors are an inverse measurement of audit quality, meaning the increase in accrual estimation errors shows a decrease in accrual quality (decrease in audit quality) (DeFond and Zhang, 2014). Table 7.5 shows that all models have an adjusted R^2 between 0.255 and 0.262 and are significant ($p>0.01$), suggesting that all the models are valid.

Panel A of Table 7.5 shows the results of the regression analysis that examines the relationship between abnormal audit fees and accrual estimation errors for the full sample (N=5,456). The coefficient of ABNFEE is positive and insignificant (coefficient = 0.001 and $p>0.10$), suggesting that there is no significant evidence that abnormal audit fees affect audit quality (decrease in accrual estimation errors). These results support the findings of the empirical Model (2) that examines the relationship between abnormal audit fees and discretionary accruals. These results are inconsistent with the findings by Hoitash et al. (2007) who found that abnormal audit fees significantly decreased accrual quality in the U.S. market from 2000 to 2003. It is also consistent with the results by Mande and Son (2015) who report, using data from the U.S. market covering eight years from 2000 to 2007, that abnormal audits decrease accrual quality.

Table 7.5: Regression Analysis of Abnormal Audit Fees and Accruals Estimation Errors

	Panel A: Abnormal audit fees full sample				Panel B: Positive abnormal audit fees sub-sample				Panel C: Negative abnormal audit fees sub-sample			
Variables	**Coef.**	**T-stat**	**P-value**	**Sig.**	**Coef.**	**T-stat**	**P-value**	**Sig.**	**Coef.**	**T-stat**	**P-value**	**Sig.**
intercept	0.333	11.932	0.000	***	0.376	9.916	0.000	***	0.360	8.137	0.000	***
ABNFEE	0.001	0.336	0.737		0.018	1.803	0.071	**	-0.002	-0.302	0.763	
TACC	0.003	0.187	0.852		0.029	1.398	0.162	*	-0.020	-1.046	0.296	
SIZE	-0.008	-6.102	0.000	***	-0.009	-4.979	0.000	***	-0.008	-3.705	0.000	***
DE	-0.071	-4.512	0.000	***	-0.035	-1.569	0.117	*	-0.112	-4.981	0.000	***
LOSS	0.003	0.534	0.593		0.005	0.715	0.475		0.002	0.249	0.803	
CFO	-0.035	-3.313	0.001	***	-0.034	-2.209	0.027		-0.026	-1.841	0.066	**
Z_SCORE	0.014	11.270	0.000	***	0.007	4.290	0.000	***	0.020	11.669	0.000	***
GROWTH	0.006	0.699	0.485		0.002	0.184	0.854		0.008	0.641	0.521	
ROA	0.006	0.520	0.603		-0.034	-2.060	0.039		0.046	2.901	0.004	***
NEG_CFO	0.002	0.312	0.755		0.003	0.306	0.759		0.002	0.222	0.824	
NAF	0.000	-0.770	0.442		0.000	0.552	0.581		-0.001	-1.559	0.119	*
TEN	-0.001	-0.303	0.762		0.003	0.471	0.638		-0.005	-0.832	0.405	
CLINT_IMPO	-0.025	-2.692	0.007	***	-0.028	-2.041	0.041		-0.023	-1.712	0.087	**
JOINTNAT1CITY1	-0.004	-0.626	0.531		0.003	0.301	0.764		-0.008	-0.830	0.407	
JOINTNAT1_ONLY	0.000	-0.041	0.967		-0.019	-1.232	0.218		0.016	1.052	0.293	
JOINTCITY1_ONLY	0.010	1.136	0.256		0.008	0.702	0.483		0.014	1.069	0.285	
TIER#2	-0.008	-1.500	0.134		-0.009	-1.158	0.247		-0.007	-0.897	0.370	
Industry fixed-effects		Included				Included				Included		
Year fixed-effects		Included				Included				Included		
R		0.255				0.254				0.262		
N		5,456				2,787				2,669		

*** are significant at p<0.01, ** are significant at p<0.05 and *at p<0.10. All p-values are two-tailed. Industry fixed-effects and year fixed-effects are not reported for brevity.

Panel B of Table 7.5 shows the results of the regression analysis that examines the relationship between positive abnormal audit fees and accrual estimation errors for the full sample (N=2,787). The coefficient of ABNFEE is positive and significant (coefficient = 0.018 and $p<0.05$), suggesting that there is significant evidence that positive abnormal audit fees decrease audit quality (increase in accrual estimation errors). These results do not support the findings of the sub-sample of the empirical Model (2) that examines the relationship between positive abnormal audit fees and discretionary accruals. These results suggest relationships between positive abnormal audit fees and audit quality are not robust alternative measurements of audit quality. These results are consistent with the findings by Lin et al. (2018) who find in the U.S. market during 2004-2012 that positive abnormal audit fees show a positive and significant impact on accrual quality estimation error. Overall, this significant evidence shows that positive abnormal audit fees decrease audit quality (higher accrual estimation error).

Panel C of Table 7.5 shows the results of the regression analysis that examines the relationship between negative abnormal audit fees and accrual estimation errors for the full sample (N=2,669). The coefficient of ABNFEE is negative and insignificant at all conventional levels (coefficient = -0.002 and $p<0.05$), suggesting that there is no significant evidence that negative abnormal audit fees affect audit quality (decrease in accrual estimation errors).

These results support the findings of the sub-sample of the empirical Model (2) that examines the relationship between positive abnormal audit fees and discretionary accruals. These results suggest the relationship between negative abnormal audit fees and audit quality is robust to alternative measurements of audit quality. These results are consistent with the findings by Lin et al. (2018) who find negative abnormal audit fees have no significant effect on accrual quality estimation error. Overall, this significant evidence shows that negative abnormal audit fees do not affect audit quality.

7.6 Additional tests: Big 4, Audit Market competition, and Firm Size

This section examines the effect of abnormal audit fees on audit quality, specifically after controlling for Big 4 audit firms and audit market competition. By including the Big 4 firms, the section controls for auditor size beyond the measurements of industry specialisation used in the current thesis. Additionally, audit market competition variables are included to control for market competition, which may introduce bias in the estimation of abnormal audit fees. This is crucial as abnormal audit fees could result from bargaining powers in the market rather than auditor effort or as a source of economic bonding.

The section also considers firm size to understand how the relationship between abnormal audit fees and audit quality varies across the sample of the study, which includes all companies listed on the LSE. Each of these factors is discussed further to provide a more nuanced understanding of the dynamics at play and offer insights into how different elements within the audit market impact overall audit quality.

7.6.1 Big 4

The researcher re-estimated abnormal audit fees by incorporating a dummy variable for the Tier 1 category of audit firms (BIG4) in the audit fees model. The newly estimated abnormal audit fees were then utilised in empirical models 1 and 2, which examine the relationship between abnormal audit fees and discretionary accruals as well as accrual quality. The results from the regression analyses presented in Tables 7.2 to 7.5 were re-estimated after incorporating the Big 4 variable. These updated results have been documented and are reported in Appendix A of the current thesis.

In Appendix A, the coefficients of abnormal audit fees and negative abnormal audit fees are similar to those reported in the current thesis. However, the coefficient of abnormal audit fees and the absolute values of discretionary accruals, which was insignificant in the current thesis, becomes positive and significant when the Big 4 variable is included. This suggests a negative relationship between positive abnormal audit fees and audit quality.

These results highlight two key issues: First, it is crucial to control for Big 4 audit firms when estimating abnormal audit fees, in addition to variables measuring the industry specialisation of the auditor. Second, the findings further support the argument that positive abnormal audit fees create an economic bonding that impairs auditor independence and ultimately has a negative effect on audit quality.

7.6.2 Audit Market Competition

In this section, the approach of Numan and Willekens (2012) is adopted to construct two variables that reflect audit market competition:

1. **SPA_COM_1**: The relative revenue share an audit firm generates in a 2-digit SIC industry relative to the total revenue generated by the audit firm in an audit office.
2. **SPA_COM_2**: The absolute fee market share difference between the incumbent auditor and the closest competitor in the audit office-industry grouping.

Empirical Model (1) is modified to include these two variables while retaining all the original independent variables in the model. Abnormal audit fees are then re-estimated. The inclusion of these two variables considers the effect of audit competition on audit fees, thereby influencing the estimation of abnormal audit fees.

In untabulated results of the modified Empirical Model (1), the coefficients of the two variables, SPA_COM_1 and SPA_COM_2, are positive (0.153 and 0.360 respectively) and significant ($P < 0.01$). These findings suggest that spatial competition in the UK increases audit fees, which is consistent with prior studies (e.g., Numan and Willekens, 2012).

The new estimation of abnormal audit fees is then used in empirical models 1 and 2. In untabulated results, The results do not change, as they are inferentially the same results reported in the current thesis. This consistency further validates the robustness of the findings, suggesting that controlling for audit

competition does not alter the overall conclusions regarding the relationship between abnormal audit fees and audit quality.

