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The Main Determinants of Audit Fees: Theory and Empirical Evidence (2014 - 2016) from (sectoral sets of) FTSE 250 companies

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Doctor of Philosophy

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ABSTRACT

Research Background -The fundamental focus of this thesis is the External Audit service/function (hereafter, audit, or auditing). In so doing, it examines the main determinants of Audit Fees (AF)within the identified sectoral sets of the FTSE250 and explores relevant theories that underpin AF modelling and those that may help to explain the movements in AF under an era of Mandatory Audit Rotation (MAR). Audit and the trust that it engenders is critical to sound Corporate Governance (CG). Hence the thesis is within the domain of CG. Because knowledge is packaged in theories, the theories that could be relevant to AF modelling were first explored in Objective (OBJ)1 of this thesis, which is partly motivated by the absence of an accepted set of theories that help to explain how AF are determined. While statistical confirming literature, regarding the influence of Non-Corporate Governance Variables (NCGVs) and Corporate Governance Variables (CGVs) on AF in several studies exist, equivalent studies were not identified, which specifically focused on their determination within the FTSE 250 index. Additionally, the thesis considers whether the directions of influence and approximate levels of significance of selected AF determinants within the cases audited by the Big4 in this research exhibit a shared commonality across the Big4 in this thesis. This is a response to the common practice of treating the Big4 audit firms as one homogenous unit.

Research Setting - The research focuses on theory and empirical testing. In terms of theory, it is mainly facilitated by Agency Theory (AT) and Stakeholder Theory (ST). However, some theories which were not previously associated with AF also appear to align with some qualitative/quantitative explanations for the behaviour of AF, including in relation to MAR and empirical testing in connection with company size (i.e., Dynamic Capability Theory (DCT) and Knowledge Based Theory (KBT)). Empirical testing is based on 83 FTSE 250 companies and their four sectors for three years (2014-2016). The timeline relates to the years 2014 and 2016, in which the Audit Regulation & Directive (2014) (ARD, 2014) came into force and later took effect; respectively. The index is incredibly significant since it serves as a barometer for measuring the performance of the UK listed market.

Research Purpose - The purpose of this research is principally to identify the main determinants of AF in the identified cases and their business sectors within the FTSE 250 companies and to identify /explain associated AF modelling theories due to perceived absence of literature that focuses directly on the latter aspects of AF modelling. It also investigates the appropriateness of treating the Big4 auditors as a homogenous unit, as well as the theories that could explain the likely influence of ARD regulation (MAR) on AF.

Research Design, Methodology & Approach - The methodological considerations commence by linking empirically focused set of Objectives (OBJs) 2, 3 & 4 with positivist philosophy and associated ontological, epistemological, and axiological issues. To these objectives, it assigns a deductive approach (mainly based on AT), a research strategy that is fundamentally archival, with the choice of research method as essentially mono-methodical and quantitative. Time (frames) horizons are both cross-sectional and longitudinal. OBJs 1 and 5 are theoretical, qualitative, and inductive in approach and hence interpretivist in philosophy, with associated ontological, epistemological, and axiological issues. Research data were culled from various sources including the annual reports of the identified UK FTSE250 companies themselves, information from different electronic databases and data registered at the Companies House and London Stock Exchange (LSE) in UK, for triangulation. Empirical analyses were enabled by multiple regression equations using Ordinary Least Squares regression (OLS) and implemented using IBM SPSS. Innovatively, the research also considers lagged data in empirical testing and develops unique proxies for AUQ and ACC. It also adopts sector-wise and auditor-wise regressions for relevant companies as well as for the overall identified 83 FTSE 250 companies using unlagged and lagged information.

Research Findings - Because this research falls within the domain of CG it maintains a fair balance of qualitative (theoretical) objectives (OBJs1 & 5) and quantitative (empirical) objectives (2,3 & 4), and hence the nature of its findings/results. In terms of the qualitative (theoretical) aspects, the main

findings suggest that AF modelling is principally underpinned by AT and ST (OBJ1), including some other theories (such as DCT, Signalling Theory that help explain the behaviour of AF during MAR (OBJ5). Empirically, results show that all models are highly significant (at 0.1%). OBJ2 indicates that the (primary) NCGV determinants of AF in the identified FTSE250 companies, using non-sector-wise regressions, are size, complexity and business sector factors. In terms of sector-wise regressions, complexity is the most influential determinant with some other factors such as size and auditor factors becoming significant determinants although not consistent across the sectors. The latter outcomes are essentially consistent with some relevant aspects of the seminal AF modelling study(Simunic,1980) and most subsequent studies.

OBJ3 compares coefficients of NCGVs in OBJ2 with OBJ3 after addition of CGV (Audit Committee Competence (ACC) and Audit Quality (AUQ) to the regressions. It finds that only the predictive powers of Size, Risk, Complexity and one dummy each of the Location and Auditor variables are significantly enhanced. The indication is that the CGVs are not very impactful on the determinants of AF in the identified cases within the FTSE 250. It may suggest that accounting systems and internal controls in FTSE250 appear to be effective hence any extra investment (in the form of AF premia or) in audit committees beyond the minimum legal requirements (e.g., minimum number of Non-Executive Directors (NEDS)) including financial experience, may not generate commensurate returns in terms of certain variables. Finally, findings regarding OBJ4 do not support the regular practice of considering the Big4 as a homogenous unit in AF modelling based on clients' characteristics.

Research Limitations - Despite all models being highly significant, the research data is exclusively secondary. The dummy variables may not have sufficiently captured the effect of the factors (e.g., business sector) which they represent. The theories that mainly facilitate (AT and ST) the research, suffer from several limitations indicated with the thesis.

Research Contribution to Knowledge – This thesis extends existing knowledge and contributes original contribution to AF modelling. These include narrowing of the gap arising from the absence of a generally accepted set of theories that help to explain AF determination and some of which help to explain the behaviour of AF under a MAR era.It reaffirms AT and ST as the main underpinning theories of AF modelling. Secondly, it highlights linkages between some additional theories and AF (e.g., DCT and KBT) which were not indicated in prior studies. Thirdly, it extends empirical knowledge to the primarily influence of NCGVs on AF in the most populated sectoral sets of the FTSE 250 (2014-2016). Fourthly, the lagged regression models contribute original knowledge by enabling statistical representation of real-world considerations relating to the importance of prior year variables on the current year's AF. Fifthly, the thesis develops original proxies for ACC and AUQ. The indication that there is absence of shared commonality between levels of significance and directions of influence of some AF determinants across the Big4 in this research is unique. Consistent with a prior UK study on Big4 AF premia, the thesis also finds that such AF premia are not always justified by commensurate levels of audit quality. Detailed findings provided within the thesis offer some theoretical and empirical knowledge to stakeholders (e.g., Boards, auditors, audit committees, policy makers or regulators) generally, and within the identified cases within the FTSE250.

Originality/Value – To the researchers knowledge, this thesis is the first direct quantitate research into AF in FTSE250 or its four most populated sectors. It is the first in UK, to consider the issue of shared commonality (or not) of the impact of a set of primary NCGVs and CGVs across the Big4 auditors. It develops a diagrammatic conceptual framework linking several aspects of the research. Other aspects of originality include linkage of additional theories to AF modeling, being the first to identify theories which help to explain the behaviour of AF under MAR era, developing new proxies of ACC and AUQ and using lagged data in regression models.

Keywords**:** *Agency Theory; Audit; Audit Fees***;** *Big4; Corporate Governance; Size; Complexity; Risk; Business sector; Audit quality; Audit Committee Competence; Unlagged; Lagged; Stakeholder Theory*

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LIST OF ABBREVIATIONS

4E's	**E**conomic, **E**ffective, **E**fficient and **E**thical
AA	Annual Accounts
AAC	Audit and Assurance Council
AASB	Auditing and Assurance Standards Board
AC	Audit Committee
ACA	Associate Chartered Accountants
ACC	Audit Committee Competence
ACCA	Association of Chartered Certified Accountants
ADP	Audit Development Program
AF	Audit Fee/s
AFGC	The Audit Firm Governance Code
AGM	Annual General Meeting
AI	Artificial Intelligence
AIA	Association of International Accountants
AICPA	American Institute of Certified Public Accountants
APB	Auditing Practices Board
APC	Auditing Practices Committee
AQI	Audit Quality Indicator
ARD	Audit Regulation and Directive
ASB	Accounting Standard Board
ASC	Accounting Standard Committee
ASSC	Accounting Standards Steering Committee
ARGA	Audit Reporting and Governance Authority
AT	Agency Theory
AUQ	Audit Quality
BBP	Brierley Price Prior
BDO	*Binder Dijker Otte*.
BEIS	Business Energy and Industrial Strategy
BHS	British Home Stores
Big 4	PricewaterhouseCoopers (PwC); Deloitte Touché Tohmatsu (Deloitte), Ernst & Young (EY), and Klynveld, Peat, Main, Goerdeler (KPMG).
CA	Chartered Accountants
C.A.2006	Companies Act (2006)
CAAA	Competence in Accounting And /or Auditing
CADA	Chartered Accountants Designation Act
CAI	Chartered Accountants Ireland
CAP	Corporate Auditing Profession
CAQ	Centres for Audit Quality
CCAB	Consultative Committee of Accountancy Bodies
CEO	Chief Executive Officer
CFO	Chief Finance Officer
CG	Corporate Governance
CGV	Corporate Governance Variable
CIMA	Chartered Institute of Management Accountants

CMA	Competition and Markets Authority
CPA	Chartered Public Accountants
CPD	Continuing Professional Development
DBIS	Department for Business Innovation and Skills
DC	Dynamic Capabilities
DCT	Dynamic Capabilities Theory
Deloitte	Deloitte Touché Tohmatsu
DP	Discussion Paper
DV	Dependent Variable
DW	Durbin -Watson
ED	Exposure Draft
EII	Equitable Investment Instruments
EQCR	Engagement Quality Control Reviewer
ESG	Environment Social and Governance
EU	European Union
EY	Ernst & Young
FAME	Financial Analysis Made Easy
FASB	Financial Accounting Standards Board
FCA	Fellow Chattered Accountants
FCG	Financial Corporate Governance
FNFS	Financial and Non-Financial Statements.
FRC	Financial Reporting Council
FRED	Financial Reporting Exposure Drafts
FRRP	Financial Reporting Review Panel
FRS	Financial Reporting Standards
FTSE	Financial Times Stock Exchange
GAAP	Generally Accepted Accounting Practice
GAAS	Generally Accepted Auditing Standards
GAO	Government Accountability Office
IAASB	*The International Auditing and Assurance Standards Board*
IAS	International Auditing Standards
IASB	International Accounting Standard Board
ICAEW	The Institute of Chartered Accountants in England and Wales
ICAI	Institute of Chartered Accountants of India
ICAS	Institute of Chartered Accountants of Scotland
IESBA	International Ethics Standards Board for Accountants
IFAC	International Federation of Accountants
IFIAR	The International Forum of Independent Audit Regulators
IFRS	International Financial Reporting Standards
IFRSAC	International Financial Reporting Standards Advisory Council
Ind AS	Indian Accounting Standards
INE	Independent Non-Executives
IRBA	Independent Regulatory Board for Auditors
IRFRC	Independent Review of the Financial Reporting Council’
IRQEA	Independent Review into the Quality and Effectiveness of Audit
IRTF	Integrated Reporting Task Force
IRQEA	Independent Review into the Quality and Effectiveness of Audit

ISA	International Standards of Auditing
ISQC1	International Standard on Quality Control (UK and Ireland)
1SSB	International Sustainability Standards Board
IT	Institutional Theory
IV	Independent Variable
JSE	Johannesburg Stock Exchange
KBT	Knowledge Based Theory
KPMG	Klynveld, Peat, Main, Goerdeler
LLP	Limited Liability Partnership
LSE	London Stock Exchange
LT	Legitimacy Theory
MAFR	Mandatory Audit Firm Rotation
MAR	Mandatory Auditor Rotation
MPR	Mandatory Partner Rotation
MRA	Multiple Regression Analysis
MRO	Main Research Objective
MRP	Main Research Problem
MRQ	Main Research Question
NAF	Non-Audit Fee
NAR	No Audit Retendering
NAS	Non-Audit Services
NCGV	Non-Corporate Governance Variable
NED	Non-Executive Director
NFRA	National Financial Reporting Authority
OBJ	Objective
OECD	The Organization for Economic Co-operation and Development (OECD)
OLS	Ordinary Least Squares
PADG	Practical Auditing Discussion Group
PBIT	Profit Before Interest &Tax
PBT	Profit Before Tax
PCAOB	Public Company Accounting Oversight Board
PIE	Public Interest Entity
PISS	Public Interest Scoring System
Plc	Public Limited Company
PPDA	Pre-Planning Data Analysis
PwC	Pricewaterhouse Coopers
QRB	Quality Review Board
R & C /REITs	Residential & Commercial Real Estate Investment Trusts
RA	Registered Auditor
RBT	Resource Based Theory
RDT	Resource Dependency Theory
RO	Research Objective/s
ROA	Return on Assets
ROE	Return on Equity
RCT	Regulatory Capture Theory
RQ	Research Question
RQB	Recognised Qualifying Bodies
RSB	Regulatory Supervisory Body

RWAR	Retendering With Audit Rotation
SAICA	South African Institute of Chartered Accountants
SAS	Statements of Auditing Standards
SCA	Social Competitive Advantage
SCT	Social Contract Theory
SEC	Security and Exchange Commission
SFAS	Statement of Financial Accounting Standards
SIC	Standard Industrial Classification
SIT	Signalling Theory
SME	Small and Medium-sized Entity
SOX	Sarbanes Oxley Act (2002)
SPSS	Statistical Package for the Social Sciences
SRO	Sub Research Objective
SRQ	Sub Research Question
SS	Support Services
SSAP	Statement of Standard Accounting Practice
ST	Stakeholder Theory
T&L	Travel and Leisure
TBW	Taylor, Bean & Whitaker
TCFD	Task Force on Climate-related Financial Disclosure
TCWG	Those Charged With Governance
U&L	Unlagged and lagged
UKCG	United Kingdom Corporate Governance
UITF	Urgent Issues Task Force
UNFCCC	United Nations Framework Convention on Climate Change
VIF	Variance Inflation Factor
VRIN	Valuable, Rare, Inimitable and Non- substitutable

Research Dissemination

Conferences

March 2017 - My article was accepted for the Sydney International Business Research Conference Sydney, Australia - presented by Professor D'Silva.

July 2018 **-** Summer School Event **:** both of my supervisors, other academic superiors, and some of my peers .Organised by Professor Dr D'Silva **[**LSBU**]**

January 2023 – Presented Draft Thesis (Simulation of Viva) - Brayford Pool Campus - University of Lincoln.

Publications

Main Determinants of Audit Fees : Evidence from the AIM UK:2009-2011(ISBN: 978-3-659-93765-1) Lambeth Academic Publishing (Research gate /Amazon)

Audit Fee Modelling within Governance: A theory-based review of relevant literature (in process).

CHAPTER 1

Research Background, Context and Problems

'Without audit, no accountability; without accountability, no control; and if there is no control, where is the seat of power? ... accountability is an abstraction which is given reality by the process of audit. In other words, the financial statements prepared by management cannot become a tool of accountability until an independent auditor has examined and reported on them' (Normanton,1966 as cited in Gray *et al*.,2019 p.37)

1.1:Introduction

At its core, this thesis lies within the domain of 'Corporate Governance'[1]. However, its fundamental focus is the annual Audit Fee (AF) paid for External Audit service/function (hereafter, audit, or auditing) provided by professional auditors (auditors) to companies. Thus, it particularly seeks to illuminate current insights into, and generate (primarily using appropriate statistics) fresh knowledge about the 'mix' of specific (corporate governance and/or financial statement) features that appear to influence the amount of AF paid for such audits. This chapter is essentially structured across **four** further sections. Its purpose is to position and/or ground the research presented within the thesis.

Accordingly, the **first** section of the chapter provides an *exposé* and discussion of Corporate Governance (CG), thus highlighting the audit function as an important pillar within the overall governance infra-structure. Thereupon this section briefly considers the role of some theories associated with CG and then goes on to consider its key objectives.

[1] The term has much of its genesis in the USA where legally incorporated entities are referred to as Corporations – hence Corporate Governance (Cheffins,2012). Consistent with general usage in the United Kingdom (Chambers (2020), the thesis employs the term "companies" when referring to such entities while continuing to refer to Corporate Governance and not Company Governance – as might be reasonably expected.

Then, the **second** section of the chapter sets out some main research issues which are audit, audit fees sees (AF) and audit quality, explaining why they should be examined. It also considers and ponders some aspects of the professional audit service to enable an overall appreciation of some complexities of the audit domain. It then explains some possible fresh developments and changes within the domain of audit.

The **third** section of the chapter then presents, in brief detail, the overall research context and problems, explaining the research intentions and why they are duly warranted, and why the matter requires closer attention.

The **fourth** section of the chapter then provides an overview of how**,** on a chapter-by-chapter basis, the entire thesis is structured and laid out.

Finally, the chapter concludes with a summary of its contents, demonstrating how it links into the next chapter – Chapter 2.

1.2:Nature and Some Relevant Principles of Good Corporate Governance

Audit and the trust that it engenders is critical to sound corporate governance. Indeed, the Cadbury Committee Report (1992:31, para 5.1) - which precedes the UK Corporate Governance Code 2018 - (as cited by Solomon (2007:171), states that "*The annual audit is the cornerstone of corporate governance…'.* The UK Company Governance Code (2018 p.1) defines corporate governance as a '*system by which companies are directed and controlled'*) and it affirms that the principles/pillars on which the Code is based are those of openness, integrity, and accountability. Both the board of directors and shareholders ensure effectiveness of the accountability pillar. This is achieved by directors through the quality of the information they provide to shareholders, while shareholders do so through the extent of their willingness to exercise their responsibility as principals.

Therefore, the role of the auditor is that of a crucial intermediary in terms of the quality and transparency of information on which the Board and the shareholders act, to fulfil their responsibilities. Audit and hence AF, are therefore essential areas for continuous research since the fees do reflect (amongst other issues) the degree of work undertaken, the size of the client/auditor, complexity of the audit, the quality of work rendered and the regulations that impact on the audit (Simunic,1980; Taylor & Simon,1999; Corbella *et al.,*2015). As a result of vast amounts of funds invested by shareholders and given to directors and others to manage on their behalf), the separation of ownership from control leads to an agency problem including asymmetry of information between shareholders and directors (in line with the **Agency Theory (AT)** (Jensen & Mecklyn,1976; Miles, 2012).