7.6.3 Company Size

While prior research often uses the FTSE 350 index to represent the market, this study considers all companies listed on the LSE, including the AIM, to explore small and medium-sized enterprises (SMEs). SMEs are crucial for employment, competition, and investment, attracting diverse investors due to London's unique status. To address this issue and based on the size of the company, measured by total assets, the current thesis split the sample into four sub-samples: below median, above median, 25th percentile, and 75th percentile. In untabulated results, all the findings across these sub-samples are consistent with those in the main thesis except on result. The coefficients for positive abnormal audit fees and both discretionary accruals and accrual quality become insignificant across all the sub-samples. This suggests that the main significant results of the thesis do not hold across all four sub-samples. One interpretation is that using total assets to differentiate between the companies in the study is not robust, and some relationships are inherently non-linear. Thus, separating the sample by percentiles could reveal these heterogeneous relationships, causing the overall relationship to appear inconsistent. In addition, relationships might also differ across sub-groups due to underlying differences that are not accounted for in the overall model. The results of the current thesis should be interpreted with caution due to the inclusion of all companies listed on the LSE, including those on the AIM. AIM companies often differ significantly from those on the main market in terms of size, governance practices, and financial stability. These differences can introduce variability and potential biases into the analysis, as AIM companies may exhibit distinct behaviours and financial reporting practices. Consequently, the findings may not fully represent the characteristics and relationships observed in larger, more established firms on the main market. Therefore, while the comprehensive inclusion provides a broad perspective, it also necessitates careful consideration of these inherent differences when interpreting the results.

7.7 Summary

This chapter presented and discussed the multivariate regression analysis that examines the relationship between abnormal audit fees and audit quality. The results show that abnormal audit fees do not impact audit quality across the two measurements used to capture audit quality. Therefore, the current thesis finds no evidence that abnormal audit fees affect audit quality. After splitting the full sample in the current thesis based on the sign of abnormal audit fees into two sub-samples, the results did not change in the negative abnormal audit fees sub-sample. Regarding the sub-sample of positive abnormal audit fees, the current thesis finds that positive abnormal audit fees have no significant impact on the magnitude and sign of discretionary accruals but find a positive and significant impact on accruals estimations errors (lower audit quality). The result suggests that the effect of positive abnormal audit fees is not robust to the alternative measurements of audit quality. By examining the relationship between abnormal audit fees and accrual quality for the Big 4 sample, the main findings suggest that only positive abnormal audit fees decrease accrual quality.

CHAPTER 8

DESCRIPTIVE STATISTICS: THE RELATIONSHIP BETWEEN ABNORMAL AUDIT FEES AND THE VALUE RELEVANCE OF ACCOUNTING INFORMATION

8.1 Introduction

This chapter discusses the descriptive statistics for the empirical Model (4) used to examine the relationship between abnormal audit fees and the value relevance of accounting information. Also, it discusses the pairwise correlation matrix, which reveals the significant associations among the independent variables examined in Model (4).

8.2 Descriptive Statistics for Empirical Model (4)

This section discusses the descriptive statistics of the empirical Mode (4) that examines the relationship between abnormal audit fees and the value relevance of accounting information. As mentioned in the variables selection chapter, the current thesis measures the value relevance of accounting information using the model of Ohlson (1995). As Table 5.1 in the data collection chapter shows, the sample size of empirical Model (4) is 5,317 firm-year observations that cover the period 2010-2019. Table 8.1 presents the descriptive statistics for all variables included in the empirical Model (4).

The mean and median share price (P) are equal to 4.74 and 1.450, respectively. These results are consistent with the prior studies in the U.K. that report a mean of share price ranges between 1.278 and 5.642 (Tsoligkas and Tsalavoutas, 2011; Jiang and Stark, 2013; Tahat and Alhadab, 2017). The mean and median of BVBS are equal to 2.369 and 0.752, respectively. Also, these results are consistent with the prior studies in the U.K. that find the mean of book values per share ranges between 1.4 and 2.00. The mean and median of EPS are equal to 0.188 and 0.046 (Tsoligkas and Tsalavoutas, 2011; Jiang and Stark, 2013; Tahat and Alhadab, 2017). Prior studies in the U.K. found that the mean EPS ranges between 0.130 and 0.380 (Tsoligkas and Tsalavoutas, 2011; Jiang and Stark, 2013; Tahat and Alhadab, 2017). The descriptive statistics of control variables and ABNFEE are very similar to the descriptive statistics reported and discussed in Chapter 7 of the current thesis. Therefore, no further discussion is presented here.

8.3 Correlation Matrix

This section discusses the correlation matrix for empirical Model (4) which examines the relationship between abnormal audit fees value relevance of accounting information, as discussed in the introduction section of the current chapter. Table 8.2 includes a correlation matrix displaying the two-way Pearson correlations between all variables included in empirical Model (4). According to Hair et al. (2014), any correlation above 0.9 reveals the presence of a multicollinearity problem, which may considerably influence the predictive power of the regression model and the estimation of the regression coefficients.

Table: 8.1 Descriptive Statistics of Empirical Model (4) for the Period 2010-2019

Variables	Mean	Median	Std. Deviation	Minimum	Maximum
P	4.740	1.450	9.117	0.002	58.375
BVBS	2.369	0.752	5.620	-0.340	41.564
EPS	0.188	0.046	0.777	-3.232	4.369
SIZ	18.632	18.413	2.544	13.035	24.897
LOSS	0.491	0.000	0.500	0.000	1.000
DE	0.120	0.042	0.166	0.000	0.892
ABNFEE	0.394	0.323	0.359	0.000	6.245
JOINT(NAT#1#CITY#1)	0.148	0.000	0.355	0.000	1.000
JOINT(NAT#1_ONLY)	0.045	0.000	0.208	0.000	1.000
JOINT(CITY#1_ONLY)	0.071	0.000	0.257	0.000	1.000
TEN	1.211	1.386	0.704	0.000	2.303
NAF	9.045	10.309	4.479	0.000	15.425
CLINT_IMPO	0.123	0.032	0.228	0.000	1.000•

•Definition of variables: P: share price for firm i three months after the end of year t. BVBS: book value for firm i, year t divided by the number of shares outstanding for year t. EPS: net income for firm i, year t divided by the number of shares outstanding for year t. SIZ: natural logarithm of total assets. DE: ratio of long-term debt to total assets. LOSS: indicator variable = 1 if the company reports a negative net income in any of the previous three years, 0 = otherwise. JOINT (NAT#1CITY#1): Indicator variable = 1 if the audit firm is the top-ranked by market share nationally (NAT#1), and the office is the top-ranked by city industry market share (CITY#1), 0 if otherwise. CITY#1_ONLY: indicator variable = 1 if the audit firm is not the top-ranked by market share nationally, and the office is the top-ranked by city industry market share (CITY#1), 0 if otherwise. NAT#1_ONLY: indicator variable = 1 if the audit firm is the top-ranked by market share nationally (NAT#1), and the office is not the top-ranked by city-industry market share, 0 if otherwise. NAF: natural log of non-audit fees in GBP'000 paid to the incumbent auditor. TEN: natural logarithm of the number of years under engagement by the same auditor over the last ten years. CLINT_IMPO: ratio of client audit fees to audit firm's total office audit fees of the incumbent auditor.

As Table 8.2 shows, the highest value of correlation among the independent variables is equal to 0. 0.477, lower than 0.9. These results suggest that multicollinearity is not a problem. In addition, the variance inflation factor (VIF) was calculated to ensure further that there is no multicollinearity problem among the independent variables of Model (4). Gujarati (2003) asserts that, if the independent variable has a value of VIF that exceeds ten or a tolerance value less than 0.10, then it shows a multicollinearity problem with that independent variable with other independent variables. The results of VIF presented in Table 8.3 show that none of the VIF values exceeded 10, and none of the tolerance values exceeded 0.10. These results suggest that no multicollinearity problem exists for the empirical Model (4). The single asterisk in Table 8.2 shows the statistically significant correlations at a 0.05% level ($p<0.05$). Overall, the table shows that ABNFEE and almost all control variables in the empirical Model (4) have a significant correlation with the dependent variable of Model (4), the price per share, except JOINT(NAT#1_ONLY) and JOINT(CITY#1_ONLY). All the significant variables have a positive relationship with price per share except LOSS and CLINT_IMPO; prior studies report a negative

Table: 8.2 Pairwise Correlation Matrix for Empirical Model (4)

Variables		A	B	C	D	E	F	G	H	I	J	K	L	M
A	P	1.000												
B	BVBS	0.725*	1.000											
C	EPS	0.494*	0.428*	1.000										
D	SIZ	0.399*	0.323*	0.394	1.000									
E	LOSS	-0.287*	-0.161*	-0.326	-0.445*	1.000								
F	DE	0.108*	0.047*	0.045	0.323*	-0.058*	1.000							
G	ABNFEE	0.024*	-0.033*	-0.018	-0.006	0.009	0.014	1.000						
H	JOINT(NAT#1#CITY#1)	0.157*	0.131*	0.129	0.338*	-0.115*	0.123*	0.004	1.000					
I	JOINT(NAT#1_ONLY)	0.013	-0.006	0.017	0.012	-0.071*	-0.028*	0.001	-0.091*	1.000				
J	JOINT(CITY#1_ONLY)	0.012	-0.014	0.026	0.127*	-0.086*	0.082*	-0.007	-0.115*	-0.060*	1.000			
K	TEN	0.030*	0.006	0.033	0.086*	-0.087*	0.012*	-0.006	0.026*	0.036	0.012	1.000		
L	NAF	0.172*	0.100*	0.165	0.477*	-0.256*	0.140*	-0.005	0.198*	0.003	0.061*	0.019	1.000	
M	CLINT_IMPO	-0.021*	-0.001	0.010	-0.185*	0.056*	-0.003	0.000	-0.123*	-0.052*	0.003	-0.053*	-0.105*	1.000

Table: 8.3 VIF and Tolerance Value for Empirical Model (4)

Variable	VIF	Tolerance value
BVBS	1.325	0.755
EPS	1.434	0.697
SIZ	2.302	0.434
LOSS	1.495	0.669
DE	1.217	0.822
ABNFEE	1.002	0.998
JOINT(NAT#1#CITY#1)	1.207	0.828
JOINT(NAT#1_ONLY)	1.057	0.946
JOINT(CITY#1_ONLY)	1.084	0.922
TEN	1.638	0.610
NAF	1.382	0.724
CLINT_IMPO	1.080	0.926

correlation between LOSS and price per share (Tsoligkas and Tsalavoutas, 2011; Jiang and Stark, 2013; Tahat and Alhadab, 2017).

8.4 Summary

This chapter presented and discussed the descriptive statistics of the empirical Model (4) used in examining the relationship between abnormal audit fees and the value relevance of accounting information. It also presented the correlation matrix for the empirical Model (4) and the VIF test. The results are consistent with prior studies and there is no multicollinearity problem reported.

CHAPTER 9

FINDINGS AND DISCUSSION: THE RELATIONSHIP BETWEEN ABNORMAL AUDIT FEES AND THE VALUE RELEVANCE OF ACCOUNTING INFORMATION

9.1 Introduction

The previous chapter has discussed descriptive statistics and correlation analysis for the relationship between abnormal audit fees and the value relevance of accounting information. This chapter presents the multivariate regression analysis performed to examine the relationship between abnormal audit fees and the value relevance of accounting information. As discussed in the variables selection chapter (Chapter 4), empirical model 4 examines the relationship between abnormal audit fees and the value relevance of accounting information measured by the Ohlson (1995) model. The model is based on the share prices for the companies as the dependent variable, while book values per share and earnings per share are the independent variable. In any study, to examine the effect of a test variable, the model is extended to include the test variable by creating two interaction variables. The first interaction variable includes the test variable and book values per share. The second interaction variable includes the test variable and earnings per share. In terms of the interpretations of these two interaction variables, the first interaction variable would show the relationship between the test variable and the value relevance of book values, while the second interaction variable would show the relationship between the test variable and the value relevance of earnings.

9.2 Multivariate Analysis of the Relationship Between Abnormal Audit Fees and the Value Relevance of Accounting Information

Panel A of Table 9.1 below represents the results of the regression analysis that examines the relationship between abnormal audit fees and the value relevance of accounting information for the full sample (N=5,317). Ohlson's (1995) model is extended in the current study by including abnormal audit fees. Therefore, the coefficients of ABNFEE×BVBS and ABNFEE×EPS are an interaction variable between abnormal audit fees and the independent variables in the original form of Ohlson's model. These two coefficients are the main interests in the current study because they reveal the relationship between abnormal audit fees and the value relevance of accounting information.

Panel A of Table 9.1 represents the results of the regression analysis that examines the relationship between abnormal audit fees and the value relevance of accounting information. The model has adjusted R^2 equal to 0.611 and it is significant (P<0.01), suggesting the model is valid. Regarding control variables, the coefficients of BVBS, EPS, SIZ, DE are positive and significant (P<0.01), while the coefficient of LOSS is negative and significant.

Table 9.1: Regression Analysis of Abnormal Audit Fees and the Value Relevance of Accounting Information

	Panel A: Abnormal audit fees full sample					Panel B: Positive abnormal audit fees sub-sample					Panel C: Negative abnormal audit fees sub-sample				
Variables	**+/-**	**Coef.**	**T-stat**	**P-value**	**Sig.**	**+/-**	**Coef.**	**T-stat**	**P-value**	**Sig.**	**+/-**	**Coef.**	**T-stat**	**P-value**	**Sig.**
intercept		-3.776	-4.207	0.000	***		-2.549	-1.944	0.052	**		-0.330	-0.263	0.793	
BVBS		0.628	61.997	0.000	***		0.570	27.281	0.000	***		0.641	26.211	0.000	***
EPS		0.185	17.462	0.000	***		0.111	5.091	0.000	***		0.203	8.466	0.000	***
SIZ		0.081	6.216	0.000	***		0.084	4.609	0.000	***		0.035	1.703	0.089	**
LOSS		-0.069	-6.583	0.000	***		-0.077	-5.267	0.000	***		-0.075	-4.839	0.000	***
DE		0.037	3.862	0.000	***		0.039	3.045	0.002	***		0.035	2.461	0.014	***
JOINT(NAT#1#CITY#1)		0.005	0.492	0.622			-0.002	-0.162	0.871			0.022	1.638	0.102	*
JOINT(NAT#1_ONLY)		0.005	0.553	0.580			0.001	0.067	0.946			0.019	1.446	0.148	
JOINT(CITY#1_ONLY)		-0.001	-0.133	0.894			0.007	0.588	0.557			-0.008	-0.601	0.548	
TEN		-0.001	-0.136	0.892			-0.007	-0.464	0.643			0.004	0.257	0.797	
NAF		0.005	0.470	0.638			0.007	0.502	0.616			-0.003	-0.188	0.851	
CLINT_IMPO		0.002	0.263	0.793			-0.025	-1.995	0.046	**		0.006	0.428	0.669	
ABNFEE		0.022	2.329	0.020	**		-0.011	-0.838	0.402			0.021	1.583	0.114	*
ABNFEE×BVBS		0.071	5.775	0.000	***		0.100	4.661	0.000	***		-0.060	-1.885	0.060	**
ABNFEE×EPS		-0.018	-1.504	0.133	*		0.049	2.286	0.022	**		0.045	1.476	0.140	*
Industry fixed-effects			Included					Included					Included		
Year fixed-effects			Included					Included					Included		
R			0.611					0.618					0.605		
N [9]			5,317					2,750					2,567		

Definition of variables: P: share price for firm i three months after the end of year t. BVBS: book value for firm i, year t divided by the number of shares outstanding for year t. EPS: net income for firm i, year t divided by the number of shares outstanding for year t. SIZ: natural logarithm of total assets. DE: ratio of long-term debt to total assets. LOSS: indicator variable = 1 if the company reports a negative net income in any of the previous three years, 0 = otherwise. JOINT (NAT#1CITY#1): Indicator variable = 1 if the audit firm is the top-ranked by market share nationally (NAT#1), and the office is the top-ranked by city industry market share (CITY#1), 0 if otherwise. CITY#1_ONLY: indicator variable = 1 if the audit firm is not the top-ranked by market share nationally, and the office is the top-ranked by city industry market share (CITY#1), 0 if otherwise. NAT#1_ONLY: indicator variable = 1 if the audit firm is the top-ranked by market share nationally (NAT#1), and the office is not the top-ranked by city-industry market share, 0 if otherwise. NAF: natural log of non-audit fees in GBP'000 paid to the incumbent auditor. TEN: natural logarithm of the number of years under engagement by the same auditor over the last ten years. CLINT_IMPO: ratio of client audit fees to audit firm's total office audit fees of the incumbent auditor.

These results are consistent with the wide literature on the value relevance of accounting information (e.g., Balachandran and Mohanram, 2011; Barth et al., 2008; Ertugrul and Demir, 2018; Ota, 2003; Ota, 2010; Richardson and Tinaikar, 2004; Saha and Bose, 2016). All other control variables are insignificant.

The coefficient of ABNFEE×BVBS is positive and significant (coefficient = 0.071 and p <0.01), suggesting that the increase in book value increases share price, but this relationship depends on the magnitude of abnormal audit fees. This result suggests that abnormal audit fees are a factor that increases the value relevance of book values. The coefficient of ABNFEE×EPS is negative and significant (coefficient = -0.018 and P<0.10), suggesting that the increase in earnings per share decreases share price, but the relationship depends on the magnitude of abnormal audit fees. This result suggests that abnormal audit fees marginally decrease the value relevance of earnings.

As mentioned in the introduction chapter, the researcher, to the best of his knowledge, is not aware of any studies that examine the effect of abnormal audit fees on the value relevance of accounting information. Nevertheless, few papers examine the relationship between auditor independence, which is the umbrella of the current study as discussed in the theoretical framework chapter, and the value relevance of accounting information. These results are consistent with the findings reported by Cimini et al. (2022). They find no evidence that non-audit fees decrease the value relevance of earnings, but they report that non-audit fees significantly increase the value relevance of book values in the European banking sector. They suggest that their evidence is an indicator that non-audit fees do not compromise auditor independence, and therefore, the market participants do not decrease the use of accounting numbers in the valuation of the company. Krishnan et al. (2013) report tax fees increase the value relevance of accounting information in the U.S. market, suggesting that this type of non-audit fee is viewed by market participants as a positive indicator of earnings quality, therefore, they increase their use of accounting numbers in the valuation of the company.

Panel B of Table 10.1 represents the results of the regression analysis that examines the relationship between positive abnormal audit fees and the value relevance of accounting information. The model has adjusted equal to 0.618, and it is significant (P<0.01), suggesting the model is valid. The coefficient of ABNFEE×BVBS is positive and significant (coefficient = 0.100 and P<0.01), suggesting that there is a positive relationship between positive abnormal audit fees and the value relevance of book values. The coefficient of ABNFEE×EPS is positive and significant (coefficient = 0.049 and P<0.05), suggesting that there is a positive relationship between positive abnormal audit fees and the value relevance of earnings. These results suggest that abnormal audit fees have a positive and significant effect on the value relevance of accounting information. Panel C of Table 10.1 shows the results of the regression analysis that examines the relationship between negative abnormal audit fees and the value relevance of accounting information. The model has adjusted equal to 0.605 and it is significant (P<0.01), suggesting the model is valid. The coefficient of ABNFEE×BVBS is negative and significant (coefficient = 0.06

and P<0.05), suggesting that book values decrease share prices, but it is conditional on the magnitude of negative abnormal audit fees. The coefficient of ABNFEE×EPS is positive and significant (coefficient = 0.045) and P<0.10), suggesting that the relationship between earnings and price is negative but it depends on the magnitude of abnormal audit fees.