This necessitates sound CG to minimise the asymmetry of information and the likelihood of self-interestedness. Hence, AT holds a pivotal role in CG research and in practice while also being the main theory associated with this research. This necessity for an audit is even more important as directors (who are charged with the governance of the company) are also charged with preparing the Financial and Non-Financial Statements (FNFS). Furthermore, the size of the modern corporations and the theoretical and legal expansion of the categories of interested parties, do increase the burden of associated problems. Apart from shareholders (who are interested in the value of their shares, their dividends, and the safety of their investments) and the directors (interested in remuneration and raw power), there are other interested stakeholders who may also be affected by the way companies are governed.

They include creditors (who want their debts repaid), employees (who are mainly interested in salaries and security of their jobs), government (that is interested in general compliance with regulation and generation of funds) and the public (that require 'properly priced' goods

and services which are of acceptable quality). This resonates with the **Stakeholder Theory (ST)** (Freeman,1984; Miles, 2012), which is also associated with this research as all stakeholders would be interested in the accountability of directors. Since auditors are also officers of the company (s.206-212 and s.218 Insolvency Act 1986) who are appointed and rewarded by shareholders it is essential that they are monitored and effectively regulated externally to prevent them from capturing their regulators as in **Regulatory Capture Theory** (RCT) (Chambers,2013). The latter CG theory is associated with this research; albeit qualitatively.

Considering the above, the researcher contends that key objectives of corporate governance should include a focus on the following important aspects (for which audit is also very crucial):

i. **Reducing the potential of conflict** between ownership and the board of directors (e.g., by complying with standards, legislation/other regulation and best practice codes which can be confirmed by audit).
ii. **Limiting the power** of **individual directors** – for which audit could confirm whether they had been exceeded.
iii. **Reconciling the interests of stakeholders**. Directors need to balance the considerations they have towards themselves and the shareholders against those of other interested parties (e.g., auditors can check compliance with s172 CA2006 Statement of client companies) (BPP, 2021).

1.3: Some Main Research Issues (Audit, Audit Fees and Audit Quality)

Following from the above discussions, the duty of Boards would also involve the justification of all material items charged as company expenditure which would later be checked and reported on by auditors, including AF. Unless specifically exempted, companies listed on a

recognized Stock Exchange (e.g. the London Stock Exchange (LSE) must have their statements subjected to an audit by a Registered Auditor (s.475 CA2006) for which AF (the main issue in this research) are charged.[2]

1.3.1: Audit and Audit Fees (AF)

Apart from the legal requirement for an audit, it is very significant for companies especially those with very large group of shareholders that are widely dispersed and usually aloof from the day-to-day operations of the company. Audit, therefore, provides a service that lubricates the wheels of finance and commerce. Hence it is only being demanded because of its benefits as a monitoring tool. It serves the interests of virtually all stakeholders from the perspective of both Agency and Stakeholder theories, as already explained.

In recent times, the need has arisen to regulate auditors further, due to financial scandals attributed to lack of professional scepticism or competence (e.g., Deloitte in its audit of Autonomy) (FRC, 2020). It is for the latter purpose that regulations such as Sarbanes Oxley (SOX) Act (2002) and Audit Regulation and Directive (ARD) (2014) were enacted to inspire more confidence into the profession and improve audit quality. The argument is that these scandals arose mostly due to lack of enforcement of regulations, the absence of appropriate regulations or due to cozy relationships between auditors and directors (Sikka *et al.,* 2019).

1.3.2:Brief Overview of the Concept of Audit Quality

IAASB (2014, p.4) insists that audit quality is a complex subject for which there is no analysis that has achieved universal recognition. It describes audit quality as encompassing '*the key*

[2] Under the Companies Act 2006,companies within a certain criteria (termed as 'small companies') are usually exempt from external audit, unless they are members of a group or are charitable organisations in which case they must follow the audit thresholds of charities .A small company is one that in 'both this year and last year it was not ineligible, and it met two out of three criteria, namely: less than £10.2m of Turnover; less than £5.1m of total assets and less than 50 employees.

elements that create an environment which maximises the likelihood that quality audits are performed on a consistent basis'. It clarifies that the elements of audit quality comprise of inputs (e.g., knowledge, skills, and ethics), process (e.g., rigorous audit processes and procedures), and outputs (e.g., timely and useful reports /information from the auditor /auditee, the company, and regulators).

It also includes interactions (e.g., the supporting roles of regulators, management, Those Charged With Governance, (TCWG), users and other auditors) and contextual issues (e.g., those that can impact the nature and quality of financial reporting such as audit or business regulation, financial reporting framework or corporate governance). BEIS (2021) stresses that the trust placed in the credibility of reports produced by directors as well as the conduct of auditors has been much eroded by a succession of unexpected and major corporate collapses leading to economic and social damage (e.g., BHS in 2016 and of Carillion in 2018 which became insolvent arising from unacceptable levels of audit quality).

Furthermore. it states that in recent times, a third of audits by the seven largest audit firms required improvement or significant improvement. The above arguments imply that audit quality is an issue that has been much researched but is yet to be clearly understood. Indeed, ICAEW (2021), (in one of its reviews on audit quality), contends that the understanding and perception of audit quality can differ even between members of the same stakeholder group (e.g., between regulators, auditors, customers, or suppliers). As the expectation gap is growing globally, amidst unrelenting occurrence of accounting scandals *'an overall framework for the development, measurement and evaluation of AQIs is needed'* to address it (ICAEW,2021, p.12).The preceding arguments together, indicate that the main difficulty in ensuring quality audits on a consistent basis, appears to be the harmonization or alignment of the aggregate

objectives of all stakeholders since they do have different priorities including the auditors, shareholders, and audit committees. On the latter basis, the researcher concludes that an overtly uncontroversial assessment of audit quality will continue to elude the audit profession and other relevant stakeholders (such as their regulators) because stakeholder-interests are very divergent.

1.3.3: Model of the Statutory Audit and the Need for improvements

Although different types of audits currently exist (including internal audit) and the purposes are varied, it is worth restating that this research is strictly focused on external audit which involves an external and independent examination of financial and other statements presented by the directors to shareholders (Millichamp,2019).

1.4:Definition and Purpose of Audit and Some Relevant Terminologies

Gray *et al.* (2019, p.24) defines an audit as: '*an investigation or a search for evidence, to enable reasonable assurance to be given on the truth and fairness of financial and other information, by a person or persons, independent of the preparer and persons likely to gain directly from the use of the information; and the issue of a report on that information; with the intention of increasing its credibility and therefore its usefulness'.*

ICAEW (2006, p.10) in their report '*Audit Quality: Fundamentals – Audit Purpose*' states that *'The purpose of the statutory audit is to provide an independent opinion to the shareholders on the truth and fairness of the financial statements, whether they have been properly prepared in accordance with the Companies Act and to report by exception to the shareholders on the other requirements of company law such as where, in the auditors' opinion, proper accounting records have not been kept'.* From the point of the view of the researcher, (a chartered

accountant), the main reason for which audit is demanded is the confidence and level of trust that it gives to investors and other stakeholders who rely on it as an effective monitoring tool of corporate governance to induce investment.

The definition offered above therefore appears to serve the purpose of audit; since the extent to which a set of financial statements is *true and fair* could also determine the level of confidence and trust derivable from the statements and the company. The argument put forward *by Sir Donald Brydon* in *Independent Review into the Quality and Effectiveness of Audit (IRQEA)* (Brydon, 2019, p.22), is that the concept of audit should be *"rethought and redefined"* to be *"rooted in a widely accepted clarification of its* purpose". The Review explains that: *'The **purpose** of an audit is to help **establish** and **maintain deserved confidence** in a **company**, in its **directors** and in the **information** for which they have responsibility to report including the **financial statements**"* (p.22).

The Review further argues that *restrictive* focus on 'financial statements' confuses users and does not fit with the general expectations of either the primary users or other stakeholders. Hence, it extends the purpose of audit beyond financial statements and also beyond the work which accountants (as statutory auditors) can do. In so doing, it recommends the extension of the definition of an auditor to be 'redrawn' since accountants need not be the only '*professional auditors'* (p.27).

However, the latter definition fails to expressly indicate that the auditor reports to the shareholders and also that directors have several responsibilities, some of which the auditor is not required to provide assurance about their fulfilment (e.g., how many times a director has attended Board or committee meetings). This could be significant in terms of participation and

governance. In auditing, there are several relevant concepts, such as the concept of 'reasonable assurance' which is fundamental to the work of auditors (Gray *et al*., 2019, p.661). The above definition of audit by this author indicates that the key aspect of the audit investigation is that it only provides reasonable (rather than absolute) assurance in relation to the auditor's work.

In the UK, the term reasonable assurance exists as part of auditing regulation, having been obtained from International Standards on Auditing (ISAs) – (ISA 200 ICAEW, 2006). However, the meaning of the term has remained malleable and ambiguous, and thus, has drawn much debate from different professionals and academics since the Standard does not specify whether, and for whom, reasonable assurance is destined or provided '*and fails to explain what the term 'reasonable assurance'* means (ISA 200 ICAEW, 2006, p.16).

The confidence derived by users of financial statements in the audited financial statements is not solely attributable to the work of the auditor. It arises from several sources, including the awareness that the auditors are expected to comply with professional standards (where appropriate) and hence operate within a recognised regulatory framework. This knowledge augments the confidence conveyed by the auditor especially in the case of unqualified opinions. Thus, audit has a psychological aspect to its nature and the confidence expressed by the auditor enables users to gain confidence that the directors of an entity are conducting its affairs in the knowledge that the financial consequences of their actions (as agents) will be reported to their principals.

The ambiguity associated with the meaning of reasonable assurance has also received much academic attention in recent times in the other countries including the United States of America (Whittington and Pany, 2019). There is a continuing exchange about expectations of

stakeholders in terms of the extent to which auditors should have prevented the more recent financial crisis (2008/2009). In essence, the researcher's working knowledge and experience, highlights the key fact that the principal nature of audit, exhibits inherent limitations on the degree of assurance that can be obtained by an auditor. This is especially because an audit is usually conducted on a test basis and is based on the exercise of professional judgment regarding areas to be tested, the nature, rigour, and timing of tests, together with interpretation and evaluation of audit evidence. Accordingly, a key (attainable) objective of the audit is to ensure that there is no material risk of misstatement.

However, the auditors (both in UK and other major countries) are nevertheless still obliged to obtain sufficient evidence to provide reasonable bases for their opinions (FRC,2019). This implies that the nature (and by extension, purpose) of the auditor's work is not a service to be undertaken or hired as a form of an insurance - since reporting is done based on *reasonable assurance* as substantiated in Auditing Standard No 1015 (Due Professional Care in the Performance of Work) by PCAOB (2017).

1.4.1: Need for a Revised Audit Model

Considering many of the preceding paragraphs, including the arguments against the limited focus of the purpose of statutory audit as explained above, the Brydon (2019) Review suggests the need for a new Corporate Auditing Profession. The argument is that an audit profession does not yet exist, because auditors are currently members of an accounting profession who can acquire status of auditors by satisfying certain requirements. The Brydon (2019) argument appears to be very sound, because auditing and accounting may overlap but they are not the same and there are educational qualifications and skills necessary for the conduct of an audit which are not necessarily those of a typical accountant. Therefore, Kingman (2018) in its

'*Independent Review of the Financial Reporting Council*' (IRFRC) requires that the regulatory Body (ARGA-*Audit Reporting and Governance Authority* – due to take over from the FRC in 2024 - at the earliest) should authorise professional auditors rather than their own Professional Bodies.

The new Body is expected to create a Professional Body (Corporate Auditing Profession (CAP)) which includes existing auditors and others, that have appropriate level of education and authorisation (e.g. Environment Social and Governance (ESG) auditors and Cyber security auditors). After all, existing auditors (i.e. as accountants) do rely on specialists in aspects which are outside of their area of specialisation Hence the same would apply to the new class of auditors. However, accountants, in general, understand commerce and how a business is run relative to other professionals such as environmentalists and computer experts who will become auditors in future.

For instance, accountants have been trained in the preparation (of) and analysis of financial statements and their training is based on established auditing and accounting standards which have been universally applied and revised in line with best practice. It will therefore take much time for non-accounting auditors to acquire or develop a comparable level of auditing knowledge. Business owners might be hesitant to employ auditors who are not qualified accountants. The researcher therefore opines that several actions may become necessary to implement the changes successfully.

An example would be the need for the non-accountant auditors to operate jointly with accountant-auditors for a specified duration before being permitted to audit company accounts.

1.5: Research Context and Problems

This section of the chapter highlights the context in which the research is conducted. (i.e., the demand and supply aspects of the audit market being researched) - the FTSE 250 Index and the Big4 auidtors).

1.5.1: Immediate/Precise Research Context

The FTSE 250 index was launched on 12 October 1992 and represents mid-cap stocks (the 101st to 350th largest companies) on the London Stock Exhange) (LSE) (Hunter, 2017). The constituents of the index are reveiwed every quarter at which points, promotions, and demotions to and from the index are recorded. According to Smith (2020), the FTSE 250 audit market as of July 2020 exceeded £230m (just about £203m in July 2019). If audit and non-audit fees are combined for both FTSE100 and the FTSE 250, the audit market is worth £1.17bn [2018: £1.16bn] and the Big4 audit firms, (Deloitte, EY, KPMG, and PwC)[3] (FRC, 2021) - on the supply side - dominate the FTSE 350 audit market. The author also claims that the Big4 audit firms audit almost all the FTSE250 firms and received all audit fees from the FTSE 100 firms, which stood at £705m as of November 2019.

In 2019, the Big4 audited 95% (94% in 2020) of the FTSE 250 market in terms of numbers and 98% (97% in 2020) in terms of total audit fees (Smith,2020). This concentration of the audit market in the hands of the Big4 auditors enables them to charge a premium due to effects of such issues as level of expertise and technical resources (Gonthier-Besacier and Schatt, 2006), alumni-influence (White, 2020) and the insurance hypothesis (Gray *et al*., 2019). **Table 1. below** highlights the extent of domination of the FTSE 250 by the Big4.

[3] PricewaterhouseCoopers (PwC); Deloitte Touché Tohmatsu (Deloitte), Ernst & Young (EY), and Klynveld, Peat, Main, Goerdeler (KPMG)

Table 1: FTSE 250 Big Four fee income 2017-19 (£m)

Year	*2017*		*2018*		*2019*	
	***Audit* Fees**	***Total Fees*** *(Audit & Non-Audit)*	***Audit* Fees**	***Total Fees*** *(Audit & Non-Audit)*	***Audit* Fees**	***Total Fees*** *(Audit & Non-Audit)*
KPMG	41.0	54.2	54.5	73.5	70.1	85.1
Deloitte	48.2	65.5	47.8	60.0	60.6	78.2
PwC	65.2	95.0	63.6	87.9	59.7	78.1
EY	34.3	44.8	33.8	44.9	33.5	41.7
BDO	1.6	1.6	1.6	4.2	3.7	6.2
Grant Thornton	2.3	8.0	2.4	4.1	1.9	2.1

Source: Smith (2020*)*

Woolf, 2020, (n.p.) advocates the nationalisation of the appointment of auditor with the creation of an '*overarching Public Company Audit Office to sign off the accounts if standards are ever to improve'*. Indeed, Ronen (2010) also offers some alternatives aimed at improving factors such as independence, audit quality and audit concentration. These include 'financial statements insurance'[4], auditor rotation, breaking up the Big4 audit firms, a voucher scheme for shareholders entitling them to purchase services including audit services and stock exhange hiring auditors (Ronen 2010, pp. 201-207). The size of the market and the level of activities within the (FTSE 250) thus make it worthy of specific academic observation and creates

[4]In basic terms, financial statement insurance involves companies that solicit offers of insurance coverage for their shareholders against risk of losses caused by material omissions or misrepresentations in financial statements during the covered year. The insurance carriers would hire an underwriting reviewer who assesses the risk based on such factors as internal control and business environment. On that basis, the reviewer decides whether to offer insurance coverage, and if so, the conditions of the offer. The insurance carrier hires and pays the auditor, but the audit fees would be reimbursed by the insured entity. An independent organization rates the auditors based on fees collected from the audit profession. Such a scheme is also subject to certain other conditions which are not discussed since their elaboration is not vital to this thesis.

academic urgency for this thesis. Indeed, Hunter (2017 n.p.) states that: '*The FTSE 250 index has long been seen as a useful gauge of the health of the UK economy'*.

1.5.2: The Research Rationale and Motivation

Stakeholders require continuous assurance that AF charged is neither set at a level which undermines the objectivity, independence, and professionalism of the auditor, nor at a level that impairs the confidence placed on the audit by stakeholders. Although audit fee modelling has been much researched (e.g., Simunic, 1980 and Ye, 2020), the research leading to this thesis fails to identify a generally accepted set of theories that help to explain the determination of AF. Further, the thesis-related research indicates a perceived absence of quantitative research solely directed towards AF determination in the FTSE 250 firms; despite several AF modelling studies within the UK listed companies (e.g., Chan,1993; Campa 2013).

Accordingly, this thesis seeks to address these gaps (in particular) amongst other gaps within the objectives in this research[5]. The significance of the FTSE 250 has already been explained above with indication of some potential beneficiaries of this research. Additionally, AF models in this thesis could help highlight and hence control the perceived audit oligopoly (the oligopolistic behaviour) of Big4 audit firms (Smith, 2019). Of equal benefit from such models would be the ability necessary to ascertain whether the conclusions of the earlier empirical studies apply to the examinable 83 FTSE 250 firms researched. The period under empirical observation within this research (2014 - 2016) relate to the year (2014) when ARD (2014) came into force and the year it became effective (in 2016). This is significant because it was dominated by the need to restore confidence in auditors.

[5] Chapter 2

1.5.3: Problem Statement of Real-World Problem

The gaps identified above centre on empirical and theoretical issues relating to AF modelling within the FTSE 250 firms (including sector-wise and auditor-wise regressions). This is despite research by several eminent AF modelling authors in the UK. These include Taffler and Ramalinggam (1982) on UK Manufacturing companies, Chan *et al.* (1993) in relation to UK Quoted companies, and Campa (2013) regarding the Big4 premia and audit quality within the FTSE 350 index.

Hence the **Main Research Problem (MRP)** is the absence of research into the main determinants of audit fees in an identified set of UK FTSE 250 companies on the bases of hypotheses deductively spawned from the Agency Theory (Jensen and Meckling, 1976) and Stakeholder Theory (Freeman, 1984; Miles, 2012), while offering relevant theoretical propositions that bear some linkages to the latter purpose. RCT is essentially linked qualitatively in relation to the dominance of the Big4.