These results suggest that abnormal audit fees decrease the value relevance of earnings and increase the value relevance of book values. This supports the argument in the current thesis that market participants engage in cognitive processing of audit fees and are able to perceive what constitutes a normal level of audit fees. The opposite signs of book value per share (BVBS) and earnings per share (EPS) can be explained by considering the sign of abnormal audit fees, an aspect of the current thesis. The positive relationship between positive abnormal audit fees and both book value and earnings suggests that market participants perceive abnormal audit fees in a positive way and therefore rely more on the accounting information to value the company. This indicates that positive abnormal audit fees are viewed as a result of additional effort from the auditor and/or that market participants rely on the credibility of the auditor, even when audit fees exceed their expectations. This implies that the market views positive abnormal audit fees as an indicator of thorough auditing and enhanced scrutiny, thereby enhancing the perceived reliability of the financial statements. These interpretations are further supported by the negative impact of negative abnormal audit fees on the value relevance of earnings, and the weak relationship between negative abnormal audit fees and the value relevance of book values. This suggests that when audit fees are below expected levels, market participants may perceive a lack of thoroughness or reduced auditor effort, thus diminishing the perceived reliability of earnings information.

9.3 Share Price Measures in the Ohlson Model

To address the possibility that the market has not received audit fee information by the specified date, given that many companies' annual reports may not be ready within three months of the year-end, this thesis conducts additional tests using share prices after four, five, and six months. Specifically, the dependent variable in empirical model (4), which is the share price after three months, is replaced by the share price after four, five, and six months, respectively. Each of these time points is analysed separately, resulting in three distinct regression analyses. In Table 9.2, the findings indicate that the results obtained using the share price after three months are consistent with those using the share price after four, five, or six months.

9.4 Moderating Effects of Non-Audit Fees and Auditor Industry Specialisation

This section examines the moderating effects of non-audit fees and auditor industry specialisation on the relationship between abnormal audit fees and the value relevance of accounting information.

Table 9.2: Regression Analysis of Abnormal Audit Fees and the Value Relevance of Accounting Information Using Various Prices Measures

	Panel A: Share price 3 months after the end of year t				Panel B: Share price 4 months after the end of year t				Panel C: Share price 5 months after the end of year t				Panel D: Share price 6 months after the end of year t			
	Coef.	T	P	Sig.	Coef.	T	P	Sig.	Coef.	T	P	Sig.	Coef.	T	P	Sig.
BVBS	1.026	61.620	0.000	***	1.014	61.290	0.000	***	0.721	42.840	0.000	***	0.958	58.320	0.000	***
EPS	2.250	17.920	0.000	***	2.290	18.500	0.000	***	3.254	23.180	0.000	***	2.515	20.440	0.000	***
SIZE	0.282	6.040	0.000	***	0.293	6.300	0.000	***	0.389	7.350	0.000	***	0.317	6.860	0.000	***
LOSS	-1.235	-6.480	0.000	***	-1.274	-6.710	0.000	***	-1.241	-5.750	0.000	***	-1.235	-6.550	0.000	***
DE	2.037	3.930	0.000	***	2.060	4.000	0.000	***	3.238	5.510	0.000	***	1.974	3.850	0.000	***
JOINT(NAT#1#CITY#1)	0.115	0.480	0.634		0.141	0.580	0.559		0.292	1.070	0.286		0.117	0.490	0.625	
JOINT(NAT#1_ONLY)	0.211	0.550	0.584		0.216	0.560	0.574		0.341	0.780	0.434		0.381	1.000	0.318	
JOINT(CITY#1_ONLY)	-0.038	-0.120	0.904		-0.029	-0.090	0.927		-0.249	-0.700	0.486		-0.061	-0.200	0.844	
TEN	-0.025	-0.180	0.859		-0.025	-0.170	0.862		0.001	0.000	0.997		-0.025	-0.180	0.856	
NAF	0.011	0.550	0.579		0.011	0.530	0.597		-0.005	-0.200	0.843		0.000	0.020	0.984	
CLINT_IMPO	0.077	0.220	0.828		0.028	0.080	0.936		0.602	1.500	0.134	*	0.184	0.530	0.599	
ABNFEE	0.418	2.460	0.014	***	0.409	2.420	0.016	***	-0.353	-1.860	0.062	**	0.379	2.260	0.024	**
ABNFEE × BVBS	0.210	6.410	0.000	***	0.211	6.500	0.000	***	0.677	20.460	0.000	***	0.237	7.350	0.000	***
ABNFEE × EPS	-0.551	-2.360	0.018	***	-0.485	-2.110	0.035	**	-2.887	-11.330	0.000	***	-0.551	-2.410	0.016	***
INDUSTRY AND YEAR FIXED		Included				Included				Included				Included		
R2		0.610				0.610				0.514				0.602		
N		5,317				5,324				5,324				5,329		

Previous studies have confirmed that these two aspects influence market variables (see, for example, Feng et al., 2023; Robin and Zhang, 2015; Alrashidi et al., 2021; Schmidt, 2012).

The current thesis examines the relationship between abnormal audit fees and the value relevance of accounting information using a theoretical framework based on the cognitive processes of market participants and the source credibility theory, as discussed in previous chapters. While market participants cannot directly observe abnormal audit fees, they can easily observe non-audit fees and the auditor's industry specialisation. Abnormal audit fees represent a complex issue due to the differing perceptions outlined in the theoretical framework chapter. This complexity implies that other factors, such as non-audit fees and auditor industry specialisation, may intervene to moderate how the market judges abnormal audit fees.

Previous studies (see, for example, Antle et al., 2006; Krishnan and Yu, 2011) explore the relationship between audit fees and non-audit fees through the effect of knowledge spillover. This perspective argues that the provision of non-audit services can enhance the auditor's understanding of the client's business, leading to more efficient audits. Such increased familiarity is assumed to result in higher audit fees. Additionally, a body of literature suggests that non-audit fees may pose a threat to auditor independence, either by impacting audit quality (Habib, 2012) or through their influence on market perceptions (Schmidt, 2012). These relationships indicate that market participants may incorporate non-audit fees into their cognitive assessment of abnormal audit fees and affect their evaluation of the auditor's credibility, as outlined by source credibility theory. By examining the moderating effect of non-audit fees on the relationship between abnormal audit fees and the value relevance of accounting information, the current section aims to determine whether market participants are aware of these relationships and integrate them into their judgment of abnormal audit fees.

Solomon et al. (1999) argue that industry experts have a deeper knowledge than non-experts due to greater experience in the industry, which enables experts to make more accurate audit judgments. Industry specialists are expected to earn fee premiums because they differentiate themselves in the market compared to non-specialists (Craswell et al., 1995). As auditors with industry specialisation are perceived to provide a higher level of expertise and, therefore, higher-quality audits, market participants may view higher audit fees for these auditors as justified by the additional value they offer. This process is also supported by source credibility theory, which posits that the reputation of an auditor, particularly one with industry specialisation, affects how their credibility is perceived by market participants. By examining the moderating effect of auditor industry specialisation on the relationship between abnormal audit fees and the value relevance of accounting information, the current section aims to determine whether market participants are aware of these relationships between industry specialisation and each of audit fees and audit quality and integrate them into their judgment of abnormal audit fees.

To explore these dynamics, the current thesis employs a methodology commonly used in prior studies, incorporating three-way interaction terms into the empirical Model 4 (Gul et al., 2006; Chen et al., 2020; Adwan et al., 2020). Separate regressions for non-audit fees and auditor industry specialisation were

examined. Other variables related to the auditor, namely Big N and auditor tenure, were excluded from the models to ensure a more focused analysis. Including additional auditor-related variables could introduce interaction effects that complicate the interpretation of results. This decision reflects the thesis's emphasis on isolating the moderating roles of non-audit fees and industry specialisation. The exclusion of other auditor variables presents an opportunity for future research to explore these factors in greater depth.

In the model specification chapter, both non-audit fees (NAF) and auditor industry specialisation are defined. For the industry specialisation variable, JOINTNAT1CITY1 is selected. This choice is made because using "city leader" or "national leader" alone could limit the results. JOINTNAT1CITY1 must represent both national and city leaders, allowing for more nuanced results and a broader perspective on auditor industry specialisation.

9.4.1 Non-Audit Fees

Panel A of Table 9.3, below, presents the results of the regression analysis examining the relationship between abnormal audit fees, non-audit fees, and the value relevance of accounting information.

The model has an adjusted R^2 of 0.622, which is significant ($P < 0.01$), indicating that the model is valid. The main focus of this table is the three-way interaction term ABNFEE × NAF × EPS, which reveals the relationship between abnormal audit fees, non-audit fees, and the value relevance of earnings and the interaction term ABNFEE × NAF × BVBS which highlights the relationship between abnormal audit fees, non-audit fees, and the value relevance of book value.

Panel A shows that the three-way interaction (ABNFEE × NAF × EPS) is positive but not statistically significant. This suggests that non-audit fees partially offset the negative impact of abnormal audit fees on the value relevance of earnings. On the other hand, the three-way interaction (ABNFEE × NAF × BVBS) is negative and statistically significant, indicating that non-audit fees reverse the positive impact of abnormal audit fees on the value relevance of book values. The current thesis emphasises the importance of distinguishing between positive and negative abnormal audit fees, as analysing them collectively may provide a limited understanding of their effects.

Therefore, Panel B presents the results of the relationship between positive abnormal audit fees, the value relevance of accounting information, and non-audit fees. The coefficients for the three-way interactions (ABNFEE × NAF × EPS and ABNFEE × NAF × BVBS) are both negative and statistically significant (-0.165, $P < 0.05$, and -0.076, $P < 0.01$, respectively). These findings suggest that the expected value relevance benefits of positive abnormal audit fees are not realised when non-audit fees are considered. Market participants, through their cognitive processes, appear to interpret non-audit fees as a factor that undermines the justification for abnormal audit fees as evidence of additional effort by the auditor.

Table 9.3: Regression Analysis of Abnormal audit fees, Value Relevance of Accounting Information, and Non-audit Fees

	Panel A: Abnormal audit fees full sample				Panel B: Positive abnormal audit fees sub-sample				Panel C: negative abnormal audit fees sub-sample			
Variables	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.
BVBS	1.136	35.230	0.000	***	0.988	14.380	0.000	***	0.790	10.380	0.000	***
EPS	0.504	1.960	0.050	**	-1.773	-3.530	0.000	***	1.538	2.840	0.005	***
SIZ	0.261	5.930	0.000	***	0.275	4.460	0.000	***	0.142	2.130	0.034	***
LOSS	-1.232	-6.580	0.000	***	-1.404	-5.080	0.000	***	-1.275	-5.060	0.000	*
DE	2.207	4.340	0.000	***	2.604	3.450	0.001	***	1.744	2.570	0.010	***
NAF	0.025	1.150	0.250		0.104	2.350	0.019	**	-0.026	-0.630	0.531	
ABNFEE	-0.805	-2.450	0.014	**	-0.474	-0.640	0.525		-0.281	-0.440	0.661	*
ABNFEE × BVBS	0.792	10.140	0.000	***	1.256	8.110	0.000	***	-0.318	-1.450	0.146	*
ABNFEE × EPS	-0.673	-1.290	0.197		3.140	3.240	0.001	***	1.047	0.790	0.429	
ABNFEE × NAF	0.141	4.080	0.000	***	-0.003	-0.030	0.972		0.055	0.760	0.449	
NAF × BVBS	-0.015	-4.730	0.000	***	-0.010	-1.610	0.107	*	0.018	2.130	0.034	**
NAF × EPS	0.202	8.330	0.000	***	0.316	6.720	0.000	***	0.115	1.970	0.049	**
ABNFEE × NAF ×EPS	0.014	0.300	0.764		-0.165	-1.910	0.056	**	-0.160	-1.220	0.223	
ABNFEE × NAF ×BVBS	-0.057	-7.900	0.000	***	-0.076	-5.430	0.000	***	0.042	2.010	0.045	**
Industry fixed-effects	Included				Included				Included			
Year fixed-effects	Included				Included				Included			
R	0.622				0.645				0.608			
N	5,317				2,750				2,567			

While prior literature argues that non-audit services can enhance an auditor's familiarity with a client's operations, market participants may perceive this familiarity as a reason to adjust their judgement of abnormal audit fees.

Panel C presents the results of the relationship between negative abnormal audit fees, the value relevance of accounting information, and non-audit fees. The coefficients for the three-way interaction ABNFEE × NAF × EPS are negative and insignificant, while the coefficients for the three-way interaction ABNFEE × NAF × BVBS are positive and statistically significant ($P < 0.05$). These results are qualitatively similar to those reported in Table 10.1 and suggest that the effect of non-audit fees diminishes when abnormal audit fees are negative. This interpretation stems from market participants' negative judgment of abnormal audit fees when they are abnormally low.

Overall, this analysis shows that non-audit fees have a significant and negative moderating effect on the positive relationship between abnormal audit fees, particularly positive abnormal audit fees, and the value relevance of accounting information. These results are consistent with prior literature. For example, Gul et al. (2006) found that non-audit fees have a statistically significant inverse relationship with the value relevance of earnings.

9.4.2 Auditor Industry Specialisation

Panel A of Table 9.4 shows the results of the regression analysis examining the relationship between abnormal audit fees, auditor industry specialisation, and the value relevance of accounting information. The model has an adjusted R^2 of 0.627, which is significant ($P < 0.01$), suggesting that the model is valid. The key interaction terms are ABNFEE × IS × EPS, which reveals the relationship between abnormal audit fees, auditor industry specialisation, and the value relevance of earnings, and ABNFEE × IS × BVBS, which highlights the relationship between abnormal audit fees, auditor industry specialisation, and the value relevance of book value.

First, Panel A shows that the three-way interaction (ABNFEE × IS × EPS) is positive and statistically significant, suggesting that auditor industry specialisation mitigates the negative impact of abnormal audit fees on the value relevance of earnings. The three-way interaction (ABNFEE × IS × BVBS) is negative and statistically insignificant, indicating that auditor industry specialisation does not reverse the positive impact of abnormal audit fees on the value relevance of book values. Panel B presents the results for the relationship between positive abnormal audit fees, the value relevance of accounting information, and auditor industry specialisation. The coefficients for the three-way interaction (ABNFEE × IS × EPS) are negative and insignificant, indicating that the anticipated value relevance benefits of positive abnormal audit fees are not realised when auditor industry specialisation is considered. This suggests that although industry-specialised auditors may have the ability to charge a premium for their expertise, market participants perceive these fees as sufficiently high, leading them to alter their cognitive process regarding abnormal audit fees.

Table 9.4: Regression Analysis of Abnormal Audit Fees, Value Relevance of Accounting Information, and Auditor Industry Specialisation

	Panel A: Abnormal audit fees full sample				Panel B: Positive abnormal audit fees sub-sample				Panel C: negative abnormal audit fees sub-sample			
Variables	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.
BVBS	1.139	59.760	0.000		1.124	28.080	0.000		1.054	26.300	0.000	
EPS	1.735	12.410	0.000		0.737	2.500	0.013		1.968	6.840	0.000	
SIZ	0.286	6.910	0.000		0.354	5.940	0.000		0.070	1.130	0.258	
LOSS_3	-1.225	-6.570	0.000		-1.417	-5.090	0.000		-1.233	-4.980	0.000	
DE	1.813	3.580	0.000		1.956	2.570	0.010		1.586	2.380	0.018	
NAF	0.914	3.520	0.000		0.733	1.260	0.207		0.709	1.500	0.132	
ABNFEE	0.422	2.330	0.020		-0.212	-0.470	0.639		0.095	0.280	0.780	
ABNFEE × BVBS	0.169	4.610	0.000		0.240	2.750	0.006		0.076	1.020	0.308	
ABNFEE × EPS	-0.403	-1.530	0.127		1.382	2.440	0.015		-0.689	-1.180	0.239	
ABNFEE × IS	-0.340	-0.720	0.472		-0.718	-0.580	0.561		-0.693	-0.870	0.383	
IS × BVBS	-0.555	-14.540	0.000		-0.694	-8.190	0.000		-0.652	-6.400	0.000	
IS × EPS	3.097	10.280	0.000		3.874	6.140	0.000		7.909	8.670	0.000	
ABNFEE × IS ×EPS	1.587	2.920	0.004		-1.263	-0.980	0.328		9.566	6.380	0.000	
ABNFEE × IS ×BVBS	-0.034	-0.430	0.667		0.453	2.080	0.037		-0.302	-1.730	0.083	
R		0.627				0.670				0.658		
N		5,316				2,750				2,565		

The coefficients for the three-way interaction ABNFEE × IS × BVBS are positive and statistically significant, similar to the results in Table 9.1. These findings suggest that, in the case of book value, auditor industry specialisation can amplify the positive relationship between abnormal audit fees and value relevance of accounting information.

9.5 Additional tests: Big 4, Audit Market competition, and Firm Size

This chapter has revisited the issues discussed in Section 7.5 of the thesis, particularly examining the impact of including Big 4 audit firms and audit market competition on the relationship between abnormal audit fees and the value relevance of accounting information. The results are provided in the Appendix (Table 9.5) demonstrate that all findings reported in this chapter remain qualitatively unchanged, suggesting that the inclusion of these factors does not significantly affect the overall conclusions regarding the relationship between abnormal audit fees and the value relevance of accounting information.

Mirroring the methodology outlined in Section 7.5, this thesis divided the sample into four sub-samples: below median, above median, 25th percentile, and 75th percentile. The untabulated results reveal that the relationship between positive abnormal audit fees and the value relevance of accounting information remains qualitatively consistent. However, the results for negative abnormal audit fees differ.

The adverse effect of negative abnormal audit fees on the value relevance of accounting information persists for large companies (75th percentile), whereas small companies (25th percentile) exhibit a positive and significant relationship between negative abnormal audit fees and the value relevance of accounting information. It is crucial to interpret these results carefully due to the observed differences, particularly the varying effects of negative abnormal audit fees across different company sizes, and due to the reasons related to the sample discussed in Section 7.5.

9.6 Summary

This chapter discussed the findings of the multivariate analysis of abnormal audit fees and the value relevance of accounting information. The findings show that there is a significant relationship between abnormal audit fees and the value relevance of accounting information. These significant results change in terms of direction based on whether the company reports negative earnings per share belonging to the positive abnormal audit fees sample, and if the company is a negative abnormal audit fees sample. One of the interesting findings is that positive abnormal audit fees increase the value relevance of book values and earnings. However, findings in Chapter 7 provide evidence that positive abnormal audit fees decrease audit quality. The implication of these results is discussed in the conclusion chapter.

Further analysis reveals that non-audit fees have a significant and negative moderating effect on the positive relationship between abnormal audit fees, particularly positive abnormal audit fees, and the value relevance of accounting information. Similarly, auditor industry specialisation demonstrates a

comparable moderating effect; however, this influence is less prevalent and pronounced. This means that while abnormal audit fees can enhance the relevance of accounting information, the presence of non-audit fees or auditor industry specialisation weakens this positive impact. This can be attributed to the cognitive processes of market participants and their judgements, as explained by the source credibility theory. Non-audit fees negatively affect the auditor's reputation, while auditor industry specialisation enhances reputation but often involves fee premiums. Market participants perceive these premiums as unjustified, thereby diminishing the positive effect of abnormal audit fees.