1.6:Brief Outline of Research Problems

Taking regard for all the preceding, the gaps centre around the following outlined problems below:

- **Problem (1)**

There is a perceived dearth of generally accepted AF modelling theories as only a few authors (e.g., Simunic,1980; Pong & Whittington,1994) expressly indicate and explain the theoretical underpinnings of their AF modelling literature. The objectives to be discussed relate to propositions on CG theories and other literature in Objective1 **(OBJ1)** of the thesis[6].

[6] Chapters 2 and 4.

- **Problem (2)**

There is also a perceived absence of direct quantitative research into the primary (traditional) client's characteristics that influence AF in FTSE250 and its sectoral sets -including the use of lagged data - (in **OBJ2)**. These characteristics are expressed as several financial statement and other variables such as client's size, complexity, and risk (Simunic,1980; Brinn,1994) which do not directly measure the efficacy (or otherwise) of governance by human agents or others within TCWG. The latter are classified as **Non-Corporate Governance Variables (NCGVs).**

- **Problem (3)**

Similarly, this relates to the perceived absence of statistical investigation into the possible enhancement of the influences of the NCGVs on AF in the FTSE 250 and its sectoral sets, when combined with proxies which measure governance directly offered by human agents or others within TCWG (e.g., the competence of the audit committee or the quality of the auditor's work) (in **OBJ3**). The latter characteristics are classified as **Corporate Governance Variables (CGVs).**

- **Problem (4)**

This relates to the perceived absence of research which statistically examines the shared commonality (or otherwise) of the influence of identified AF determinants across the Big4 auditors in this research - including the use of lagged data **(OBJ4).** This is because several authors have considered the Big4 auditors as one homogenous unit (Hrazdil,2020).

- **Problem (5)**

There is also the perceived absence of research into likely theories and literature which underpin the likely consequences of Mandatory Audit Rotation. (i.e., MAR) despite several studies on MAR **(OBJ5).**

More details about the latter issues (in terms of the research questions and research objectives to which they relate) are offered at an **appropriate point** in **this thesis.**[7] Thus, these preliminary indications in this chapter, involving the background, issues and problems, provide a foundation for research questions and research objectives indicated within the next chapter.

1.6.1:Basis for Sequencing of Research Problems, Questions and Objectives 1-5.

Problem 1 is offered **first,** because it **qualitatively evaluates propositions** based on prior literature so as to identify some likely theories that underpin AF modelling in general. This is necessary as a platform on which subsequent propositions are evaluated and hypotheses are tested. Thus Problem 1 is linked to the **first Research Question (RQ)** and **first Research Objective(RO**) to be resolved. Considering the title and key focus of the thesis (in relation to the main determinants of AF in the FTSE 250 sectoral sets), the next key gap in terms of significance relates to the absence of **quantitative** research into the FTSE 250 and hence its sectoral sets.

Accordingly, the **next three** problems to be addressed in terms of priority relate to problems **2,3,4** above. These are **quantitative** in nature and generate related **research questions** and **objectives (2,3 and 4**) all of which lead to **hypotheses** which are tested. This is because the **fifth problem** listed above (which relates to theories that appear to underpin AF movements during an era of MAR) is **not as fundamental** in **importance** as the **Problems 2,3 and 4 (i.e. Objectives 2,3 and 4**). Hence the researcher considers the sequence in which problems, research questions, and objectives 1- 5 have been labelled to be of good merit. However, it

[7] Chapter 2

must be noted that in terms of **presentational/logical flow and structure (not the significance of the associated gap),** the priority of presentation within this thesis is to present the **qualitive objectives** (1 and 5) side-by-side in (Chapters 4 and 5) followed by the quantitative **objectives 2,3 and 4** in Chapter 6).

Having presented the latter aspects above, the next paragraphs present a road map (on a chapter-by-chapter basis), of the key features of each chapter as an overview of the thesis. They cover relevant matters which range from the Research Background, Context and Problems (in this chapter) to the Policy Contributions, Recommendations and Limitations in the final chapter of the thesis.

1.7:The Thesis Overview

Chapter (Ch.) 1: Research Background, Context and Problems.

This chapter mainly devotes itself to the centrality of external audit (audit) to CG, the interrelated factors of audit, AF, audit quality and brief indication of issues/problems to be resolved by the thesis**.** It discusses the principles of CG, stewardship role of directors, and the issue of trust placed on auditors by stakeholders, to provide independent verification which lubricates the wheels of finance and commerce. In so doing, it also provides a basis for examining the current and prospective models of professional auditing (principally, the statutory audit, the need for improvements, and proposals for a new audit fee model). The chapter then briefly reviews the demand side (FTSE250 index) and the supply side (Big4 audit firm) and their dominance within the UK audit market for listed companies. 'The Research Rationale and Motivation**'** which follows, offers justification for considering or addressing the gaps identified in relevant literature within the thesis. Against this backdrop, the chapter offers a problem statement which identifies relevant research (gaps) problems. Finally, the chapter

offers an overview of the structure of the thesis, and some indication of the contents of the succeeding chapter and concludes with a summary of the chapter.

Ch.2: Research Aim, Questions and Objectives.

The chapter is devoted to an overview of the research approach, research questions, objectives, and an initial reference to the identified research hypotheses and propositions which are further elucidated in the thesis[8]. Qualitatively, it offers propositions in OBJ1 and OBJ5 which leads to a theory-based review of literature in its bid to identify the theories that are relevant to AF modelling and also in relation to AF movements during an era of MAR. (as envisaged by AT, and ST (quantitively) and RCT (qualitatively). Preliminarily, it also offers hypotheses for OBJ's 2-4 that quantitatively test the relationships between AF and auditee's characteristics, based on business sectors (within 83 selected companies) with unlagged and lagged[9] variables. This chapter forms a basis for the development and elaboration of the latter propositions and hypotheses, by providing the aim, questions, and objectives. To answer these questions and address the objectives , it is necessary to consider more detailed context and issues that prevail in the market within which professional auditors operate and this is provided in the next chapter.

Ch.3: Review of Relevant Contextual Research and Professional Literatures

This chapter devotes itself, in the first instance, to key literature by briefly reconsidering AF modelling within a CG context (i.e., contextual literature) and justifying audit as a CG tool. It

[8] Chapters 4, 5 and 6.

[9] The use of **unlagged** data implies regressing the current year's Dependent Variable (DV) against the current year's Independent Variables (IVs). On the contrary, the use of **lagged** data refers to regressing current year's DV against the previous year's IVs. This is based on the pragmatic argument of the researcher (an accountant who worked with various audit firms) that the current year's Audit Fees (AF) are usually significantly influenced by factors that prevailed in the previous year or earlier.

briefly re-examines the demand-based context (mainly of the FTSE 250 index companies with brief reference to audit committees) and the supply-side of the business context (the Big4 auditors) . Consequently, it reviews the general issues prevailing in the audit market including a perceived lack of competition (audit oligopoly) in the UK and some other jurisdictions, audit scandals and some audit reforms put forward to address them. In this connection, the chapter also briefly explains the requirement of audit from a professional (primarily auditing) perspective (i.e., professional literature).

Ch.4: Review of Research Relevant Theories & Proposition Development - OBJ1

This chapter is devoted mainly to an examination of theories especially the three that are **substantively engaged** within this thesis. The **first two** (Agency Theory (**AT)** and Stakeholder Theory (**ST))** are employed quantitatively in this thesis while the **third** (Regulatory Capture Theory- **RCT**) is employed qualitatively. As the chapter focuses on the theories (especially AT and ST), it endeavours to associate theories with AF modelling as demanded by OBJ1. Having discussed the main theories, the possible relevance of some other theories, the application of which appear to be unconnected with previous AF studies or underdeveloped in relation to AF modelling are also discussed. The above evaluations enable propositions and conclusions to be made regarding OBJ1 including some limitations of the theories and AF modelling design.

Ch.5: AF Determining Empirical Literature & Proposition Development - OBJ5

The chapter focuses on theories which underpin AF movements in a MAR regime. In so doing, it assesses AF data relating to 10 identified FTSE 250 companies (2013-2019), which rotated their auditors in 2016 (the year ARD (2014) took effect) and 10 other identified companies which did not retender their audit between 2013-2019. It considers changes in AF, based on average percentage increases/ decreases in AF in both sets of companies and seeks to explain

possible reasons for the changes based on existing literature and theories. Based on the consideration of existing literature and logical reasons, propositions are offered followed by conclusions.

Ch.6: AF Determining Empirical Literature & Hypotheses Development – OBJs 2,3 & 4

Employing various bases (discussed above), this chapter reviews key prior literature that is empirically focused on the development and modelling of AF models (from various stances). It does so across important audit fee determinants (e.g., size, complexity, risk); under different objectives (i.e., OBJ2, OBJ3 and OBJ4), in accordance with relevant gaps identified. Then, based on AF determinants selected on the bases of theory-related research questions and the tabular explanation of Objectives (in Chapter 2), it empirically analyses the relationships between AF and auditee's variables using lagged and unlagged data. This relates to NCGVs in OBJ2 (client's size, risk, complexity, location, auditor, and business sector) and using a combination NCGVs and CGVs (audit committee competence and audit quality) in OBJ3 and OBJ4; based on sectors-wise models and auditor-wise models, respectively. For each of the three objectives, hypotheses are stated which are later tested in Chapters 8 and 9.

Ch.7: Research Design and Methodology

The chapter discusses the objectives with appropriate philosophies, relevant ontological, epistemological, and axiological issues. It links empirically focused set of objectives with positivist philosophy (as in OBJ2, OBJ3 and OBJ4), to which it assigns a deductive approach as they generate testable deductions or hypotheses from appropriate strands of research theories (mainly AT). Conversely, interpretive philosophy is chosen as the underpinning philosophy for OBJ1 and OBJ5 as they adopt an inductive approach which offers propositions based on a qualitive review of theory-based literature. Qualitatively, the thesis mainly adopts RCT linked

based on the significant influence of the Big4 auditors on their regulators.

The research strategy is described as fundamentally archival, with the choice of research method as mixed method. As the year-by-year analyses are conducted at single points in time and the analyses across the years straddle the same research cases, the chapter considers the time (frames) horizon as both cross-sectional and longitudinal, respectively. It explains strategies for data collection together with various data sources with the different variables and their construction (where appropriate), t hen, the analysis and related diagnostics checks. By so doing, Multiple Regression Analysis (MRA) is claimed as the basis of empirical analysis, using Ordinary Least Squares (OLS) to test several hypothesised relationships and version 27 of the Statistical Package for the Social Sciences (SPSS) as the software for implementing the regression.

Ch.8: Empirical Analysis, Results and Conclusions (OBJs. 2 and 3)

This chapter devotes itself principally to empirical analyses using a series of MRA equations with, in each case, the Dependent Variable (DV) being the AF paid as determined by the financial statements of individual companies. The Independent Variables (IVs) are from the series of potentially relevant NCGVs (in OBJ2) and with CGVs (added in (OBJ3). These are variables already identified in earlier chapters[10] as suggested by literature, which formed the basis for formulation of linked hypotheses using unlagged and lagged data. Accordingly, using AF as the continuous DV, the research applies OLS statistically to test several hypothesized relationships. Several of the results do conform with key aspects of prior studies containing similar variables. In general, the empirical aspects show all models to be highly significant (at 0.1%). Consistent with the seminal AF modelling study (Simunic,1980) and some subsequent key

[10] Chapter 6 and Chapter 7

studies (e.g., Hay *et al.,*2006 & Widman *et al.,*2020) they highlight the degree of unanimity amongst prior authors that factors such as size and size-related variables (e.g., complexity) exert most influence on AF, based on main regression models and sector-wise regressions in OBJ2-OBJ3. The selected CGVs do not appear to have enhanced the influence of every NCGV determinant, significantly.

Ch.9: Empirical Analysis, Results and Conclusions (OBJ4 & Summary of Hypotheses)

Similar models are calculated based on auditor-wise regression. Findings regarding OBJ4 essentially imply that the selected AF determinants do not necessarily exhibit shared commonality across the Big4 auditors in this thesis. Thus (in similarity with Hrazdil *at al.,*2020) the findings do not support the regular practice of considering the Big4 as a homogenous unit in AF modelling. The chapter also recaps the outcomes of each hypotheses including Objectives 2,3 and 4 in tabular form.

Ch.10: Policy Contributions, Recommendations and Limitations

This chapter discusses the policy contributions which emanate from both **original theoretical** and **empirical** research knowledge contributions and **extensions** of knowledge, in this research. This includes the association of Dynamic Capabilities Theory (DCT) and Knowledge Based Theory (KBT) and the concept of lagged regressions with AF modelling. The latter reflects real world implications regarding the importance of the prior year's considerations to current year's AF. A key **policy** contribution is that it provides a basis for comparison of the empirical outcomes relating to sectoral sets within the FTSE 250 with those of other indices. Being a thesis meant to address several aspects of audit with focus on AF and its modelling within the FTSE 250, it is not expected to address every issue on auditing or in relation to the AF in FTSE 250. Hence some recommendations for future research are offered in this chapter.

Some key recommendations include the need for publishers to ensure that future researchers offer clear identification and explanation of theories that underpin all future AF modelling studies, adopt increased timeline of research, and test additional proxies/variables in research relating to AF in FTSE 250.

1.8: Chapter Summary

This chapter devoted itself to explaining audit as a key facet of corporate governance which gives confidence to users of the financial and other statements and engenders trust that is crucial to the proper functioning of all levels of the global economy. It helped to draw some focus to the extent to the stewardship role of directors. The chapter highlighted the need for financial governance of which AF is a key component while revealing the genesis of this thesis and its main research problem. Based on these expositions, the next chapter states the primary aim of the research while presenting its research questions and 'connect' to the research objectives that form the bases from which hypotheses are later spawned. Significantly, the next chapter also introduces and provides one with a summary of the research questions, objectives, propositions, and hypotheses in a tabular form[11].

[11] Chapter 2

CHAPTER 2

Research Aim, Questions and Objectives

*'Research **questions** express the research **objectives** in terms of questions that can be addressed by research'* (Zikmund *et al.*,2013 p.120)

2.1:Introduction

The previous chapter explained the significance of audit within Corporate Governance and why it is necessary and helps to reduce the asymmetry of information arising from the separation of ownership from control as envisaged in AT. It then went on to explain some key research phenomena (e.g., Audit, AF, and audit quality) and why AF should be examined. The chapter proceeded to discuss the precise research context and problems, while explaining the research intentions and possible reasons why they require closer attention. Finally, it provided a chapter-by-chapter overview, while indicating the structure and layout, of the thesis.

The purpose of this chapter is **five-fold**, and consequently it addresses **five key** aspects. **Firstly,** it states the research aim that is relevant to the main research gap. That is, fundamentally, the perceived absence of direct or specific quantitative research into AF determinants in the FTSE250 or its identifiable sectoral sets.

S**econdly,** it identifies the research questions based on the problems/gaps that have been identified from a review of literature. Accordingly, it provides relevant questions which relate to objectives that are discussed in subsequent chapters leading to propositions and hypotheses.

Thirdly, the chapter exposes and considers the research objectives themselves, the implementation of which, enable the research questions to be answered. Formulation of these

objectives essentially relies on the same prior literature which are subsequently reviewed in relevant chapters.

Fourthly, the chapter provides an initial clarification of key details regarding the research **approach** employed. This is a mixed approach since OBJ1 and OBJ5 are qualitatively determined, adopting an inductive approach. In contrast, OBJs 2-4 are quantitatively determined and **deductive** in approach.

Lastly, this chapter offers a **tabular presentation (far below, after the chapter summary**) focusing on the **aim, questions, and objectives** of this thesis. This is presented as follows

- **Tables 2.1 - 2.5 (Research Questions (RQs) and Research Objectives (ROs)**
- **Tables 2.6 -2.10 (Objectives and Propositions/Hypotheses)**

The **table links** the research questions and sets of objectives to their propositions/hypotheses in the thesis.

2.2:Research Aim

The aim of this research is to assess (audit-related) corporate governance and other theories (especially AT, ST, and RCT) and to contribute to fresh insights and deeper knowledge in relation to the nature of the audit market in the UK FTSE 250, and the main factors which affect audit pricing. In so doing, the research also aims to offer some recent insights into the operation of the audit market in the UK. Consequently, it uses an appropriately determined and identified set of 83 companies within their four business sectors to investigate key factors that determine auditors' remuneration in those companies within UK FTSE 250 (2014–2016). Addressing these issues involves formulation of a Main Research Question (**MRQ)** with **Research Questions (RQs)** and related Main Research **Objectiv**e (**MRO)** and **Research**

Objectives (ROs) which are provided in **Tables 2.1-2.5** and **2.6-2.10 provided** after the chapter summary.

2.3:Research questions

2.3.1: Main Research Question (MRQ)

While Chapter 1 only offers a broad outline of the main research problems, this chapter goes further to specifically identify the MRQ and the subsets within the RQs. It then individually connects them with particularly meaningful objectives in the **tables** provided after the chapter summary.

Accordingly, with an appreciation of the aim of this research, it is worth recalling some aspects of it that are of benefit and of potential value to persons interested in the thesis; including why the FTSE 250 deserves to be researched.[12] On that basis the **MRQ is:**

In relation to FTSE 250 companies (UK), what are the main determinants of Audit Fees (AF), mainly facilitated by the Agency and Stakeholder theories and within an identified set of companies and their four business sectors; based on unlagged and lagged data?

This MRQ is analysed into **five sets of RQs** and their subsets, which give rise to each of the **five sets of RO**s and related subsets included in **Tables 2.1-2.5 and 2.6-2.10** as referenced. While the **propositions and hypotheses** associated with these sets of RQs/ROs are merely indicated/ referenced within this chapter, they are considered in appropriate level of detail within Chapters 4, 5 and 6. However, exceptionally, the propositions associated with Objective 1 are considered within Chapter 4. This is because the Chapter 4 and Objective 1 both deal

[12] In Chapter 1.

with key theories which underpin AF modelling in **general** terms. The **Tables 2.1-2.5 (i.e., RQs and ROs) and Tables 2.6-2.10 (i.e., ROs and Propositions /Hypotheses)** which relate to each of the **five sets** provided in **tabular form (after the chapter summary)** are hereafter referred to as **'The Tables'.**

2.4: Research Questions (RQs) and Research Objectives (RQs)Sets 1-5.

- **SET 1 -** Relates to OBJ1 which qualitatively attempts to identify possible AF modelling theories and the limitations of the theories and modelling design.
- **SET 2** - Relates to OBJ2 which statistically and empirically reviews the primary NCGVs in the identifiable **83** companies and their **four** business sectors within the FTSE 250, as shown in **the tables** and their likely influences on AF (based on prior literature).
- **SET 3** - Relates to OBJ3 which statistically and empirically reviews the potential for significant enhancement in predictive power of NCGVs when CGVs are added.
- **SET 4** - Relates to OBJ4 which statistically and empirically assesses whether there is shared commonality in terms of weightages of the selected AF determinants across the auditors (all Big4).
- **SET 5** - Relates to theoretical and qualitative explanations underpinning the possible influences of MAR on AF.