CHAPTER 10

CONCLUSION

10.1 Conclusion

The current PhD thesis studies two empirical issues. Firstly, it examines the relationship between abnormal audit fees and audit quality. Secondly, it studies the relationship between abnormal audit fees and the value relevance of accounting information. Abnormal audit fees are defined as the difference between the actual audit fees and the normal audit fees that should have been charged for each audit engagement. Normal auditor fees are considered to capture the effects of the regular audit costs and a normal profit margin.

In general, the prior literature argues that abnormal audit fees influence audit quality under two views or rational arguments. The first view suggests that abnormal audit fees lead to an economic bonding between the auditor and client, which leads the auditors to compromise their independence to keep the client in subsequent years. Under this view, the related literature suggests that abnormal audit fees decrease audit quality. In contrast, the second view suggests that abnormal audit fees reflect factors that cover unobservable auditor efforts. In this regard, prior studies suggest that abnormal audit fees increase audit quality.

A significant aspect of this thesis is the consideration of audit market competition in the analysis of abnormal audit fees and their effects. Previous research has extensively analysed the impact of audit competition on audit fees but has often failed to control for this factor in models estimating abnormal audit fees. This oversight could lead to biased estimations and interpretations. The current study incorporates audit market competition, highlighting its influence on the bargaining power of clients and the economic relationship between auditors and clients. By doing so, it provides a more accurate and comprehensive understanding of how audit market competition shapes the dynamics of abnormal audit fees and their subsequent impact on audit quality and the value relevance of accounting information.

Most prior studies on abnormal audit fees have overlooked the asymmetric effects of positive versus negative abnormal audit fees. This thesis addresses this gap by demonstrating that the impacts of positive and negative abnormal audit fees on audit quality and the value relevance of accounting information are not symmetric. Specifically, the findings indicate that positive abnormal audit fees negatively affect audit quality, supporting the argument that higher-than-normal fees create an economic bond between the auditor and the client. Conversely, the study reveals that negative abnormal audit fees have a less pronounced effect on audit quality, suggesting different dynamics at play.

The current thesis has provided an investigation into the intricate relationships between audit quality, audit fees, and auditor independence. The topics of audit quality, audit fees, and auditor independence have garnered extensive attention from scholars, policymakers, practitioners, and market participants over the years. This attention has often stemmed from concerns over the deterioration in audit quality and auditor independence, largely due to numerous violations of audit regulations and the continued prevalence of accounting scandals worldwide. These issues have prompted significant audit reforms

across various countries, such as the Sarbanes-Oxley Act in the U.S. and the 2016 audit regulations in the EU, along with ongoing proposals like the BEIS reforms in the U.K. This thesis has aimed to fill gaps in the existing literature by examining abnormal audit fees within the U.K., where the evidence is sparse compared to the U.S. The U.K. environment, with its unique audit reforms and distinct legal and regulatory attributes, presents a compelling context for this study.

To investigate these two issues, the current thesis measures abnormal audit fees using the residual of the audit fees model. Two measurements of audit quality are used, the magnitude and the sign of discretionary accruals, and the accrual quality. To measure the value relevance of accounting information, the current thesis uses the well-known model developed by Ohlson (1995). The study's sample includes all companies listed on the London Stock Exchange (LSE) between 2010 and 2019. The initial sample then excludes financial and other services companies following the prior literature.

The current thesis finds that only positive abnormal audit fees have a negative effect on audit quality. This negative effect is robust when using two measurements of audit quality and controlling for market competition. These results suggest that abnormal audit fees decrease audit quality in the UK, supporting the argument that charging audit fees above normal levels creates economic bonding between the auditor and the client. Additionally, these findings underscore the importance of considering the sign of abnormal audit fees when studying the relationship between abnormal audit fees and audit quality. When the Big 4 variable is incorporated into all analyses of abnormal audit fees and audit quality (using two measurements), the previously insignificant coefficient of abnormal audit fees and the absolute values of discretionary accruals become positive and significant. This further reinforces the current thesis's overall conclusion that abnormal audit fees lead to a decrease in audit quality.

The current thesis reveals that abnormal audit fees decrease the value relevance of earnings while increasing the value relevance of book values, supporting the argument that market participants cognitively process audit fees and discern normal fee levels. The differing impacts on book value per share (BVBS) and earnings per share (EPS) are explained by the sign of abnormal audit fees. A positive relationship between positive abnormal audit fees and both book value and earnings indicates that market participants view these fees favourably, perceiving them as a sign of additional auditor effort and increased credibility, thus relying more on the accounting information for company valuation. This implies that positive abnormal audit fees are seen as indicative of thorough auditing and enhanced scrutiny, enhancing the perceived reliability of financial statements. Conversely, the negative impact of negative abnormal audit fees on earnings' value relevance, coupled with a weak relationship with book value, suggests that below-expected audit fees are perceived as indicative of insufficient thoroughness or reduced auditor effort, thereby diminishing the perceived reliability of earnings information.

Further analysis reveals that non-audit fees have a significant and negative moderating effect on the positive relationship between abnormal audit fees, particularly positive abnormal audit fees, and the value relevance of accounting information. Similarly, auditor industry specialisation demonstrates a

comparable moderating effect; however, this influence is less prevalent and pronounced. This means that while abnormal audit fees can enhance the relevance of accounting information, the presence of non-audit fees or auditor industry specialisation weakens this positive impact. This can be attributed to the cognitive processes of market participants and their judgements, as explained by the source credibility theory. Non-audit fees negatively affect the auditor's reputation, while auditor industry specialisation enhances reputation but often involves fee premiums. Market participants perceive these premiums as unjustified, thereby diminishing the positive effect of abnormal audit fees.

Considering these results with the result of the effect of positive abnormal audit fees on audit quality provides an interesting observation. Since the current thesis argues that positive abnormal audit fees sample could represent companies with notable or substantial audit fees, the evidence in the current thesis suggests that these companies suffer from low audit quality, while the market participants believe that audited accounting information is of high quality, and, therefore, they increase the use of it in valuing the company share price. This could be a result of the misconception among market participants that the higher the audit fees, the higher the quality of financial reporting, and, therefore, they rely more on accounting information to value the company's share price.

The findings in the current thesis are a potential of interest for policymakers, market participants, and researchers. The current thesis is a potential interest of policymakers in the U.K. because of the possible reforms of the audit profession. One of the suggestions of these reforms is to promote the reduction of audit fees and establish a third independent party that appoints and determines audit fees. The findings in the current thesis suggest that, when audit fees are below the normal level in the U.K. market, they do not affect audit quality. In addition, there is some evidence in the current thesis that suggests that, if audit fees are higher than the normal level in the U.K., it possibly leads to poor audit quality. Therefore, promoting the reduction in audit fees or making an independent party determine the amount of audit fees could not be the appropriate policy for increasing audit quality. Basioudis (2019) stresses the importance of avoiding unintended consequences of audit reforms on the profession of audit in the U.K., and the result of this study could support his claims. The current thesis urges policymakers in the U.K. to move slowly toward audit reforms, and they could benefit from a wider understanding of the relationship between audit fees and audit quality in publicly listed companies.

For investors, the findings in the current thesis show that investors believe that companies that pay a substantial or notable amount of audit fees provide more reliable and credible accounting information. Therefore, they increase their reliance on accounting information in valuing the share prices of these companies. However, the findings in the current thesis suggest the opposite, because companies with substantially high audit fees show poor audit quality. This finding could be a potential interest of market participants to amend their perception of companies with substantial audit fees. The current thesis encourages market participants to better understand the relationship between audit fees and audit quality,

and not just consider substantially high audit fees as a sign of higher audit quality that presents more credible and reliable accounting information.

In addition, the current thesis could be of potential interest to researchers. First, the findings in the current thesis suggest that the relationship between abnormal audit fees and audit quality differs in the U.K. market compared to the U.S. market. Also, the findings show studying the factors that affect audit quality with a market variable that measures the investor perception of these factors leads to more interesting observations. The current thesis confirms the asymmetric effect of positive abnormal audit fees compared to negative abnormal audit fees, an issue that has had little attention in prior studies. Finally, the findings provide some evidence that supports the view of abnormal audit fees that suggests that abnormal audit fees could lead the auditors to compromise their independence.

10.2 Limitations

1. The current thesis employs several models to measure abnormal audit fees, audit quality, and the value relevance of accounting information. All these models suffer from bias due to the omitted variables. For example, the model developed by Ohlson (1995) suffers from the omitted variable that captures other information besides book value and earnings.

2. Including all companies listed on the London Stock Exchange (LSE) in the analysis necessitates careful interpretation of the results of the current thesis. The diverse range of companies, in terms of size, industry, and market dynamics, introduces various complexities that may influence the relationship between audit fees and audit quality. Consequently, the findings must be considered with an understanding of these varying factors, ensuring that the conclusions drawn are appropriately contextualised within the broader landscape of the LSE. This comprehensive approach underscores the need for nuanced analysis and cautious application of the results in policy-making and practical contexts.

3. Some prior studies employ an approach that examines the relationship between abnormal audit fees and audit quality by taking into consideration the impact of meeting or beating analysis forecasts. However, the researcher is not aware of any database that could provide a forecast analysis of earnings for the companies listed on the LSE. Therefore, this approach is not possible, but it could be a limitation to the findings in the current thesis.

4. The exclusion of corporate governance variables from the audit fees model represents a limitation of the current study. Corporate governance practices, such as board composition, ownership structure, and audit committee characteristics, can influence audit fees, hence, the estimation of abnormal audit fees.

5. A limitation of the current thesis is the issue of endogeneity. Although endogeneity tests were conducted, they cannot entirely guarantee its absence. This inherent challenge means that some results may still be influenced by endogeneity, potentially affecting the robustness and accuracy of the findings.