It is crucial to restate that all sets of research questions, objectives and the propositions or hypothesis to which they relate are all included in the **Tables 2.1-2.5 and Tables 2.6-2.10 after the Chapter summary.**

2.4.1:SET1:RQ1:Linked to **OBJ1- AF Modelling Theories and Limitations.**

2.4.1.1 Overview of Contextual Considerations

Although audit fees have been much researched (e.g., Simunic,1980 (seminal research)**;** Stewart *et al.*, 2016); the inconsistency in the level of overt disclosure/explanation of underpinning theories in AF modelling has led to an absence of a generally accepted set of

theories that facilitate AF modelling. Therefore, postulations are made regarding some possible theories underpinning AF modelling and these are also confirmed or disconfirmed by the outcome of the empirical tests[13]. This leads to **RQ1(1.1) in the tables with its related OBJ1(1.1).**

While theories can help stakeholders (e.g., management, auditors, regulators,) to understand the behavior of certain phenomena, they do have limitations and hence may also not provide full explanation of such phenomena. Therefore, it is important to understand some of their limitations to prevent exaggerated/overzealous application. It is also worth highlighting some other aspects of AF modelling design that may require improvement. Hence, Set 1 Research Question (SRQ1) is subdivided into **RQ1(1) and RQ1(2) with their related OBJ1(1.1) and OBJ1(1.2)) in The Tables .**

2.4.2:SET2:RQ(2):Linked to OBJ2 - Auditee's Characteristics - NCGVs & AF.

2.4.2.1: Overview of Contextual Considerations (OBJ2)

Audit clients comprise the demand-side of the audit fee market and appear to be primarily significant when assessing the determinants of audit fees as posited by prior research on AF modelling (Simunic, 1980; Gonthier-Besacier and Schatt, 2006). This appears to be because much of the information of auditors constitute proprietary data, unlike listed companies (e.g. FTSE 250 companies), which are bound by C.A. (2006) to disclose certain information on their websites. Accordingly, it is also important to ascertain the primary NCGVs that determine AF in the overall set of identified (83) FTSE250 client-companies and the set of four identified business sectors. Further related arguments which support this view are offered elsewhere in

[13] Chapter 8

the thesis[14] in relation to relevant hypotheses development using unlagged and lagged data as indicated within **The Tables**. Consequently, there are **five** subsets of RQ3 which relate to **five** subsets of OBJ3 as shown **in The Tables.** Briefly, they relate to the following:

- **RQ2(2.1) The 83 overall identified FTSE 250 companies**
- **RQ2(2.2) - 32 Equity Investment Instruments.**
- **RQ2(2.3) - 18 Residential & Commercial REITS (Real Estate Investment Trusts) (R&C/REITS).**
- **RQ2(2.4) - 17 Travel and Leisure (T& L), and**
- **RQ (2.5) - 16 Support Services (SS).**

Hence **RQ(2)** relating to the identified FTSE 250 companies focuses on auditee's characteristics (as stated **In the Tables with its related OBJ2 and its subsets).**

2.4.3:SET3:RQ 3:Linked to OBJ3 Auditee's Characteristics: (NCGVs and CGVs).

2.4.3.1 Overview of Contextual Considerations (OBJ3)

The competence of audit committees and quality of auditors (as CGVs) play very significant roles in the corporate governance of companies (Porter, 2009). They influence the appointment of the auditor and can also influence the level of fees charged by the auditor (Januarti *et al.,*2020). It is therefore important for audit committees, auditors, Boards of directors, regulators, and other users of annual reports to understand the influence of CGV's on the primary AF determinants (NCGVs). In this regard, **RQ3** (with its related **OBJ3** in **The Tables)**

[14] Chapter 6

enquires whether the explanatory power of the AF determinants in the identified set of **83** FTSE250 companies and their **four** business sectors could be significantly enhanced by combining NCGVs with CGVs (i.e., ACC and AUQ). CGVs measure aspects of governance as envisaged by AT (Farooq *et al.,* 2008). RQ3 is also divided into **five** subsets related to OBJ3 with **five subsets** in **The Tables**.

2.4.4: SET4:RQ4:Linked to OBJ4 - Individual Big4 Auditors & AF Determinants.

2.4.4.1 Overview of Contextual Considerations (OBJ4).

Auditors comprise the supply side of the audit market and hence deserve to be included in research involving AF modelling; especially as the Big4 audit firms (***PwC, Deloitte, KPMG, and EY***) dominate the FTSE 250 audit market. This aspect was indicated in Chapter 1 and elaborated elsewhere in this thesis[15]. Hence it does not merit further explanation, at this juncture. The impact of the Big4 audit firms on audit fees have been assessed on the assumption that they comprise a homogenous unit by some researchers (Fafatas & Sun,2010, Hrazdil, 2020).

Following from the above, **RQ4** (together with its related **OBJ4)** seeks to ascertain whether the weightages of the selected AF determinants in the identified FTSE 250 companies in this thesis, exhibit shared commonality across all the Big4 auditors. Hence RQ4 has **four** subsets related to four subsets of OBJ4 in relation to the four auditors as shown in **The Tables**. As the dominance of the Big4 auditors has already been referenced in Chapter 1 and the mid-tier audit firms are **not vital** to any research objective in this research, they have **not been included** in statistical testing as explained in further detail in Chapter 7.

[15] Chapters 3, 6 and 8

2.4.5:SET 5:RQ 5:Linked to OBJ5 Consequences of Audit Regulation (MAR) on AF

2.4.5.1:Overview of Contextual Considerations (OBJ5)

The audit scandals led to additional regulations to stem the problem of lack of competition, audit quality, professional scepticism, and confidence in the audit market, especially about the Big4 auditors (Sikka,2019). This was briefly referenced in Chapter 1 and much elaborated elsewhere in the thesis [16]. The ARD (2014) was issued to restore quality and confidence in the profession. It requires (amongst other things) rotation and retendering of audit contracts every 10 years (with maximum duration of 20 years).

The consequences of the influence of MAR on AF have been reviewed or empirically tested by some authors (e.g., Corbella *et al.,* 2015; FRC,2017; and Smith,2019). However there appears to be a perceived absence of any study that specifically focuses on **theories** that underpin the likely **consequences** of the of MAR on AF movements, including within the FTSE 250 companies. Accordingly, **RQ5** initiates a question that seeks to address the latter gap (as indicated **within The Tables** and linked to OBJ5.

Using this 2016 as baseline, 20 FTSE 250 companies (10 of which Retendered With Auditor Rotation (RWAR) and the other 10 functioning with No Audit Retendering (NAR)), the analysis is conducted based on Analytical Review (A/R) over seven years. That is, three years before 2016, the year 2016 , and three years after 2016 (i.e., 2013, 2014 & 2015, 2016 , 2017, 2018 & 2019). The consequences on AF are analytically assessed in terms of percentage changes and the possible consequences of the influence are then explained by associated theories and relevant literature. Hence **RQ5** is subdivided into **RQ5(1) (RWAR) and RQ5(2)**

[16] Chapter 3

(**NAR)** as shown in **The Tables** together with related **OBJ5(1) and OBJ5(2).**

2.5: Research Approach

For the fact that three out of five objectives of the thesis are empirical in nature, the thesis is more of a positivist research. In this regard, hypotheses in relation to **OBJs 2,3 and 4** are used to either confirm or reject theories as discussed in Chapter 6. Accordingly, the ***deductive*** approach is considered appropriate. On the contrary, for **OBJ1** (which is focused on a theory-based review and capture of literature relating to AF determination) as well as **OBJ5 (**which reviews the consequences of regulation), the ***inductive*** approach is considered appropriate for those aspects of the thesis.[17]

2.6: Conceptual framework

According to Leshem and Trafford (2007) a conceptual framework forms part of the research context since it is part of the road map of the thesis, and the author asserts that it is the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs research boundaries for the research. A conceptual framework is typically developed from (a map of) theories which gives meaning to interrelated variables. The diagrammatic representation of the Conceptual Framework for this research is offered below, at the end of the chapter (i.e. after the chapter summary.

Indeed, the cruciality of the framework to academic research in general (and to this thesis), is espoused by the latter authors (p.27) who state that: *'Developing a conceptual framework forces you to be **explicit** about what you think you are doing. It also helps you to be **selective**;*

[17] Also see Chapter 7

*to decide which are the **important features**; which **relationships** are likely to be of importance or meaning; and hence, **what data** you are going to **collect and analyse**'*. Accordingly, certain theoretical and philosophical bases underpin this research, which is mainly facilitated by the AT (e.g., Audousset-Coulier (2015), and some other agency-related theories (i.e., ST and RCT). Although the outcomes of the empirical aspects of this research are determined (in a detached way) by experiment, the uniformity in the findings of previous authors in different audit markets regarding certain variables constitute a **signpost** (i.e., part of a framework) against which the approach of this research was planned. Leshem and Trafford (2007) also assert that the assessment criteria of a university forms part of the conceptual framework for doctoral students. Accordingly, the LSBU ethical and other guidelines form part of the conceptual framework (boundary) within which this research was conducted.

2.6.1:Research Delimitations within the Conceptual Framework.

In this thesis, the literature review is essentially based on large, listed companies since the FTSE250 companies are mostly large in size. Consistent with previous research on the AF modelling (e.g., Köhler and. Ratzinger-Sakel, 2012), typical banks and insurance firms were not researched, due to their specific accounting and corporate governance requirements and balance sheet structures. Some studies relating to charities (e.g., Beattie *et al*.,2001; Cantoni *et al.,* 2011) were consulted and included in the thesis where their findings are relevant.

There is a perceived paucity of recent research in some aspects of AF modelling (e.g., in relation to the UK listed companies). Hence recent studies which address all the research questions and objectives listed in **The Tables** below (after the chapter summary) are limited. On this basis, reliance had to be placed on old prior literature, where relevant.

2.7:Chapter Summary

This chapter mainly devoted itself to an exposition of the aim, research questions and objectives of this research. Fundamentally, it explained the emanation of the latter aspects from Agency and Stakeholder Theories, through which this research is mainly facilitated and from which relevant research questions and matching objectives were generated. Therefore, it identified the motivation for the research objectives in addition to specifying both the qualitative and empirical objectives. To give more context to the latter objectives, the **next** chapter reviews some literatures relating to AF modelling in the real world with reference to global interest and illustrations of some scholarly publications in different continents. The level of governance within the audit market in terms of professional competence and scandals is reviewed since AF must be seen to match the quality of service rendered (i.e., contextual, and professional literature).

Research Aim, Questions and Objectives (Tables 2.1-2.5 below)

Table 2.1: (SET 1):Research Questions and Research Objectives

AIM	Research Question SET 1	Research Objective SET 1	Research Question & Research Objective No.	Expressed as Research Question	Expressed as Research Objective	Implemented via
To contribute **original insights and knowledge** in relation to the nature of the UK FTSE 250 audit market and the main features that affect it by assessing (audit-related) corporate governance (CG) and other **theories**; especially Agency Theory (AT) and Stakeholder Theory (ST) and (to a limited extent), Regulatory Capture Theory (RCT).	**What are the key corporate governance (or other) theories that help to explain or influence how Audit Fees (AF) might be determined and what might be the possible limitations inherent in AF modelling theories and design?**	**To identify and evaluate key theories and literature that help to explain or influence how AF are determined and identify possible limitations inherent in AF modelling theories and design.**	**1.1**	What are the key CG (or other) theories that help to explain /influence how AF are determined?	To identify and evaluate key CG (or other theories) and literature that help to explain/ influence how AF are determined.	**Desk-based evaluative review of relevant theory -based literature (Chapter 4)**
			1.2	What are the possible **limitations** inherent in the identified AF-modelling theories and design, based on a review of existing literature?	To identify possible **limitations inherent** in AF-modelling theories and design based on gaps and assertions in existing literature.	

Source: Author (2023)

Research Aim, Questions and Objectives (Tables 2.2-2.5 below)

Table 2.2 - (SET2):Research Questions and Research Objectives

AIM	Research Question SET 2	Research Objective SET 2	Research Objective and Research Question No.	Expressed as Research Question	Expressed as Research Objective	Executed Via
To contribute **original insights and knowledge** in relation to the nature of the in the UK FTSE 250 audit market and the main features that affect audit pricing (by meaningfully assessing (audit related) **NCGVs** and relevant literature).	**What appears to be the set of NCGVs that primarily determine the AF in the set of identified FTSE 250 companies overall and in terms of their four business sectors, and within specific time frames?**	**To determine specific NCGVs that primarily influence the AF of the identified set of FTSE 250 companies overall and in terms of their four business sectors, using Unlagged and Lagged(U&L) information.**	**2.1**	What appears to be the **NCGVs** that primarily determine the AF in the identified set of **83** (FTSE 250) companies, using Unlagged & Lagged (**U&L**) information.	To determine the **NCGVs** that primarily influence the AF within an identified set of **83** (FTSE 250) companies, using U&L information.	**Hypothesis H2.1a Hypotheses (Chapters 6 & 8)**
			2.2	What appears… identified set of **32** (FTSE 250) **Equity Investment Instruments (EII) sector companies,** using …information.	To determine … identified set of **32** (FTSE 250) **Equity Investment Instruments (EII) sector companies,** using … information.	**Hypothesis H2.2a (Chapters 6 & 8)**
			2.3	What appears … identified set of **18** (FTSE 250) **Residential Commercial & (Real Estate Investment Trusts (RC/REITS) sector companies,** using …information.	To determine …set of **18**(FTSE 250) **Residential Commercial & (Real Estate Investment Trusts (RC/REITS) sector companies,** using … information.	**Hypothesis H2.3a (Chapters 6 & 8)**
			2.4	What appears … identified set of **17**(FTSE 250) **Travel & Leisure (T&L) sector companies,** using … information.	To determine … set of **17** (FTSE 250) **Travel & Leisure (T&L) sector companies,** using … information.	**Hypothesis H2.4a (Chapters 6 & 8)**
			2.5	What appears … identified set of **16 Support Services** (FTSE 250) **(SS) sector companies,** using … information.	To determine …set of **16** (FTSE 250) **Support Services (SS) sector companies,** using … information.	**Hypothesis H2.5a (Chapters 6 & 8)**

Source**:** Author (2023)

Research Aim, Questions and Objectives (Tables 2.3 - 2.5 below)

Table 2.3 - (SET 3):Research Questions and Research Objectives

AIM	Research Question SET 3	Research Objective SET 3	Research Questions and Research Objectives No.	Expressed as Research Question	Expressed as Research Objective	Executed via
To contribute **original insights and knowledge** in relation to nature of the audit market in the UK FTSE 250 and the main features which affect pricing by assessing the combined influence of both CGVs and NCGVs to determine if by so doing, the weightages (i.e., the predictive powers) of the NCGVs are significantly enhanced.	**Does the addition of CGVs to NCGVs significantly enhance the predictive powers of the latter set of variables within an identified set of FTSE 250 companies and their four business sectors?**	**To determine if the addition of CGVs to primary NCGVs in AF modelling significantly enhances the predictive powers of the latter set of variables within an identified set of FTSE 250 companies and their four business sectors.**	**3.1**	Does the addition of **CGVs** to primary **NCGVs** significantly enhance the predictive powers of the latter set of variables within an identifiable set of **83** (FTSE 250) companies, using U&L information?	To determine if the addition of **CGVs** to **NCGVs** in AF modelling significantly enhances the predictive powers of the latter set of variables within an identifiable set of **83** (FTSE250) companies, using U&L information.	**Hypothesis H3.1a** **(Chapters 6 & 8)**
			3.2	Does the addition … set of **32** (FTSE 250) **EII sector companies,** using ... information?	To determine … set of **32** (FTSE 250) **EII sector companies,** using ... information.	**Hypothesis H3.2a** **(Chapters 6 & 8)**
			3.3	Does the addition … set of **18** (FTSE 250) **R&C/REITS sector companies,** using ... information?	To determine … set of **18** (FTSE 250) **R&C/REITS sector companies,** using ... information.	**Hypothesis H3.3a** **(Chapters 6 & 8)**
			3.4	Does the addition … set of **17** (FTSE 250) **T&L sector companies,** using ... information?	To determine … set of **17** (FTSE 250) **T&C sector companies,** using ... information	**Hypothesis H3.4a** **(Chapters 6 & 8)**
			3.5	Does the addition … set of **16** (FTSE 250) **SS sector companies,** using ... information?	To determine … set of **16** (FTSE 250) **SS sector companies,** using ... information.	**Hypothesis H3.5a** **(Chapters 6 & 8)**

Source: Author (2023)

Research Aim, Questions and Objectives (Tables 2.4-2.5 below)

Table 2.4 - (SET 4) - Research Questions and Research Objectives

AIM	Research Question SET 4	Research Objective SET 4	Research Question and Research Objective No.	Expressed as Research Question	Expressed as Research Objective	Executed Via
To contribute **original insights and knowledge** in relation to the nature of the audit market in the UK FTSE 250 and the influence of factors that affect audit pricing across the clients of the Big4 audit firms.	**Is it the case that in the identified set of FTSE 250 companies, the influence of the identified AF determinants (i.e., the weightages), exhibit shared commonality across the Big4 audit firms?**	**To determine if the influence of the identified AF determinants in the identified cases of the FTSE 250 (i.e., the weightages), exhibit shared commonality cross the Big4 audit firms.**	**4.1**	Do the weightages of the selected AF determinants within the identified cases (of the FTSE 250) audited by **PwC** exhibit shared commonality with those in cases audited by the other Big4 auditors using U&L information?	To determine if the weightages of the selected AF determinants within the identified cases (of the FTSE 250) audited by **PwC** exhibit shared commonality with those in cases audited by the other Big4 auditors; based on U&L information**.**	**Hypothesis H4.1a** **(Chapters 6 & 9)**
			4.2	Do the weightages ... by **Deloitte** … using … information?	To determine … by **Deloitte** ... based on … information.	**Hypothesis H4.2a** **(Chapters 6 & 9)**
			4.3	Do the weightages ... by **EY** … using … information?	To determine … by **EY** … based on … information.	**Hypothesis H4.3a** **(Chapters 6 & 9)**
			4.4	Do the weightages ... by **KPMG** … using … information?	To determine … by **KPMG** … based on … information.	**Hypothesis H4.4a** **(Chapters 6 & 9)**

Source: Author (2023)

Research Aim, Questions and Objectives (Table 2.5 below)

Table 2.5 - (SET 5):Research Questions and Research Objectives

AIM	Research Question SET 5	Research Objective SET 5	Research Question and Research Objective No.	Expressed as Research question	Expressed as Research Objective	Implemented via
To contribute **original insights and knowledge** in relation to the nature of the audit market in the UK FTSE 250 and in particular, the perceived consequences of regulation (ARD, 2014) on AF.	**What are some of the possible consequences indicatively associated with the influence of regulatory intervention of MAR on AF and what underpinning theories and literature help to explain those consequences within identified sets of FTSE 250 companies ?**	**To identify and evaluate some key consequences associated with influences of MAR on AF within the identified sets of FTSE 250 companies and hence to innovatively identify theories and literature that help to explain such consequences**	**5.1**	What are some of the possible consequences indicatively associated with the influence of regulatory intervention of MAR (i.e., Retendering With Auditor Rotation - **RWAR**) on AF and what underpinning theories and literature help to explain those consequences within an identifiable set of **10** FTSE 250 companies?	To determine some of the key consequences associated with the influence of regulatory intervention of MAR (i.e., **RWAR**) on AF and the underpinning theories and literature that help to explain those consequences within an identified set of **10** FTSE 250 companies	**Desk-based review and evaluation of pertinent literature and documents (Chapter 4)**
			5.2	What are some of the possible consequences associated with the influence of regulatory intervention of MAR (i.e., No Audit Retendering-**NAR**) on AF and what underpinning theories and literature help to explain those consequences within the identifiable set of **10** FTSE 250 companies.	To determine some of the key consequences associated with the influence of regulatory intervention of MAR (i.e., **NAR**) on AF and the underpinning theories and literature that help to explain those consequences within the identified set of **10** FTSE 250 companies.	

Source: Author (2023)

Research Objectives and Propositions/Hypotheses (Tables 2.6 - 2.10 below)

Table 2.6 (SET 1):Research Objectives and Propositions

AIM	Objective (OBJ) & Proposition No.	Stated Objective SET 1	Proposition Statement	Resolved via	Implemented via
To contribute **original insights and knowledge** in relation to the nature of the UK FTSE 250 audit market and the main features that affect it by assessing (audit-related) CG and other **theories;** especially AT ,ST and (to a limited extent),RCT.	**1.1**	To identify and evaluate key theories and literature that help to explain/ influence how AF are determined.	That the **AF-modelling framework** is facilitated by Corporate Governance and other theories especially AT, ST, and RCT.	Conducting secondary /desk/ electronic archival searches of literature) to evaluate associations between the outcomes of selected samples of prior AF modelling studies and identifiable key corporate governance (or other relevant) theories.	Theory based review of relevant literature. **(Chapter 4)**
	1.2	To identify possible limitations inherent in AF-modelling theories and design based on gaps and assertions in existing literature	That existing literature indicates some **limitations/ gaps to be filled** about **AF-modelling framework** which relate to **theory and design.**	An analytical review and appraisal of some key assumptions, bases and other considerations underlying the AF framework and design.	Limitations inherent in AF Modelling, the related theories, and aspects for future consideration. **(Chapter 4)**

Source: Author (2023)

Research Objectives and Propositions/Hypotheses (Tables 2.7 - 2.10 below)

Table 2.7 (SET 2):Research Objectives and Hypotheses

AIM	OBJ. No.	Stated Objective SET 2	Hypothesis No	Expressed via Hypotheses	Hypothesis expressed via regression equation (Chapter 8)
To contribute **original insights and knowledge** in relation to the nature of the in the UK FTSE 250 audit market and the main features that affect audit pricing (by meaningfully assessing (audit related) **NCGVs** and relevant literature)	**2.1**	To determine the **NCGVs** that primarily influence the AF within an identified set of **83** (FTSE 250) companies, using Unlagged and Lagged (**U&L**)information	**2.1a**	That there subsists a positive & significant relationship between **AF and** the primary **NCGVs** within a **set of 83 (**FTSE 250) companies, using **U &L** information.	**Re**: **83 (**FTSE 250) companies – **Using Unlagged information** $\ln(AFE_{it})= B0 + B1\ln(TAS_{it}) + B2SUB_{it} + B3\ln(CRA_{it}) + B4\ln(PBT_{it}) + B5AUF2_{it} + B6AUF3_{it} + B7AUF4_{it} + B8LOC2_{it} + B9LOC3_{it} + B10SEC2_{it} + B11SEC3_{t+} B12SEC4_{it} + E_i$ **Using Lagged information** $\ln(AFE_{it})= B0 + B1\ln(TAS_{it-1}) + B2SUB_{it-1} + B3\ln(CRA_{it-1}) + B4\ln(PBT_{it-1}) + B5AUF2_{it-1} + B6AUF3_{it-1} + B7AUF4_{it-1} + B8LOC2_{it-1} + B9LOC3_{it-1} + B10SEC2_{it-1} + B11SEC3_{it-1+} B12SEC4_{it-1} + E_{it-1}$
	2.2	To determine … set of **32** (FTSE 250) **EII sector companies** , using … information.	**2.2a**	That there … set of **32 (**FTSE 250**) EII sector companies,** using … information.	**Re**: **32 (**FTSE 250) **EII** companies - **Using Unlagged information** $\ln(AFE_{it})= B0 + B1\ln(TAS_{it}) + B2SUB_{it} + B3\ln(CRA_{it}) + B4\ln(PBT_{it}) + B5AUF2_{it} + B6AUF3_{it} + B7AUF4_{it} + B8LOC2_{it} + B9LOC3_{it} + B10SEC2_{it} + B11SEC3_{t+} B12SEC4_{it} + E_i$ **Using Lagged information** $\ln(AFE_{it})= B0 + B1\ln(TAS_{it-1}) + B2SUB_{it-1} + B3\ln(CRA_{it-1}) + B4\ln(PBT_{it-1}) + B5AUF2_{it-1} + B6AUF3_{it-1} + B7AUF4_{it-1} + B8LOC2_{it-1} + B9LOC3_{it-1} + B1SEC2_{it-1} + B11SEC3_{it-1+} B12SEC4_{it-1} + E_{it-1}$
	2.3	To determine …set of **18**(FTSE 250) **RC/REIT's sector companies,** using … information.	**2.3a**	That there … set of **18 (**FTSE 250) **RC/REIT's sector companies,** using … information.	**Re: 18 (**FTSE 250) **RC/REITS** companies **Using Unlagged information - Same equation as above -Using Lagged information - Same equation as above.**
	2.4	To determine … set of **17** (FTSE 250) **T&L sector companies,** using … information.	**2.4a**	That there … set of **17 (**FTSE 250) **T&L sector companies,** using … information.	**Re:17 (**FTSE 250) **T&L**) companies - **-Using Unlagged information - Same equation as above -Using Lagged information - Same equation as above.**
	2.5	To determine …set of **16** (FTSE 250) **SS sector companies,** using … information.	**2.5a**	That there … set of **16 (**FTSE 250) **SS sector companies,** using … information.	**Re: 16 (**FTSE 250) **SS** companies - **-Using Unlagged information - Same equation as above -Using Lagged information - Same equation as above.**

Source: Author (2023)

Research Objectives, Propositions and Hypotheses (Tables 2.8 - 2.10 below)

Table 2.8 (SET 3):Research Objectives and Hypotheses

AIM	OBJ. No.	Stated Objective SET 3	Hypothesis No.	Expressed via Hypothesis	Hypothesis Expressed via Regression Equation (Chapter 8)
To contribute **original insights and knowledge** in relation to nature of the audit market in the UK FTSE 250 and the main features which affect audit pricing by assessing the combined influence of both Corporate Governance Variables (CGVs) and NCGVs to determine if by so doing, the coefficient (i.e., the predictive powers) of the NCGVs are significantly enhanced.	**3.1**	To determine if the addition of **CGVs** to primary **NCGVs** in AF modelling significantly enhances the predictive powers of the latter set of variables within an identified set of **83(**FTSE 250) companies using U&L information	**3.1a**	That the addition of **CGVs** (ACC and AQ) to the primary **NCGVs** significantly enhances the predictive powers of the latter set of variables within an identified set of **83 (**FTSE 250**)** companies, using (U&L**)** information.	**Re**: **83 (**FTSE 250) companies - **Using Unlagged information** $\ln(AFE_{it})= B0 + B1\ln(TAS_{it}) + B2SUB_{it} + B3\ln(CRA_{it}) + B4\ln(PBT_{it}) + B5AUF2_{it} + B6AUF3_{it} + B7AUF4_{it} + B8LOC2_{it} + B9LOC3_{it} + B10SEC2_{it} + B11SEC3_{it} + B12SEC4_{it} + B13ACC_{it} + B14\ln(AUQ_{it}) + E_{it}$ **- Using Lagged information** $\ln(AFE_{it})= B0 + B1\ln(TAS_{it-1}) + B2SUB_{it-1} + B3\ln(CRA_{it-1}) + B4\ln(PBT_{it-1}) + B5AUF2_{it-1} + B6AUF3_{it-1} + B7AUF4_{it-1} + B8LOC2_{it-1} + B9LOC3_{it-1} + B10SEC2_{it-1} + B11SEC3_{it-1} + B12SEC4_{it-1} + B13ACC_{it-1} + B14\ln(AUQ_{it-1}) + E_{it-1}$
	3.2	To determine … set of **32 (**FTSE 250) **EII sector companies**, using … information	**3.2a**	That the addition of **CGVs** (ACC and AQ) to the primary NCGVs … set of **32 (**FTSE 250**) EII sector companies,** using … information.	**Re**: **32 (**FTSE 250) **EII** companies - **Using Unlagged information** $\ln(AFE_{it})= B0 + B1\ln(TAS_{it}) + B2SUB_{it} + B3\ln(CRA_{it}) + B4\ln(PBT_{it}) + B5AUF2_{it} + B6AUF3_{it} + B7AUF4_{it} + B8LOC2_{it} + B9LOC3_{it} + B10SEC2_{it} + B11SEC3_{it} + B12SEC4_{it} + B13ACC_{it} + B14\ln(AUQ_{it}) + E_{it}$ **- Using Lagged information** $\ln(AFE_{it})= B0 + B1\ln(TAS_{it-1}) + B2SUB_{it-1} + B3\ln(CRA_{it-1}) + B4\ln(PBT_{it-1}) + B5AUF2_{it-1} + B6AUF3_{it-1} + B7AUF4_{it-1} + B8LOC2_{it-1} + B9LOC3_{it-1} + B10SEC2_{it-1} + B11SEC3_{it-1} + B12SEC4_{it-1} + B13ACC_{it-1} + B14\ln(AUQ_{it-1}) + E_{it-1}$
	3.3	To determine …set of **18**(FTSE 250) **RC/REIT's sector companies,** using … information.	**3.3a**	That the addition of **CGVs** (ACC and AQ) to the primary NCGVs … set of **18 (**FTSE 250) **RC/REIT's,** using … information.	**Re**: **18 (**FTSE 250) **RC/REITS** companies – **-Using Unlagged information - Same equation as above** **-Using Lagged information - Same equation as above.**
	3.4	To determine … set of **17** (FTSE 250) **T&L sector companies,** using … information	**3.4a**	That the addition of **CGVs** (ACC and AQ) to the primary NCGVs … set of **17 (**FTSE 250) **T&L,** using … information.	**Re:17 (**FTSE 250) **T&L**) companies **Using Unlagged information - Same equation as above** **-Using Lagged information - Same equation as above.**
	3.5	To determine …set of **16** (FTSE 250) **SS sector companies,** using … information.	**3.5a**	That the addition of **CGVs** (ACC and AQ) to the primary NCGVs … set of **16 (**FTSE 250) **SS sector companies,** using … information	**Re:16 (**FTSE 250) **SS** companies **-Using Unlagged information - Same equation as above** **-Using Lagged information - Same equation as above**

Source: Author (2023)

Research Objectives and Hypotheses (Tables 2.9 - 2.10)

Table 2.9 (SET 4):Research Objectives and Hypotheses

AIM	OBJ. No.	Stated Objective SET 4	Hypothesis No.	Expressed via Hypotheses	Hypothesis Expressed via Regression Equation (Chapter 9)
To contribute **original insights and knowledge** in relation to the nature of the audit market in the UK FTSE 250 and the level influence of factors that affect audit pricing across the clients of Big4 audit firms.	**4.1**	**To determine if the influence (i.e., the weightages) of the identified AF determinants(in the identified cases of the FTSE 250) exhibit shared commonality across the Big4 audit firms.**	**4.1a**	That the AF determinants in the identified cases within the FTSE 250 companies audited by **PwC do not** exhibit shared commonality with those of the cases audited by **Deloitte, KPMG, and EY** using (U & L) information.	**Re: PwC Audit firm - Using Unlagged information** $\ln(AFE_{it}) = B0 + B1\ln(TAS_{it}) + B2SUB_{it} + B3\ln(CRA_{it}) + B4\ln(PBT_{it}) + B5AUF2_{it} + B6AUF3_{it} + B7AUF4_{it} + B8LOC2_{it} + B9LOC3_{it} + B10SEC2_{it} + B11SEC3_{it} + B12SEC4_{it} + B13ACC_{it} + B14\ln(AUQ_{it}) + E_{it}$ **- Using Lagged information** $\ln(AFE_{it}) = B0 + B1\ln(TAS_{it-1}) + B2SUB_{it-1} + B3\ln(CRA_{it-1}) + B4\ln(PBT_{it-1}) + B5AUF2_{it-1} + B6AUF3_{it-1} + B7AUF4_{it-1} + B8LOC2_{it-1} + B9LOC3_{it-1} + B10SEC2_{it-1} + B11SEC3_{it-1} + B12SEC4_{it-1} + B13ACC_{it-1} + B14\ln(AUQ_{it-1}) + E_{it-1}$
	4.2		**4.2a**	That the AF… audited by **Deloitte do not** …audited by **PwC, EY & KPMG**... information.	**Re: Deloitte Audit firm - Using Unlagged information** $\ln(AFE_{it}) = B0 + B1\ln(TAS_{it}) + B2SUB_{it} + B3\ln(CRA_{it}) + B4\ln(PBT_{it}) + B5AUF2_{it} + B6AUF3_{it} + B7AUF4_{it} + B8LOC2_{it} + B9LOC3_{it} + B10SEC2_{it} + B11SEC3_{it} + B12SEC4_{it} + B13ACC_{it} + B14\ln(AUQ_{it}) + E_{it}$ **- Using Lagged information** $\ln(AFE_{it}) = B0 + B1\ln(TAS_{it-1}) + B2SUB_{it-1} + B3\ln(CRA_{it-1}) + B4\ln(PBT_{it-1}) + B5AUF2_{it-1} + B6AUF3_{it-1} + B7AUF4_{it-1} + B8LOC2_{it-1} + B9LOC3_{it-1} + B10SEC2_{it-1} + B11SEC3_{it-1} + B12SEC4_{it-1} + B13ACC_{it-1} + B14\ln(AUQ_{it-1}) + E_{it-1}$
	4.3		**4.3a**	That the AF… audited by **EY do not** … audited by **PwC, Deloitte & KPMG** ... information.	**Re: EY Audit firm** **-Using Unlagged information - Same equation as above** **-Using Lagged information - Same equation as above**
	4.4		**4.4a**	That the AF… audited by **KPMG do not …** audited by **PwC, Deloitte & EY** … information.	**Re: KPMG Audit firm** **- Using Unlagged information - Same equation as above** **- Using Lagged information - Same equation as above**

Source: Author (2023)

Research Objectives and Propositions (Table 2.10)

Table 2.10 (SET 5):Research Objectives and Propositions

AIM	OBJ No.	Stated Objective SET 5	Proposition No.	Research Objectives	Proposition Statement	Resolved via	Implemented Via
To contribute **original insights and knowledge** in relation to the nature of the audit market in the UK FTSE 250 and in particular, the perceived consequences of (ARD, 2014) regulation (ARD, 2014) on AF.	**5.1**	**To identify and evaluate some key consequences associated with influences of MAR on AF within the identified sets of FTSE 250 companies and hence to innovatively identify theories and literature that help to explain such consequences.**	**5.1**	To determine the relevant theories and literature that explain the associated consequences of regulation based on the influence of MAR (i.e., **RWAR**) on AF within an identified set of **10** FTSE 250 companies.	That, corporate governance and other relevant theories and literature exist in prior literature, and they help to explain the associated consequences of regulation (influence of MAR i.e., **RWAR**) **on AF** within an identified set of **10** FTSE 250 companies.	Conducting secondary/desk/electronic searches and analytical review/evaluation of **associations between** the consequences of MAR and corporate governance or other relevant audit-related theories.	Desk- based review of relevant theory- based literature. **(Chapter 5)**
	5.2		**5.2**	To determine the theories and relevant literature that explain the associated consequences of regulation based on the influence of MAR (i.e., **NAR)** on **AF** within an identified set of **10** FTSE 250 companies.	That, corporate governance and other relevant theories and literature exist in prior literature, and they help to explain the associated consequences of regulation (influence of MAR i.e., **NAR**) on **AF** within an identified set of **10** FTSE 250 companies.		