10.3 Avenues for Future Research

1. The current thesis does not examine the effect of auditor industry specialisation on the relationship between abnormal audit fees, audit quality, and the value relevance of accounting information. As the role of industry-specialised auditors has attracted more attention the recent years, future studies could examine this issue. It could bring further insight into the area by looking at abnormal audit fees of industry-specialised auditors and how they relate to audit quality. Also, this could be more interesting by considering the various levels of industry specialisation (national, city, and partner levels).

2. Future research in the U.K. could examine alternative measurements of audit quality. Prior literature provides a wide set of audit quality measurements, such as the propensity of auditors to issue going concern opinions and real earnings management. It is worth examining whether the relationship between abnormal audit fees and audit quality holds for more alternative measurements of audit quality.

3. Future research could also focus on the financial sector in the U.K. or outside the U.K. The literature review in the current thesis shows that there is only one study that uses data from the financial sector to examine the relationship between abnormal audit fees and audit quality. Although the financial sector is a highly regulated industry, it has a different characteristic that could provide fruitful insight. For example, it could provide insight into abnormal audit fees, hence auditor independence or auditor effort, and audit quality in this sector.

Appendix A

Table 7.3: Regression Analysis of Positive Abnormal Audit Fees and Discretionary Accruals

	Panel A: Absolute discretionary accruals				Panel B: Income-increasing discretionary accruals				Panel C: Income-decreasing discretionary accruals			
Variables	**Coef.**	**T-stat**	**P-value**	**Sig.**	**Coef.**	**T-stat**	**P-value**	**Sig.**	**Coef.**	**T-stat**	**P-value**	**Sig.**
intercept	0.207	9.559	0.000	***	0.080	2.098	0.036		-0.215	-6.176	0.000	***
ABNFEE	0.012	1.086	0.278		0.004	0.294	0.769		-0.024	-1.109	0.268	
TACC	0.184	14.150	0.000	***	0.310	18.498	0.000	***	0.121	5.320	0.000	***
SIZE	-0.065	-3.731	0.000	***	0.013	0.648	0.517		0.185	5.378	0.000	***
DE	0.030	2.537	0.011	***	0.027	1.982	0.048	**	-0.038	-1.675	0.094	**
LOSS	0.009	0.686	0.493		0.005	0.363	0.717		-0.011	-0.448	0.654	
CFO	0.043	2.614	0.009	***	0.041	2.067	0.039	**	-0.132	-4.187	0.000	***
Z_SCORE	0.038	2.277	0.023	**	0.026	1.327	0.185	*	-0.074	-2.337	0.020	**
GROWTH	0.049	4.466	0.000	***	0.049	3.840	0.000	***	-0.043	-1.938	0.053	**
ROA	-0.044	-3.320	0.001	***	-0.051	-3.336	0.001	***	0.024	0.924	0.356	
NEG_CFO	0.001	0.119	0.905		-0.002	-0.135	0.892		-0.013	-0.594	0.552	
NAF	0.009	0.688	0.491		-0.010	-0.654	0.513		-0.044	-1.740	0.082	**
TEN	-0.092	-7.806	0.000	***	-0.106	-7.362	0.000	***	0.021	0.974	0.330	
CLINT_IMPO	0.021	1.844	0.065	**	0.040	3.030	0.002	***	0.010	0.445	0.657	
JOINTNAT1CITY1	0.010	0.817	0.414		-0.003	-0.204	0.839		-0.018	-0.756	0.450	
JOINTNAT1_ONLY	-0.003	-0.289	0.772		-0.005	-0.414	0.679		0.012	0.558	0.577	
JOINTCITY1_ONLY	-0.016	-1.396	0.163	*	-0.011	-0.846	0.398		0.026	1.141	0.254	
TIER#2	0.007	0.589	0.556		0.008	0.578	0.563		0.033	1.314	0.189	*
Industry fixed-effects		Included				Included				Included		
Year fixed-effects		Included				Included				Included		
R		0.674				0.735				0.500		
N		2,826				1,695				1,131		

Table 7.4: Regression Analysis of Negative Abnormal Audit Fees and Discretionary Accruals

	Panel A: Absolute discretionary accruals				Panel B: Income-increasing discretionary accruals				Panel C: Income-decreasing discretionary accruals			
Variables	**Coef.**	**T-stat**	**P-value**	**Sig.**	**Coef.**	**T-stat**	**P-value**	**Sig.**	**Coef.**	**T-stat**	**P-value**	**Sig.**
intercept	0.213	6.543	0.000	***	0.169	4.145	0.000	***	-0.126	-3.164	0.002	
ABNFEE	-0.006	-0.910	0.363		-0.004	-0.466	0.641		0.004	0.522	0.602	
TACC	0.262	17.158	0.000	***	0.400	20.671	0.000	***	0.098	4.294	0.000	***
SIZE	-0.006	-3.237	0.001	***	-0.003	-1.174	0.240		0.005	2.228	0.026	**
DE	0.051	3.030	0.002	***	0.056	2.714	0.007	***	-0.030	-1.405	0.160	*
LOSS	0.013	2.202	0.028	**	0.006	0.779	0.436		-0.021	-2.766	0.006	***
CFO	0.000	-1.021	0.307		0.000	-1.553	0.121	*	0.000	-1.951	0.051	**
Z_SCORE	0.000	0.141	0.888		0.000	-0.013	0.989		0.000	-1.322	0.186	*
GROWTH	0.017	1.621	0.105	*	0.002	0.166	0.868		-0.022	-1.807	0.071	**
ROA	-0.017	-2.004	0.045	**	-0.006	-0.513	0.608		0.024	2.415	0.016	***
NEG_CFO	0.001	0.190	0.849		-0.006	-0.902	0.367		-0.013	-1.818	0.069	**
NAF	0.000	0.670	0.503		0.000	0.383	0.701		0.000	0.163	0.871	
TEN	-0.033	-7.975	0.000	***	-0.049	-9.616	0.000	***	-0.007	-1.302	0.193	*
CLINT_IMPO	-0.019	-1.626	0.104	*	-0.011	-0.833	0.405		0.016	1.084	0.279	
JOINTNAT1CITY1	-0.002	-0.197	0.843		0.010	0.897	0.370		0.013	1.183	0.237	
JOINTNAT1_ONLY	0.009	0.652	0.514		0.018	1.062	0.288		0.007	0.454	0.650	
JOINTCITY1_ONLY	-0.012	-1.112	0.266		-0.010	-0.730	0.466		0.015	1.018	0.309	
TIER#2	-0.001	-0.108	0.914		0.007	0.894	0.372		0.010	1.162	0.246	
Industry fixed-effects		Included				Included				Included		
Year fixed-effects		Included				Included				Included		
R		0.634				0.722				0.436		
N		2,710				1,670				1,040		

Table 7.6: Regression Analysis of Abnormal Audit fees and Discretionary Accruals after Including Big 4 Variable

	Panel A: Absolute discretionary accruals				Panel B: Income-increasing discretionary accruals				Panel C: Income-decreasing discretionary accruals			
Variables	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.
intercept	0.735	22.330	0.000	***	0.156	4.070	0.000	***	0.227	-5.510	0.000	***
ABNFEE	0.003	0.780	0.436		0.003	0.670	0.504		0.001	0.140	0.892	
TACC	0.167	11.910	0.000	***	0.381	22.520	0.000	***	0.144	7.440	0.000	***
SIZE	-0.005	-3.600	0.000	***	0.000	-0.030	0.977		0.007	3.940	0.000	***
DE	0.064	4.570	0.000	***	0.033	1.970	0.049	**	-0.071	-4.100	0.000	***
LOSS	0.001	0.270	0.784		0.003	0.530	0.597		0.002	0.230	0.817	
CFO	-0.129	-11.650	0.000	***	-0.080	-5.760	0.000	***	0.155	11.770	0.000	***
Z_SCORE	0.000	2.070	0.039	**	0.000	4.030	0.000	***	0.000	0.970	0.330	
GROWTH	0.006	7.110	0.000	***	0.019	9.160	0.000	***	-0.003	-3.520	0.000	***
ROA	0.023	2.880	0.004	***	-0.001	-0.130	0.896		-0.031	-3.140	0.002	***
NEG_CFO	-0.015	-2.190	0.028	**	-0.019	-2.400	0.017	**	0.014	1.560	0.118	*
NAF	0.000	0.280	0.776		0.000	-0.360	0.716		-0.001	-1.350	0.177	*
TEN	-0.005	-1.370	0.171	*	-0.005	-1.080	0.281		-0.001	-0.170	0.863	
CLINT_IMPO	-0.013	-1.140	0.256		-0.001	-0.110	0.914		0.009	0.640	0.523	
JOINTNAT1CITY1	-0.001	-0.080	0.933		-0.006	-0.710	0.476		-0.004	-0.410	0.679	
JOINTNAT1_ONLY	-0.005	-0.440	0.659		-0.001	-0.090	0.931		0.014	1.010	0.314	
JOINTCITY1_ONLY	-0.009	-1.070	0.287		-0.001	-0.100	0.919		0.022	1.840	0.066	**
TIER#2	-0.008	-1.010	0.311		-0.003	-0.380	0.707		0.021	2.100	0.036	**
TIER#1	-0.015	-1.660	0.097	**	-0.012	-1.120	0.265		0.015	1.280	0.201	
Industry fixed-effects		Included				Included				Included		
Year fixed-effects		Included				Included				Included		
R		0.541				0.692				0.220		
N		5,536				3,365				2,171		

Table 7.7: Regression Analysis of Positive Abnormal Audit Fees and Discretionary Accruals after Including Big 4 Variable