Source: Author (2023)

Table 2.11: Conceptual Framework

CORPORATE GOVERNANCE/ (OWNERSHIP Vs CONTROL OF RESOURCES)	**ACCOUNTABILITY & RELATED COST** [Stewardship & Monitoring]	**ADVANCEMENT OF ANTECEDENT RESEARCH RESULTS In this thesis.**	**ORIGINAL CONTRIBUTION TO KNOWLEDGE In this thesis.**	**-THEORIES -METHODS -MODELS -ETHICS In this research**
SHAREHOLDERS (OWNERSHIP) & OTHER STAKEHOLDERS **They are mainly concerned with matters such as :** **More Compliance** with regulation by: Auditee /Auditor (Governance) **More Control** through exercise of voting rights and obtaining reports. **Reduced Asymmetry** of information through increased reporting. **Reduced Expectation Gap** through reporting including audit reports.	**AUDITORS** External monitoring for a **PRICE Audit Fee (AF)** **AUDITEES** DIRECTORS AUDIT COMMITTEES (**AC**) (Through Financial & Other statements)	**This research Advances Knowledge in:** Client's Characteristics including effect of business sectors & Auditors on AF. **Prior Research & this research** **- THEORIES UNDERPINNING AF MODELLING** **- PRIMARY FACTORS Non-Corporate Governance Variables (NCGVs)** • Size (TAS) • Risk-CRA & PBT • Complexity (SUB) • Big4 auditors • Sector • Location **-OTHER INFLUENTIAL FACTORS *(also being researched.*** ▪ **Corporate Governance Variables (CGVs)proxies** ○ Audit Quality AUQ) (NAF/AF) ○ Audit Committee Competence: (ACC) (by Content Analysis)	**This research makes Original Contribution to Knowledge (OCK) in the FTSE 250 & AF Modelling in aspects such as:** **-Direct quantitative research into the FTSE250** ▪ Business sectors in FTSE 250 ▪ Use of Lagged data. ▪ Possible enhancement of **NCGVs** by addition of **CGVs** on AF within FTSE250 ▪ Proxies of CGVs -ACC & AUQ variables ▪ Review of underpinning **theories** relating to Audit Regulation and Directive (ARD,2014) **(MAR) and AF** ▪ **Additional theories** now associated with AF Modelling (e.g., DCT and KBT).	**AGENCY THEORY** Information **Asymmetry** and Loss of **control.** **STAKEHOLDER (SH) THEORY** -Extends Agency theory. Social **control** -Stakeholder power/interest/ needs. **REGULATORY CAPTURE THE**ORY Reversal of **control** between the **regulator** and the **regulated.** **QUANTITATIVE (**OBJs 2.3 &4) -Multiple Regression Analysis (MRA) -Ordinary Least Squares (OLS). **QUALITATIVE (OBJs 1 & 5)** **ETHICS Subject to LSBU & Affiliated Ethical Guidelines**

Source: Author (2023)

CHAPTER 3

Review of Relevant Contextual Research and Professional literatures

'If I have seen further, it is by standing upon the shoulders of giants' (Chen, 2003)

3.1:Chapter introduction

The previous chapter devoted itself to an overview of the thesis, including a review of the aim, research questions, objectives, relevant hypotheses and propositions presented in tabular form. In that regard, it offered brief contextual considerations about the possible theoretical underpinnings of the AF modelling framework (in OBJ1) and the influence of **auditee** characteristics (NCGVs) on AF (in OBJ2), as well as the possible impact of CGVs on the NCGVs (in OBJ3). It also considered the likelihood of the absence of shared commonality in the predictive powers of AF determinants across the Big4 firms (in OBJ4) and the theories that explain the possible influence of MAR on AF (in OBJ5). It is worth noting that this Chapiter 3) is the first chapter of the Literature Review[18]. Different aspects of the relevant Literature are also reviewed in Chapters 4 (qualitative OBJ1), 5 (qualitative OBJ5) and 6 (quantitative OBJs 2-4).

The purpose of this chapter is to offer a review of significant prior literatures relating to some **contextual** and **professional** issues important to the thesis. Accordingly, the chapter focuses on **two key** aspects of **literature. Firstly**, key literature that considers AF modelling in **general** (i.e., not particularised to only this research) and focuses on real world aspects and actors within the audit-market (contextual literature). In this regard, the chapter initially discusses the origin

[18] As indicated in the 'Thesis overview' in Chapter 1, Chapters 4 (for OBJ1- propositions), 5 (for OBJ5 - propositions) and Chapter 6 - hypotheses for OBJs 2,3 and 4) also address Literature Review relating to the indicated objectives..

of the current AF (demand-based) model and some relevant prior studies in AF determination. It then briefly reviews the role of audit committees and the supply side of the audit market (essentially the Big4 auditors). The latter leads to the exploration of the quality of service rendered, audit market concentration (competition), quality-related scandals and key interventions made by regulators, including government.

Secondly, the chapter highlights issues that focus on the aspect of regulation of the auditors (primarily, professional governance perspective (i.e., **Professional literature**). This is offered initially within the chapter by a review of global governance under IFAC.

3.2:Real World AF Modelling and Audit Governance Issues

Some issues regarding the general background and context of the research have already been briefly reviewed generally**,** especially in Chapter 1. The matters reviewed under this chapter in relation to the latter issues significantly extend and add to the latter issues in many respects. The general context in which this research is being conducted also extends beyond the FTSE 250 and the main variables that determine the AF within this index. In the context of AF modelling, much interest has been shown and several opinions offered by authors, globally, since the early 1970s (Axen, 2020).

3.2.1 Overview of Demand side issues and Related AF Model.

The typical model being adopted by most AF modelling authors was instigated by concern about the competitiveness of the U.S. audit market regarding '*audit pricing and audit production'* for which Simunic (1980) investigated the existence of monopolistic pricing (Axen, 2020 p.1). Simunic's (1980) model considered AF as comprising of two key components, '*attributed to audit effort and the expected loss from litigation'* (p.1). The

modelling within this thesis is similarly focused on client's characteristics due to unavailability of proprietary AF-related data; primarily of the Big4.

Some AF modellers include Taffler & Ramalinggam (1982), Brinn *et al.* (1994), Beattie *et al*. (2001), Campa (2013) (in **UK)**; Gonthier-Besacier & Schatt (2006) (in **France)**; Simunic (1980), Palmrose (1986), Hrazdil, 2020 (in **U.S.**) **and** Francis (1984) (in **Australia).** Other authors include Firth (1985) (in **New Zealand)**; Joshi & Salleh (2014) (in **Malaysia);** Kikhia (2014) (in **Jordan)**; Köhler & Ratzinger-Sakel (2012) (in **Germany**); Kwon *et al.* (2014) (in **Korea**)**,** Owusu & Beko (2019**)** (**in Ghana**) and Castro *et al.* (2015) (in **Brazil**). Despite regional differences, there is virtually a settled opinion from prior authors, globally, that ***size*** (*e.g., represented by turnover or total assets),* ***complexity*** (*e.g., represented by number of subsidiaries*) *and* ***risk*** (e.g., *represented by profit before interest and tax or return on assets)* variables have the most influence on AF, irrespective of the sectoral or national disparities.

Some other determinants include *industry* (Turpen, 1990), *legal propensity*, *auditors' opinion, financial disclosures*, *or regulation* (Taylor & Simon, 1999), *tenure of auditors* (McMeeking, 2000), *location* (Beattie *et al.*, 2001), *joint audits* (Ratzinger-Sakel, 2012), *company's year-end* (Hassan & Naser 2013**)**, *new client status* (Peel, 2013), *client-specific experience* and *audit team industry experience* (Contessotto *et al.,* 2021). The effect of the three factors (size, complexity, and risk) are usually accentuated within certain sectors in large multinational companies (Kikhia, 2014).

The audit committee also plays a vital role in the contextual environment in which the audited information and the auditor's communication are rendered and received (Lo Bue, 2006). A variable representing the competence of the audit committee is also being tested in this

research[19]. While directors are charged with preparing the annual accounts and the auditors are charged with conducting the external examination of the statements, the main intermediary between them is the audit committee (which is present in large UK companies, such as the FTSE250). The committee is charged with reviewing and approving the work of the directors, the auditors, those of shareholders and possibly other stakeholders (Lo Bue, 2006).

For the latter purpose, its activities are directed towards analysing and understanding the company's financial reporting systems, its processes, its output, and the auditor's findings. Al-Baidhani (2019, p.45) emphasises the cruciality of the audit committee *'as a representative of the board of directors and main part of the corporate governance mechanism, the audit committee is involved in the organization's both internal and external audits, internal control, accounting and financial reporting, regulatory compliance, and risk management'*. Indeed, in May 2023, the FRC issued a Standard ('Audit Committees and the External Audit: Minimum Standard (FRC, 2023), indicating responsibilities of audit committees regarding external audit. These include the tendering process and the choice of auditors, risks associated with audit quality, bidding for Non-Audit Services (NAS) and compliance with agreed audit plan.

3.2.2: Overview of Supply-based Issues

To a limited extent, some aspects of the Big4 have been offered in the earlier chapters. However, a discussion of the research context of this study, rightly deserves further of discussion and acknowledgement of this category of auditors (Big4) who dominate the FTSE 250 audit market. Details of some professional developments and regulation of auditing in UK is elucidated under *Professional literature* within this chapter, Hence this aspect mainly focuses on certain aspects of the Big4 auditors such as audit oligopoly and audit scandals. In

[19] See Chapters 7, 8 and 9

the development of an audit pricing model for AF, Simunic (1980) primarily investigates premia charged by the 'Big8' audit firms. The study finds evidence of price competition within the audit market for Public limited companies (Plcs) in the U.S.

However, several subsequent authors (e.g., Carson *et al.*, 2004; Kohler *et al.*, 2010)) conclude that small clients are charged a premium by 'Big' audit firms. Beattie *et al.* (2001) highlight Simunic (1980)'s explanation that 'Big' auditors enjoy an economy of scale, which they also transfer to clients in the form of lower AF. More recent authors (e.g., Owusu & Bekoe, 2019) investigate the existence of audit premia and AF as a means of assessing the supply side of the business context, in which independent audit is being conducted by the Big4. They conclude that the Big4 variable can be a significant driver of AF, due to their reputation, experience, and expertise (Owusu & Bekoe, 2019 p.52).

As a result of client's perception of the quality of their services, international visibility, the qualifications, the level of training of their audit staff and their extensive network of partner firms (which can address local and international issues), the Big4 firms remain dominant in the audit market (Paul *et al.,*2021). Since AF are set at a level that ensures recoverability of the costs (of their elaborate financial investments), clients of Big4 auditors therefore tend to pay increased fees. Empirical studies therefore demonstrate that the qualities of the Big4 firms cause them to have significant and positive influence on AF (El-Gammal 2012; Paul *et al.,*2021). Further consideration relating to the Big4 has also been provided elsewhere within this thesis. [20]

[20] Chapter 5

3.2.3:Overview of the Quality of Service within the Audit Market

Further, the business context should also be considered in the light of the ability of auditors to conduct their work with professional competence and scepticism. In the past two decades, the profession has been plagued by international scandals (Sikka, 2018). Most of the scandals are underpinned by profession incompetence and accusations of connivance and cosy relationships with audit committees which have raised issues of audit quality and lack of professional scepticism (Sweet, 2018). Some of these scandals include Enron in 2001, WorldCom in 2002 and GE in 2018 (in the **US**); Carilion and BHS in 2018 (in the **UK)**, and The Gupta-owned companies (VBS Mutual Bank and Steinhoff International Holdings NV) in 2018, (in **South Africa**) (Blackburn, 2019 and Accountancy Age, 2019).

The consequences of the professional incompetence include several investigations of auditors in the UK by the FRC and relevant regulators in other countries (Sikka *et al.*, 2019). Much earlier, Sikka (2009) stresses that the social value of audit as an effective monitoring tool in corporate governance had been much deprecated since the 2007-2008 financial crisis. It contends that the utility of audit examination rests, partly on the independent state of mind with which an auditor should approach his work, including the degree of objectivity. This is appropriately summed up in the assertion of the author, which deserves quoting without any form of moderation**:**

'*Accountants, as auditors, have cemented their status and privileges based on claims that their expertise enables them to mediate uncertainty and construct independent, objective, true, and fair accounts of corporate affairs. This expertise, it is claimed, enables markets, investors, employees, citizens, and the state to limit and manage risks. Such claims, however, are precarious as measures of revenues, costs, assets, liabilities, and profits are contested*

technically as well as politically and also because capitalist economies are inherently prone to crises. The claims of expertise are ***frequently punctured*** *by unexpected corporate collapses, frauds, and failures. Such events fuel the suspicions that auditor's lack the requisite independence, expertise, and incentives to construct the promised 'true' and 'fair' account of corporate affairs.* ***They also provide an opportunity to reflect and (re)construct the role of auditing in contemporary society'*** (Sikka, 2009 p.1).

According to D'Silva (1992), one of the more distinctive features of a profession is that it does have autonomy on matters such as entry requirements, professional standards, validation, certification, the enforcement of ethical standards and related disciplinary matters. However, in return for this autonomy, society expects them to comply with ethical standards that are far more stringent than those expected of or from non-professionals. The culpability of auditors in unethical practices and conflicts of interest has been much documented by critical accounting authors in developed and developing countries (García-Benau and Humphrey, 1992; Sikka & Willmott,1995; Bakre, 2007; Sikka, 2009; Sikka *et al.,* 2009; Guénin-Paracini & Gendron, 2010; Otusanya & Lauwo, 2010; Sikka *et al*., 2019).

Considering the above, and in similarity with other professionals, the auditors' work may on occasion, fall below standards expected of them, professionally (or by virtue of client or societal expectations). However, this has been made worse by the fact that some distressed enterprises *'whether in the UK, USA, Germany, Iceland, The Netherlands, France or Switzerland'*, collapsed just after they had received auditors' unqualified audit opinions on their annual accounts (Sikka, 2009, p.1). Such occurrences call for a reassessment of the level of trust engendered by the independent audit and its methodology, including the huge amount of fees paid to the Big4 auditors. Issues regarding some of the proposals put forward by the

Brydon (2019) Review were exposed in Chapter 1.

A typical case at the outset of the financial crisis was Lehman Brothers in the U.S., which received an unqualified audit opinion from EY on its annual accounts in January 2008 and later, on its quarterly account in July 2008, despite having a leverage ratio of 30 to 1(Sikka, 2009). Financial difficulties were exposed within one month (in August 2008), followed by bankruptcy in September 2008. Other examples of companies that collapsed during the financial crisis (after receiving a clean bill of health) include Bear Stearns, Carlyle Capital Corporation and Thornburg Mortgage (Sikka,2009). During this financial crisis in the UK, PwC issued an unqualified report (in February 2007) for Northern Rock's financial statements for the year ended 31 December 2006, but the bank's economic stress was indicated a few weeks later, leading to emergency support from taxpayers' funds to the tune of £30bn (Sikka *et al.,*2018).

Halifax (Bank of Scotland) also collapsed within seven months of receiving an unqualified report from KPMG (Hoskin, 2017). In 2018, the FRC fined KPMG UK, £3m and the senior statutory auditor and audit engagement partner (£80,000) over misconduct for the audit of British clothing retailer (Ted Baker) for the financial years ended 26 January 2013 and 25 January 2014 (Pickhard,2018). Also, within UK, PwC incurred a fine of 6.5m over the BHS audits, whereby it issued an unqualified report for the year ended 30 August 2014 shortly after which the firm was sold for £1, by Phillip Green (Skoulding,2018). Carilion collapsed in January 2018 despite being audited by KPMG for 19 years and other Big4 firms being involved in some other capacities (e.g., as internal auditors) prior to its collapse (House of Commons Library, 2018 and Sikka *et al*., 2018).The company's business model was overtly based on '*a relentless dash for cash, driven by acquisitions, rising debt, expansion into new markets and*

exploitation of suppliers …', yearly increase in dividend, accounts filled with misrepresentations, the obvious protection of generous executive bonuses and an inadequate provision for long term obligations (e.g., pension schemes) (House of Commons Library 2018, n.p. and The Guardian, 2018, n.p.).

KPMG signed off Carillion's accounts every year since the company's inception in 1999. Therefore, the researcher considers it incongruous not to expect that the accounting firm was aware of the problems that cumulatively triggered the collapse of the company in 2018. At the time, the company went into liquidation in January 2018, it had liabilities of nearly £7 billion and just £29 million in cash (www.parliament.uk,2018). Stakeholders, including regulators have adduced various opinions as to possible reasons underpinning this pervasive professional incompetence. They include the size of AF being received by auditors, the close relationship between auditors and the Boards, as well as the lack of professional scepticism or vigilance (The Guardian, 2018).

These reasons are usually counterbalanced by opinions of the accounting firms, most of which seek to minimise the accusations made. They justify the fees paid and attribute perceived failures to audit expectation gap. For instance, the then chair of the BEIS (Business Enterprise and Industrial Strategy) committee chair (Rachel Reeves) responded to the Carillion scandal by stating that '*either KPMG failed to spot the warning signs, or its judgement was clouded by its cosy relationship with the company and the multi-million-pound fees it received.'* (The Guardian,2018 n.p.).

In return, KPMG chairman claimed, '*the audit work we did was appropriate and responsible.' … it is 'not correct that an unmodified audit report gives a company a "clean bill of health"'*

and the auditors identified the *'expectation gap'* which subsists in connection with the purpose and nature of an audit (The Guardian,2018 n.p.). As of January 2019, the FRC investigated audits by Grant Thornton for three years (i.e., 2015, 2016 and 2017) for several accounting irregularities and fraud which were alleged to have been discovered in Patisserie Valerie in October 2018, leading to its going into administration in January 2019. In October 2021, Grant Thornton and its Audit Engagement Partner were also fined £1.3 million and £70,000 respectfully, by the FRC for the audit of Interserve Plc (in administration) regarding scepticism failures connected to important judgments and accounting estimates.

In some other countries, the scandals have also appeared to be pervasive within the audit market amongst the Big4. In 2019, a former KPMG auditor in South Africa was found guilty of gross negligence, lack of professional scepticism and dishonesty by changing financial statements to enable a client to evade tax (Pickard, 2019). This relates to the much-publicised scandal relating to the audit of Linkway Trading, associated with the family of Gupta, a South African billionaire. In March 2018, the US Department of Justice agreed to a settlement of $149.5m (£108.4m) with Deloitte over the audits of Taylor, Bean and Whitaker (TBW), a mortgage lending firm which it audited between 2002 and 2008, before it collapsed in 2009 (Pickard, 2019).

This was attributed to claims that Deloitte's knowingly failed to adopt applicable auditing standards; resulting in its inability to detect fraudulent conduct, materially false and misleading financial statements in relation to TBW's financial statements. Impliedly, the auditors appear to be treated preferentially in terms of the nature of the consequences of their actions. For instance, in the UK, the FRC has not prosecuted any of the Big4 auditors for incompetence or negligence (Sikka *et al.,* 2019).

On a global note, a report by The International Forum of Independent Audit Regulators (IFIAR) warned the top six auditing firms (PwC, Deloitte, KPMG, EY, Grant Thornton and BDO) of the need to review their culture and tone, regarding commercial concerns and profitability which might be limiting the quality of their audit work (Sukraj, 2015). In 2018, the International Ethics Standards Board for Accountants (IESBA) also issued a Consultation Paper aimed at building confidence in the global accounting and audit profession to define and improve the standards of professional scepticism shown by accountants and auditors (IEBA, 2018). AF paid should be earned by the auditors both in terms of the quality of service, the level of professionalism and trust associated with their services.

'The audit function is rooted in the ***confidence*** *that society places in the* ***effectiveness*** *of the audit and on the* ***opinion*** *of the accountant (i.e., the auditor) … If the* ***confidence is betrayed*** *the* ***function too is destroyed*** *since it becomes useless.*' (Millichamp, 2019 p.14). Understanding governance of AF, provides directors with more appropriate barometers /benchmarks against which the audit expense is assessed and may be judged against quality of services rendered.