	Panel A: Absolute discretionary accruals				Panel B: Income-increasing discretionary accruals				Panel C: Income-decreasing discretionary accruals			
Variables	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.
ABNFEE	0.018	1.740	0.081	**	0.011	0.920	0.360		-0.025	-1.920	0.056	**
TACC	0.156	7.440	0.000	***	0.339	13.300	0.000	***	0.114	4.070	0.000	***
SIZE	-0.008	-3.860	0.000	***	-0.002	-0.680	0.499		0.011	4.220	0.000	***
DE	0.089	4.390	0.000	***	0.035	1.460	0.145	*	-0.082	-3.220	0.001	***
LOSS	-0.002	-0.320	0.749		-0.006	-0.710	0.479		-0.002	-0.200	0.838	
CFO	-0.174	-10.720	0.000	***	-0.110	-5.330	0.000	***	0.208	11.000	0.000	***
Z_SCORE	0.000	1.320	0.186	*	0.000	3.020	0.003	***	0.000	1.610	0.109	*
GROWTH	0.017	8.080	0.000	***	0.017	8.090	0.000	***	-0.018	-4.310	0.000	***
ROA	0.035	2.920	0.003	***	-0.004	-0.250	0.806		-0.048	-3.170	0.002	***
NEG_CFO	-0.028	-2.850	0.004	***	-0.018	-1.610	0.107	*	0.041	3.230	0.001	***
NAF	0.001	0.950	0.344		0.000	0.050	0.957		-0.001	-1.590	0.111	*
TEN	-0.008	-1.430	0.151	*	0.001	0.100	0.924		0.008	1.190	0.233	
CLINT_IMPO	0.010	0.580	0.562		0.024	1.220	0.223		-0.027	-1.130	0.260	
JOINTNAT1CITY1	0.005	0.540	0.592		-0.011	-1.010	0.314		-0.019	-1.570	0.116	*
JOINTNAT1_ONLY	-0.007	-0.440	0.661		-0.013	-0.750	0.456		0.002	0.090	0.928	
JOINTCITY1_ONLY	-0.006	-0.500	0.618		-0.002	-0.140	0.889		0.018	1.120	0.262	
TIER#2	-0.016	-1.120	0.263		-0.016	-1.210	0.226		-0.005	-0.250	0.800	
TIER#1	-0.015	-1.270	0.203		-0.013	-0.820	0.412		0.002	0.160	0.874	
N	2,788				1,696				1,092			

Table 7.8: Regression Analysis of Negative Abnormal Audit Fees and Discretionary Accruals after Including Big 4 Variable

	Panel A: Absolute discretionary accruals				Panel B: Income-increasing discretionary accruals				Panel C: Income-decreasing discretionary accruals			
Variables	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.
ABNFEE	-0.006	-0.770	0.438		-0.004	-0.400	0.692		-0.002	-0.190	0.846	
TACC	0.179	9.500	0.000	***	0.411	17.800	0.000	***	0.206	7.370	0.000	***
SIZE	-0.002	-0.900	0.366		0.003	0.930	0.351		0.003	1.090	0.277	
DE	0.018	0.880	0.379		0.029	1.160	0.245		-0.018	-0.700	0.482	
LOSS	0.007	0.940	0.346		0.011	1.240	0.215		-0.002	-0.220	0.823	
CFO	-0.097	-6.330	0.000	***	-0.073	-3.720	0.000	***	0.097	5.180	0.000	***
Z_SCORE	0.005	4.860	0.000	***	0.001	0.530	0.594		-0.003	-2.640	0.009	***
GROWTH	0.004	4.280	0.000	***	0.035	4.010	0.000	***	-0.003	-4.170	0.000	***
ROA	0.041	3.190	0.001	***	0.007	0.430	0.665		-0.026	-1.800	0.073	**
NEG_CFO	-0.002	-0.250	0.803		-0.020	-1.770	0.076	**	-0.011	-0.870	0.386	
NAF	0.000	-0.550	0.585		-0.001	-0.560	0.575		0.000	0.080	0.933	
TEN	-0.001	-0.110	0.915		-0.009	-1.380	0.167	*	-0.011	-1.720	0.085	**
CLINT_IMPO	-0.029	-2.030	0.043	**	-0.018	-1.070	0.285		0.034	1.860	0.063	**
JOINTNAT1CITY1	-0.005	-0.560	0.575		-0.002	-0.200	0.841		0.007	0.570	0.572	
JOINTNAT1_ONLY	-0.006	-0.410	0.683		0.006	0.330	0.742		0.026	1.450	0.148	*
JOINTCITY1_ONLY	-0.013	-1.010	0.314		-0.003	-0.210	0.832		0.028	1.620	0.106	*
TIER#2	0.003	0.330	0.744		0.012	0.950	0.343		0.028	2.090	0.037	**
TIER#1	-0.012	-0.950	0.342		-0.007	-0.490	0.621		0.024	1.550	0.123	
N	2,748				1,669				1,097			

Table 7.9: Regression Analysis of Abnormal Audit fees and Accrual Estimation Errors after Including Big 4

	Panel A: Abnormal audit fees full sample				Panel B: Positive abnormal audit fees sub-sample				Panel C: Negative abnormal audit fees sub-sample			
Variables	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.
intercept	0.228	7.150	0.000	***	0.218	5.110	0.000	***	0.271	5.140	0.000	***
ABNFEE	0.002	0.500	0.614		0.033	3.310	0.001	***	0.002	0.240	0.812	
TACC	0.003	0.180	0.858		0.049	2.360	0.018	***	-0.041	-2.110	0.035	**
SIZE	-0.008	-5.540	0.000	***	-0.009	-4.540	0.000	***	-0.008	-3.290	0.001	***
DE	-0.071	-4.520	0.000	***	-0.026	-1.180	0.238		-0.118	-5.090	0.000	***
LOSS	0.003	0.520	0.600		0.004	0.560	0.575		0.005	0.600	0.549	
CFO	-0.034	-3.290	0.001	***	-0.038	-2.440	0.015	***	-0.021	-1.490	0.136	*
Z_SCORE	0.014	11.260	0.000	***	0.008	4.750	0.000	***	0.019	10.840	0.000	***
GROWTH	0.006	0.700	0.485		0.004	0.340	0.737		0.006	0.480	0.630	
ROA	0.006	0.530	0.599		-0.018	-1.100	0.274		0.029	1.820	0.068	**
NEG_CFO	0.002	0.290	0.772		-0.001	-0.180	0.858		0.005	0.590	0.558	
NAF	0.000	-0.750	0.452		0.000	0.410	0.684		-0.001	-1.470	0.141	*
TEN	-0.001	-0.280	0.779		0.002	0.390	0.698		-0.003	-0.500	0.620	
CLINT_IMPO	-0.027	-2.440	0.015	**	-0.039	-2.210	0.027	**	-0.018	-1.180	0.237	
JOINTNAT1CITY1	-0.004	-0.560	0.578		0.005	0.500	0.620		-0.008	-0.810	0.418	
JOINTNAT1_ONLY	0.000	0.030	0.978		-0.019	-1.260	0.209		0.018	1.150	0.249	
JOINTCITY1_ONLY	0.011	1.180	0.236		0.013	1.090	0.276		0.013	0.950	0.341	
TIER#2	-0.010	-1.290	0.196	*	-0.010	-0.890	0.374		-0.006	-0.530	0.594	
TIER#1	-0.003	-0.340	0.733		-0.006	-0.430	0.668		0.002	0.170	0.866	
Industry fixed-effects		Included				Included				Included		
Year fixed-effects		Included				Included				Included		
R		0.254				0.263				0.278		
N		5,456				2,743				2,713		

Table 9.5: Regression Analysis of Abnormal Audit Fees and the Value Relevance of Accounting Information after Including Big 4

	Panel A: Abnormal audit fees full sample				Panel B: Positive abnormal audit fees sub-sample				Panel C: negative abnormal audit fees sub-sample			
Variables	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.	Coef.	T-stat	P-value	Sig.
BVBS	1.019	61.180	0.000	***	0.993	26.510	0.000	***	0.951	26.100	0.000	***
EPS	2.272	18.090	0.000	***	1.068	3.940	0.000	***	2.492	9.080	0.000	***
SIZE	0.286	6.200	0.000	***	0.294	4.350	0.000	***	0.164	2.480	0.013	***
LOSS	-1.228	-6.440	0.000	***	-1.461	-4.960	0.000	***	-1.162	-4.830	0.000	***
DE	2.045	3.950	0.000	***	2.602	3.240	0.001	***	1.501	2.290	0.022	**
JOINT(NAT#1#CITY#1)	0.128	0.530	0.597		-0.046	-0.120	0.902		0.425	1.380	0.168	*
JOINT(NAT#1_ONLY)	0.216	0.560	0.575		0.369	0.620	0.537		0.335	0.700	0.484	
JOINT(CITY#1_ONLY)	-0.043	-0.140	0.891		0.433	0.910	0.364		-0.513	-1.270	0.204	
TEN	-0.026	-0.180	0.857		-0.135	-0.610	0.543		0.086	0.490	0.624	
NAF	0.011	0.540	0.588		0.026	0.870	0.384		-0.014	-0.510	0.609	
ABNFEE	0.456	2.670	0.008	***	-0.458	-1.010	0.311		0.287	0.940	0.347	
ABNFEE × BVBS	0.216	6.550	0.000	***	0.332	3.940	0.000	***	0.130	1.950	0.051	**
ABNFEE × EPS	-0.792	-3.370	0.001	***	1.383	2.620	0.009	***	-1.179	-2.260	0.024	**
N	5,317				2,712				2,604			

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