3.2.4:Ineffectuality of the Audit Regulator – Focus on U.K. (FTSE Market)

Auditors occupy a position of trust in the society; hence it is not only obligatory for auditors and their regulators to act accordingly, but they must also be seen to have done so accordingly. An atmosphere in which regulators are not effective (or not perceived to be effective) in the fulfilment of their duties, would enable the auditors to overlook professional standards. There has been increasing criticism about the way the FRC works, including allegations of *'regulatory capture and an impossible and conflicted brief'* (Irvine, 2018, n.p.). The author highlights the condemnation of the FRC by MPs in a joint inquiry of two select committees

into collapse of Carillion, describing the FRC as '*useless'* in relation to Carillion and its auditors (KPMG) and '*toothless'* and *'ineffective'* in its capacity as regulator (Irvine, 2018, n.p.).

The accusations of regulatory capture by the Big4 are strengthened by the fact that the FRC and ICAEW have never examined them over illegal tax plans (Connett, 2016). Indeed Connett (2016, n.p.) states '*The FRC and the ICAEW are essentially regulation of the big four by the big four for the protection of the big four'*. If so, this could encourage audit oligopoly and increase AF. In some cases, this is worsened by regulation. For instance, the implementation of the ARD (2014) reforms requires MAR by all listed companies, but it rests substantially on audit committees for its implementation, including the initial choice of auditors and assessment of their performance (2014) requires at least one committee member to have Competence in Accounting And/or Auditing (CAAA) which is like the requirement of the UK Corporate Governance Code (UKCG) (2018) for at least one committee member to have '*recent and relevant financial experience'* (Smith, 2014 p.67, UKCG 2018.P.10).

The prime candidates to be selected based on these requirements are ex-partners of Big4 firms (Smith, 2014). It can be argued that this requirement for relevant financial experience is necessary, but its implementation may well be significantly influenced by regulatory capture. If so, the related objectives of the ARD (2014) and UKCG (2018) in that regard may not be sufficiently realised. The problem is also accentuated in terms of the membership of the FRC which regulates the Big4 audit firms. This is because nine out of the sixteen senior executives at the FRC were alumni of the Big4 firms in 2018 (with five coming from PwC alone) and this compounds the problem of regulatory capture by the Big4 audit firms (Smith, 2018). In the UK, the government's business department conducted a Review into the performance of FRC

under the chairmanship of Sir John Kingman (Bunney, 2018). The Financial Times analysed twelve key responses to that Review (based on participation shareholders, fund managers, and accountants alike) and found expressions of concern about the incompetence of the FRC and lack of confidence in its Review into the collapse of Carilion in 2018 (Skoulding, 2018 n.p.).

The author highlights the level of dissatisfaction expressed by two associations which represent individual shareholders by stating that: '*In practically every financial scandal or crisis, the FRC seems to have taken far too long to decide [on an outcome] and too often has concluded that nothing has gone seriously wrong'.* The Kingman Review recommends abolition of the FRC and replacement by the Audit, Reporting and Governance Authority (ARGA) (Bunney,2018). It finds the FRC not fit for purpose, and that it had serious problems with its recruitment strategy (including the networks based on Big4 alumni). There is also a suggestion for ARGA to have more power of oversight (than the FRC) on public audits which are to be conducted by the National Audit Office.

It suggests the necessity to blow the whistle when something is going wrong (e.g., introducing a '*duty of alert'* for auditors to report '*viability or other serious concerns',* as operates in France) (Ashworth, 2018 n.p.). It went as far as suggesting that ARGA could make recommendations to a company's shareholders (e.g., in relation to dividends or dismissal of staff, in severe cases which merit such intervention). It mainly concludes that the FRC 'lacked the necessary powers and clarity of purpose to hold auditors and directors sufficiently to account and recommended that it be replaced' (BEIS, 2021p.14). Some of its recommendations include auditors requiring a separate and independent profession with its own governing principles and qualifications, including a statement which commits auditors to public interest and not just to shareholders (Hambly, 2020).

The Review concludes that statutory audit should be '*more informative, and that higher expectations should be placed on both directors and auditors to deliver more useful information to the users of reports'* (BEIS,2021 p.14). Globally, the influence of the Big4 in different countries also indirectly highlights its complicity with regulatory bodies (or regulatory laxity) within the audit market. For instance, in its 2016 inspection, the Public Company Accounting Oversight (PCAOB) in the U.S., found that KPMG had inappropriately acquired advance notice of some audits of its clients by connivance with ex-staff of the PCAOB (INSIDE Public Accounting, 2019).

This enabled KPMG to be aware of the audit engagements that PCAOB intended to inspect. Hence, the audit firm was able to review and revise audit working papers and improve them ahead of the inspection.

3.2.5: Overview of Competition: With focus on the FTSE Audit Market

To a large extent, the concentration and competition in the audit market within the UK audit market, was highlighted within chapter 1 and within this chapter. On a global basis, the combined revenue of the Big4 was about USD157bn in 2020 (Statista,2021). Between 2007 and 2017 the combined revenues increased from USD89m to USD142bn which made them the 56th largest economy, at the time (Sikka *et al*., 2018). This is partly caused by multinational companies that have substantial global reach and therefore insist on the services of large auditor-networks that have similar reach and consistent auditing expertise, globally.

The argument may well be made that the auditor-networks invest substantial amounts in acquiring and developing the necessary tools and skills to meet the quality audits across the world. This is significant to the main thrust of regulating competition, since any measures

aimed at constraining the audit-networks, artificially, could also be considered as inappropriate, and likely to reduce (instead of promoting) competition (in terms of AF). This could also minimise a company's options when choosing an auditor and limit the ability of the auditors to sustain good audit quality. Additionally, in the UK, the CMA (Competition and Markets Authority, 2019) conducts a market study into competition within the statutory audit market (of the FTSE 350) and makes some recommendations.

Table 3.1: Listed company audits concentrations (2016 to 2020)

AUDIT FIRM /CLIENT SEGMENTION - PERCENTAGES										
Audit Firm Category	**FTSE 100**					**FTSE 250**				
	2016	**2017**	**2018**	**2019**	**2020**	**2016**	**2017**	**2018**	**2019**	**2020**
Big4 Firms (%)	99.0	99.0	100.0	100.0	100.0	**96.4**	**96.8**	**96.0**	**94.8**	**91.6**
Next Five Firms (%)	1.0	1.0	0.0	0.0	0.0	**3.6**	**3.2**	**4.0**	**4.8**	**7.6**
Other Firms ((%)	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**	**0.0**	**0.4**	**0.8**
Total	100	100	100	100	100	**100**	**100**	**100**	**100**	**100**

Source: Author (2024)

These include having an operational split of the work of the UK Big4 between audit and non-audit work and having mandatory joint audits (with challenger firms working alongside Big4 firms and assuming joint liability for such audits). It also suggests that the regulator (of auditors) holds audit committees more vigorously to account, with public reprimands for companies, if their committees fail to scrutinise their auditors. The CMA (2019) requires a 5-yearly review of the progress of the new system to identify the extent to which the operational

split and joint audit are working and whether to recommend independent appointment of auditors. It concludes that an unhealthy dominance by the Big4 exists within the statutory audit market for larger companies and called for new measures of improving competition, quality, and resilience in the delivery of audit services.

The audit concentration in the audit market is still being reflected in more recent times as demonstrated in the **Table 3.1** above, which was authored by FRC (2021, p 48) in their '*Key Facts and Trends in the Accounting Profession'.* It exposes the '*Listed company audits concentrations, 2016 to 2020'.*

3.2.6: Government Response to Key Reviews

Based on Kingsman, CMA, and the Brydon Reviews already discussed above, the BEIS issued a white paper on '*Restoring Trust in Audit and Corporate Governance'* in March 2021 (BEIS, 2021p.1). The approach is holistic, since it involves directors, auditors, shareholders, and the audit regulator. It opines that the FRC could not sufficiently hold directors to account unless they are members of professional bodies. The paper requires new reporting and attestation requirements regarding internal controls, dividend and capital maintenance decisions, and resilience planning. Although auditors assess directors' compliance with legal obligation and accounting standards together with an opinion that the statements are free from material misstatements, it concludes that they fail to address the increasing expectations of users of company reporting.

Therefore, it argues that a more informative and forward-looking audit report is necessary. It supports a new audit profession with obvious public-interest-focus that reaches across all forms of corporate reporting rather than just financial statements, together with better opportunities

for challenger firms (e.g., *Binder Dijk+er Otte* - BDO). There is a new requirement to separate audit and non-audit practices to further the promotion of competition and minimise conflict of interest. Directors are to publish an Audit and Assurance Policy which for the benefit of shareholders which will be subjected to shareholder advisory vote and can propose areas of emphasis to be considered within the auditor's annual audit plan to the audit committee.

While the participation of shareholders (as principals) is welcomed by the researcher, consideration must be given to the fact that the regulations apply to large (and usually international) companies with increased asymmetry of information between shareholders and management regarding the audit plans (as envisaged by AT). Due to the above handicap, it might be preferable for the legislative requirements to be very categorical about the persuasive power of such an advisory role by shareholders. For instance, a huge majority of shareholders could vote against aspects of governance which have been initiated by the audit committee (who are generally more knowledgeable about the audit plans that shareholders would be required to vote on).

Hence, legislative strands should be minimised, while attempting to improve governance, because of the possible influence of unnecessary layers of governance. In broad terms, this appears to be buttressed by the current president of the ICAEW in his response to the government proposals: *'If you bring in a lot of legislation in a particular area, instead of improving things you may make them worse. It happened in housing, it happened in local government, it happened in a lot of areas.* ***We are trying to prevent the same thing happening in accountancy and audit****.... 'We are concerned as to whether there's been a* ***full understanding and thinking*** *through of the* ***consequences of some of the proposals****."* (Alberti,

2021,n.p.). Regarding the future regulator (ARGA), BEIS recognises the requirement for legislation to remodel and empower it.

Thus, the BEIS white paper (BEIS, 2021), proposes new statutory objectives and functions including new levy to replace the voluntary levy. New powers will be given to ARGA to strengthen corporate reporting review, its oversight of audit committees and the enforcement of corporate reporting duties of directors. It would also decide on individuals and audit firms that can audit Public Interest Entities (PIEs).

3.3: Professional Literature

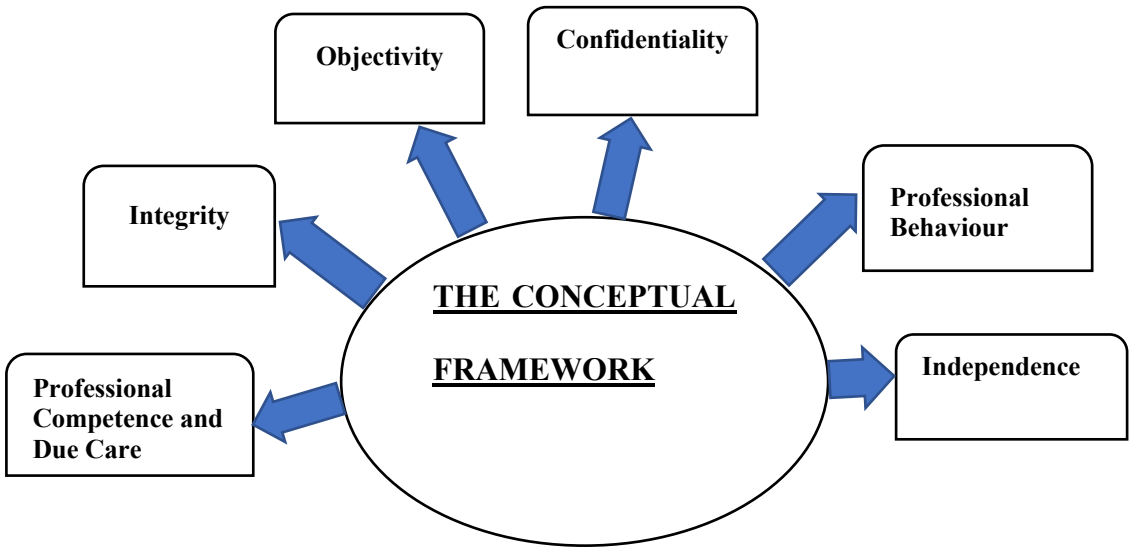
In terms of Professional focus, it is desirable to consider some structures within which the profession operates and is regulated/governed. This is because the obligations of the auditor and hence the variables involved in AF modelling are to some extent, determined or influenced by national and/or professional regulations. For instance, proportion of Non-Audit Fees (NAF) to AF for any particular year should not exceed 70% of the average NAF billed in three previous years for PIE, its parent, and subsidiary companies (FRC, 2019; ICAEW, 2020). Similarly, AF charged by their ICAEW members for any PIEs should usually not exceed 15% of the auditor's total annual fees. Hence this is also relevant to some objectives of the research and a review of the governance of the profession is conducted below, with emphasis on the UK. .

3.3.1: An Overview of Governance of The Audit Profession.

An auditor's duty involves the rendering of an attestation service in which a written report (i.e., an audit report) is issued, expressing an opinion as to whether the financial statements are fairly stated in conformity with applicable accounting standards and other aspects of regulatory

framework (Elder *et al*.,2020). In this regard, the auditor's report may emphasise some issues or be modified depending on the auditor's findings. **Globally**, IFAC develops standards in

Figure 3.1: Fundamental Principles within the Enhanced IFAC Conceptual Framework



(IFAC, 2021).

accounting and auditing for implementation in different national jurisdictions to minimise the asymmetry of information between nations (Millichamp and Taylor 2018). Because accounting is not an exact science, national and international standards may be subject to different interpretations in different jurisdictions.

Accordingly, some attempts have been made to promote uniformity in application of standards. One of the major steps taken, includes the issue of a principled-based Conceptual Framework in 2010 which specifies the objectives (and the users) of financial statements as well as the basic reasoning underpinning both the financial statements and financial reporting in general (Croner-i, 2019). The profession is also bound by ethical guidelines which seek to promote transparency and trust amongst auditors so that the confidence is not betrayed (Millichamp and

Taylor, 2018). Therefore, auditors as accountants are bound by the IFAC's **Ethical Code** which is based on Integrity, Objectivity, Professional Competence and Due Care, Confidentiality and Professional Behaviour and Independence (IFAC, 2021) **(See Figure 3.1,** above**)**. Within the Code, the fundamental principles indicate the standard of behaviour required from professional accountants and reflects the profession's acknowledgement of its public interest responsibility. The categories of threats to these principles remain self-review, self-interest, advocacy, familiarity, and intimidation threats.

The framework comprises a set of principles-based provisions within the Code that all professional accountants are required to apply when dealing with ethics and independence matters. It involves a three-step approach which identifies, evaluates, and addresses threats to compliance with the fundamental principles. The body of regulation including statutory pronouncements from professional and regulatory bodies, legislation, pronouncements from professional and legal decisions (that relate to the conduct or assessment of auditor's work) together, constitute Generally Accepted Auditing Standards (GAAS) (ICAEW, 2019; Millichamp & Taylor, 2019). The International Auditing and Assurance Standards Board (IAASB) issues International Standards of Auditing (ISA's) (Millichamp & Taylor, 2019)

The International Accounting Standards Board (IASB) develops and approves International Financial Reporting Standards (IFRSs). At **national levels**, different Bodies assist IFAC in regulation of auditors as part of a global profession. Hence, in the UK in which the FTSE 250 are based, the FRC is principally charged with regulation of auditors (expected to be replaced by ARGA in 2024 at the earliest). In the U.S, the Public Company Accounting Oversight Board (PCAOB) (which was created by the Sarbanes-Oxley Act 2002 Act (SOX), registers, inspects, investigates, disciplines, and oversees the quality of auditing (PCAOB,2021). Audit being one

of the strands of corporate governance, must also assess compliance with relevant Governance Codes at national/international levels.

One of the global codes is the Organisation for Economic Co-operation and Development (OECD) code which is promoted by IFAC. This principles-based approach is different from the legal (or rules-based) approach in the U.S. which is underpinned by the SOX rules (ICAEW,2021). To promote these principles, there have been several requirements in countries e.g., for MAR (Mandatory Auditor Rotation in UK (and the EU) or MPR (Mandatory Partner Rotation in the U.S) (Jong *et al.*,2020). In the UK, there have been various strands of regulators and regulation. These include the FRC, (UK regulator of auditors), Competition and Markets Authority (CMA), Regulatory Supervisory Bodies (e.g., ACCA (Association of Chartered Certified Accountants), ICAEW (Institute of Chartered Accountants in England and Wales)).

Some international regulations include revised professional standards (e.g., International Auditing Standards (IAS's) issued by International Federation of Accountants (IFAC) through the International Auditing and Assurance Standards Board (IAASB) and the EU Regulations and Directives. The poor audit quality and incompetence which resulted in the global financial crisis in 2008, do not appear to have provided a turning point for the Big4 auditors (Inman, 2018).

In relation to the failure of Carilion, the FRC contends that the audit profession had demonstrated a '*failure to challenge management and show appropriate scepticism across their audits'* in one instance; and that there had been an '*unacceptable deterioration'* in the quality in the work of KPMG (Davies,2018, n.p.). In 2015, the requirement for 'Key Audit Matters' (KAMs), through ISA 701 in the audit reports of listed companies (where appropriate)

was a key step taken by the IAASB meant to highlight *'those matters that, in the auditor's professional judgment, were of most significance in the audit of the financial statements of the current period'* (IAASB, 2019, n.p.).

The Audit Firm Governance Code (AFGC) (2022) is an integral part of the UK regulatory framework with a few proposals to address the regular scandals involving auditors and the reforms made by the BEIS (FRC, 2023). It is underpinned by a set of Principles, with '*comply or explain'* Provisions, and is meant to improve the governance of the largest audit firms with a primary purpose of protecting audit practice and promoting high audit quality (FRC,2023 p.17). In so doing, it aims to promote public confidence in the profession and market resilience. It emphasises the need for audit firms to take public interest into consideration in terms of how they operate to enable high-quality audits to be attained by stable and resilient audit firms.

Its application is to the whole firm, rather than just the audit practice. Its scope is limited to firms that audit 20 or more PIEs or firms auditing at least one FTSE 350 company. It makes provision for Independent Non-Executives (INEs) (at least three in number) who must be given full visibility of the whole business, timely access to information, and powers to challenge senior leaders and influence decision-making. INEs represent the public interest and guide and challenge in respect of a firm's activities. Firms are required to have checks and balances on individual power, develop appropriate culture that leads people to consult, challenge and contribute ideas to achieve high quality work that considers public interest.

3.4: Chapter summary

The Chapter mainly devoted itself, firstly, to the discussion of Contextual issues relating to AF modelling as a global concept which has promoted much scholarly interest, while offering

some illustrations. It provided an overview of the governance of audit, in terms of the significant role of internal agents (i.e., audit committees) and later, external agents (auditors) and regulators. Hence it offered discussion on some of the dynamics and issues prevailing within the audit market (e.g., competition (oligopoly), level of proficiency and regulation (or lack of it)). It highlighted some key reforms undertaken to promote competition and instil confidence in the market; especially nationally. It concluded with a review of Professional Literature especially with reference to how auditors are regulated in different settings with focus on UK. The next chapter reviews some audit-related theories, principally AT, before ST. Uniquely, the chapter also explores the audit - relevance of some theories which were not identified as being previously associated with AF modelling or in pervasive use, as such.

CHAPTER 4

Review of Research Relevant Theories and Related Proposition (OBJ1).

'Theory is the most basic and fundamental building block in scholarly research' (Miles, 2012 p.6)

4.1: Chapter introduction

The previous chapter devoted itself to a review of Contextual and Professional Literature that could be linked to the outcomes of this research by furthering the discussion of the demand-side (i.e., FTSE 250 firms and their audit market) and the supply-side factors (mainly the Big4 audit firms, the market concentration and accounting scandals). It also reviewed the general regulation of the audit market including some reforms, with focus on the UK in which the FTSE 250 index is located.

The purpose of this chapter is to review theories which form the basis for which propositions are evaluated and from which the relevant hypotheses are spawned in this thesis. In so doing, the chapter, **firstly,** offers a literature review of possible theories; mainly AT and ST that could be linked to the outcomes of this research both quantitatively and qualitatively and also with RCT, qualitatively. Some theories which are either under-developed or not linked to AF modelling by prior authors in the field of AF modelling are also reviewed, so as to provoke future research since they appear relevant but do not appear to be critical to AF modelling (determination) or this research.

Secondly, the chapter considers the relevance of the theories to the domain of audit, CG and later to AF determination to provide a good basis for addressing **OBJ1 (1.1)** which has a global **theoretical** determination within this chapter and later regarding **hypothesis** development in

OBJs 2-4 in Chapter 6. The chapter then goes on to link prior research with some relevant variables on an author-by-author bases.

Thirdly, the chapter considers the **limitations** of the **main theories** of AT, ST and of general AF modelling **design** in **OBJ1(1.2).** This is to encourage development of AF modelling by provoking a debate (within future researchers) into the applicability/degree of suitability of the research theories. Thus, the following paragraphs devote themselves to doing so.

4.2: Consideration of the Main Research Theories

It is worth stating that **OBJ1** is theory-based and aimed at identifying and evaluating the **key theories** which underpin AF modelling , **generally** (i.e., **not limited to the FTSE 250**) and the limitations of such theories and those of AF modelling design. Hence **OBJ1** is **being fully addressed** within this general theory-focused chapter, unlike the other **theory-based** objective (OBJ5) which deals **specifically** with theories that underpin AF movements in relation to MAR.

4.2.1: (OBJ)1: Main Objective (as expressed below).

To identify and evaluate key theories and literature that help to explain or influence how AF are determined.

Although the relevance of some theories (e.g., signalling theory) to audit and AF modelling has been demonstrated (to some extent) in prior AF determination studies (Wu, 2012), they do not appear to substantially explain issues relating to AF determination. That is, issues that bother on the main thrust of the justification for audit and the variation anticipated in AF regression models. Due to the arguments made earlier (e.g., in Chapter 1 about the separation of ownership from control and also below regarding **AT** and **ST,** these latter theories have

therefore been considered more relevant to this research. This is because they are central to addressing **information asymmetry** which is fundamental to **CG** and hence audit (including financial corporate governance of AF). **RCT** is of some qualitative relevance within the audit market, and this is inferred in part (e.g., in the form of Big4 audit oligopoly, regulatory capture and AF premia),within the previous chapter.

4.2.1.1: OBJ 1. : Sub- objective 1.1

To identify and evaluate key corporate governance (or other theories) and literature that help to explain/ influence how AF are determined.

AT is most appropriate theory to this thesis because much of the thinking underpinning this theory is found to be in good accord with the sentiments of audit as a CG tool. Audit seeks to **minimise** asymmetry of information between stakeholders and management, while inducing stewardship and accountability in general. By itself, this also tends to earn and maintain an appropriate level of Financial Corporate Governance (FCG) - so helping ensure continuity in the market. The Board of directors acts as one of the key agents of the shareholders (as in **AT***)* and in recent years, must act on behalf of a **wider span** of interested parties especially by virtue of the size, structure, and complexity of the modern corporation as in **ST** (Freeman,1984, Miles, 2012).

Because directors are assumed to be privy to inside information, this causes tension and mistrust which creates the need for an independent verification of management's assertions within financial and other statements to reduce the information asymmetry (ICAEW, 2005). The theories (mainly AT and ST) have been deployed in several aspects of thesis, qualitatively and quantitively. **Qualitatively**, some **propositions** are developed to evaluate any potential linkages between individual /or sets of variables to generate one or more possible theoretical

associations (as in (OBJ1- within this chapter) which focuses on AF modelling theories **generally.** OBJ5 also offers propositions (in Chapter 5) which attempt to associate theories with the influence of MAR on AF. **Quantitatively,** OBJs 2,3 and 4 develop hypotheses to see if the actual linkages between individual and/or sets of variables are consistent with those suggested by AT and ST, mostly (as in Chapters 6).

Regarding this sub-section (i.e., **Objective 1.1** as indicated above), research leading to this thesis indicates a lack of generalised agreement and/or extent of disclosure/explanation (by authors) of theoretical linkages with AF modelling literature. Hence a gap exists which can be narrowed by this research by confirming some key related theories or identifying additional relevant theories relating to AF modelling for future exploration (e.g., Dynamic Capabilities Theory (DCT)[21]. The above preamble leads to **Proposition 1.1(OBJ1).**

4.2.2 :OBJ. 1.1 Proposition 1.1 (OBJ1)

That the AF-Modelling framework is facilitated by Corporate Governance and other Theories especially Agency, Stakeholder and Regulatory Capture Theory.

4.2.2.1 AT - Considerations and Explanations OBJ1(1.1)/ Proposition 1.1

Typically, principal-agency relationship exists when the principal (represented by one or more persons or entities) contracts a person or an entity (an agent) to perform a service and to whom some decision-making authority has been delegated (Haque,2014). Hence, at the core of that relationship is **trust** which is significant to CG (from which audit emanates). The latter study also asserts that diverging interests will exist (to some extent) between the agent and the principal. Consequently, asymmetry of information is likely to subsist due to withholding of

[21] As elucidated in subsequent paragraphs within this chapter.

information by the agent or by engaging in other opportunistic behaviour in a situation where all likely contingencies or behavioural uncertainties were not specified in the contract (Jensen and Meckling,1976). This opportunism exists even if the contract accommodates incentives to motivate the agent or provide monitoring devices to minimise the agency problem (ICAEW, 2005).

Most of the research relating to CG, derives from AT (Yusoff and Alhaji, 2012) hence earlier authors on CG (e.g., Berle and Means, 1932), considered the Board of directors as '*a crucial monitoring device to minimize the problems'* arising the principal-agent relationship (p.52). Accordingly, directors have been charged with preparation of the financial statements of companies. However, additional confirmation of directors' stewardship; primarily to their principals (shareholders) is required, for which AF is incurred. It can be argued that the diverging interests which give rise to the agency problem (based on mistrust) (Miles, 2012; Nordberg, 2011) creates the presumption that if agents have any opportunity to benefit themselves at the principal's expense, then they will. This adversarial backdrop prompts the principals to incur agency costs (including AF) which could align the interests of their agents with their own interests (Stewart, 2011).

4.2.2.2: Specific Relevance of AT to AF Determination (Modelling)

In the opinion of the researcher, AF modelling involves an attempt to arrive at a statistical norm (barometer) for the determination of audit fees in relation to several factors, variables, or constructs. Therefore, AF charges which significantly differ from the norm will usually attract some concern by the principals in relation to stewardship of directors (as in AT). In some cases, agency-related behaviour of Big4 auditors leads to discounting of AF to secure a new engagement; (termed low-balling) (Paul *et al,*2021). This may demotivate an auditor from

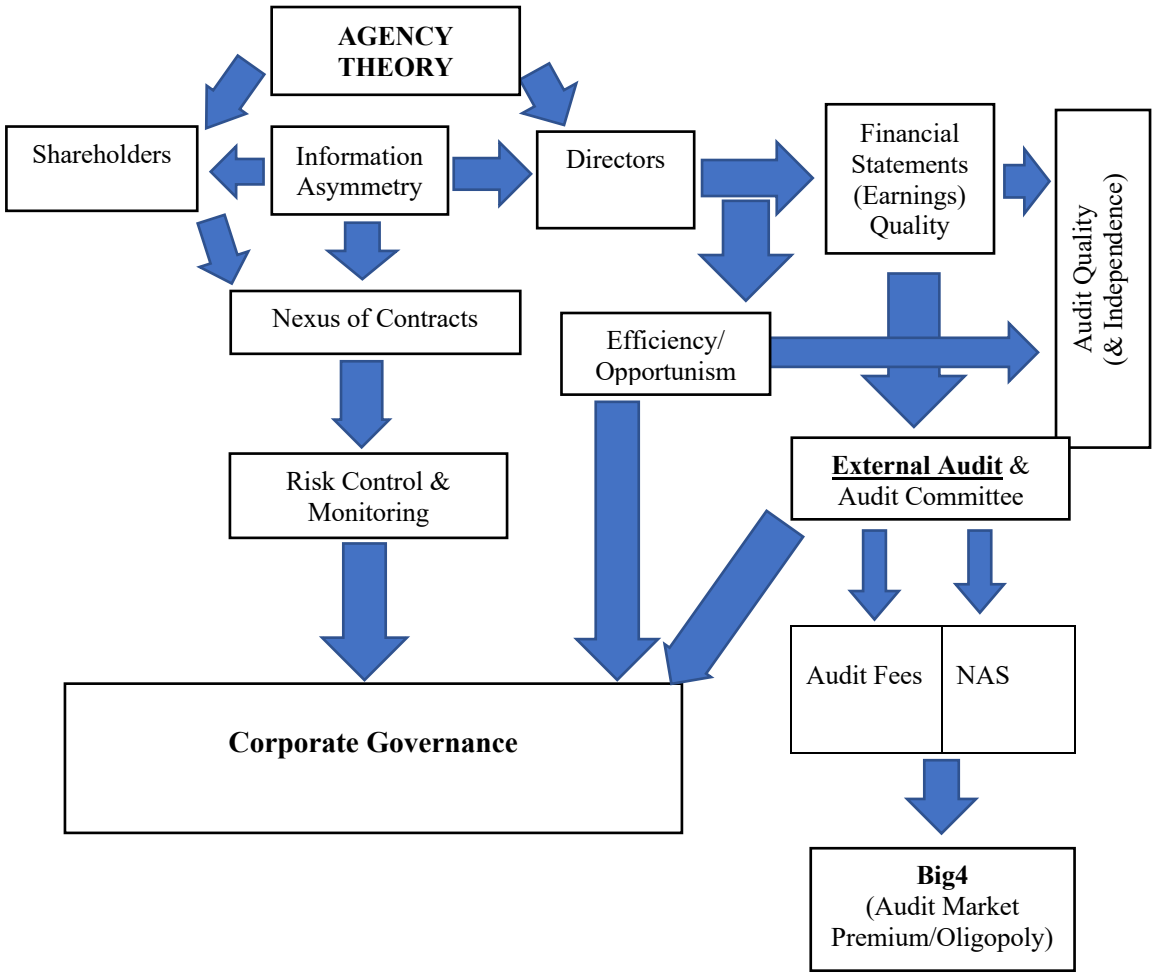
carrying out audit work that costs more than the value of the discounted AF and hence can lead to improper governance and /or low audit quality.

In situations where directors as agents are not willing to pay an appropriate fee based on the modelled norm, the auditor may engage in *'defensive auditing'* where he/she reports only on the basis of criteria that can be verified, (Benito, 1999 p.10) to avoid litigation. Consequently, the auditor (as an agent) could also create a conflict of interest in relation to users of the audited information. Based on the latter arguments, AF modelling is significant to the principals, and it exists primarily due to agency relationship. The board will have to justify the benefits of auditing and its cost (AF), especially as shareholders of many failed companies misplaced their reliance on audited financial statements (as referenced in Chapter 3.

Currently, AF modelling is based on adaptations of the model of Simunic (1980). Principally, the key factors found to be significant to Simunic's (1980) model, such as size (e.g., Total Assets) and complexity (number of subsidiaries) and the reasoning associated with those findings align with AT. For instance, the larger the size of the company (or the higher the number of subsidiaries) the more the agency problems will have to be managed and hence more audit time spent in verifying appropriate governance. Additional information relating several prior AF modelling studies which have some connection with this thesis is provided in the '*Columnar Theory-Linked Analysis of Relevant Literature on AF*' under ***Appendix 7.*** As already stated within this chapter, the studies are mainly linked to AT and ST.

Having reviewed AT and its linkages to AF, AF modelling and CG, above, **Figure 4.1** below reveals some theoretical strands of agency theory with some indication of their links to this research.

Figure 4.1: Relevance of Some Strands of AT to this Research



Some Relevant Theoretical Strands and their main relevance to some aspects of the research.

1)Information Asymmetry (External Audit minimizes asymmetry of information)
2) Audit Quality **(OBJ3)**
3) Client Firm Characteristics **(OBJs 2 &3)**
4) Auditor Characteristics **(OBJ4)**
5) Audit Fee **(OBJ4).**
6) Big 4 Audit Premium **(OBJ 2-4).**

Source: Author (2023)

4.4: Stakeholder Theory Considerations and Explanations(OBJ1(1.1)

The researcher considers information asymmetry as a relative term, the extent of which is dependent on the class/type of shareholders or non-shareholders and hence their entitlement to information. Citing Berle & Means (1932), O'Connell & Ward (2020 p.1) argue that the purposes and interests of companies include '*encouraging entrepreneurship, innovation and building communities'*. Evidence of an increased interest in ethical investment funds buttresses this point. Thus, both shareholders and non-owner stakeholders are interested in companies '*being socially responsible'* (p.1).

Therefore, consideration of the impact of information asymmetry (as discussed **under AT above)**, is extended beyond shareholders (principals) and directors (agents) as reflected in the traditional shareholder theory (O'Connell &Ward, 2020). Accordingly, a more encompassing theory (**like ST**) which recognises the wider complexity of relationships between a company and stakeholders needs to be considered. Section 172 (CA, 2006) specifically requires company directors to be very inclusive in their system of governance by acting in the way that they consider, in good faith, would be most likely to promote the success of the company for the benefit of several stakeholders. The implication is that the company law on CG in the UK has given full recognition to several stakeholders as in ST.

It therefore follows that AT is inadequate and too parochial in offering total explanation for implications of audit; based on reducing asymmetry of information between the company (run by agents) and the principals (currently, including the quasi-principals) (Zhang, 2011). The recognition offered by s.172 CA (2006) to the quasi-principals enables the enforcement of some rights to information or to a specific form of treatment, including on an ethical basis. This

is a view which underpins the *'enlightened shareholder value* approach', which is also supported by ST (Keay, 2012; O'Connell & Ward, 2020 p.5).

Factually and ethically speaking, a company cannot survive without employees, customers suppliers or the public/community. The UK Corporate Governance Code (UKCGC), 2018) recognises the likelihood of asymmetry of information between shareholders, other stakeholders, and the company. Hence it also requires CG reporting to enable shareholders to effectively assess the quality of board's governance arrangements/ activities and how directors, as agents, have complied with section 172, CA (2006). UKCGC, (2018 p.4) in its '*Board Leadership and Company Purpose*' states '*In order for the company to meet its responsibilities to **shareholders** and **stakeholders**, the board should ensure **effective engagement** with, and encourage **participation** from, these parties'* (UKCGC, 2018 p.4).

4.4.1: Specific Relevance of ST to Audit Fee Determination/Modelling

The discussion under AT has been conducted in a more elaborate manner since it is the main theory underpinning this research. With ST, a more condensed approach is adopted since ST is an **extension** of AT. In terms of scope, AT is limited to microeconomic factors between directors and shareholders. It is unlike ST, which accommodates macroeconomic relationships and non-owner stakeholders. Primarily, the design of the AF model (Simunic,1980) and subsequent models is based on loss avoidance to users of financial statements as a whole; and not necessarily only focused on the parochial agency relationship between management and shareholders.

This accords with ST since the loss avoidance is a benefit to several stakeholders, and not just shareholders. Considering ST specifically, the reasoning also depends on the similar principles

of accountability, asymmetry of information, and possible conflict of interest as envisaged by AT (as already explained). However, ST encompasses broader and more ethically focused considerations. For instance, when a business fails or is failing (e.g., due to inefficiency, conflict of interest, asymmetry of information or poor external auditing), several stakeholders (not just shareholders) are deprived of benefits. Customers' orders may become unfulfilled, suppliers' invoices may become unpaid, employee's jobs may be lost, and government may lose taxes.

Because AF modelling offers a statistician norm based on loss avoidance to stakeholders, it minimises the asymmetry between management and relevant **stake**holders. It thus helps to govern AF which could be a significant amount charged against a company's profits. Appropriate modelling could also offer indications about factors such as audit quality which may well reveal going concern problems which could negatively impact several stakeholders.

4.5: RCT Considerations and Explanations(OBJ1(1.1)

Regulatory capture is the process by which regulatory agencies may eventually become dominated by the very industries they were charged with regulating (Deegan and Unerman ,2011). RCT posits that regulators and legislators are routinely and predictably "captured" and manipulated to serve the interests of those who are supposed to be subject to them (Pai & Tolleson, 2012, p.84). This theory is considered in a qualitative context as its relevance in this thesis is ascribed to the control which Big4 audit firms appear to have over their regulators; especially in the UK and US (Sikka, 2019). However, it is hoped that this theoretical review would induce relevant empirical testing by future researchers. While the researcher understands that too much regulation could stifle the spirit of enterprise, insufficient regulation or enforcement may well deemphasize the essential need for CG.

Deegan and Unerman (2011) argue that a regulator is hardly independent of the parties or industries that it regulates as the survival of the regulator often depends on the satisfaction of the regulated parties. Furthermore, the necessary expertise of the regulator often must draw significantly on the expertise of individuals who are not fully independent of those who are being regulated. For instance, the professional accountancy bodies (i.e., Recognised Supervisory Bodies (RSB's) or Recognised Qualifying Bodies (RQB's) e.g., ACCA and ICAEW) and the FRC, mainly involve those who have relevant experience in the accounting field. Thus, the extent of regulatory capture is worsened by the high presence of ex-Big4 members within the FRC (Sikka 2018).

The regulators survive in large part on subscriptions/licence fees of the Big4 audit firms while government benefits through the huge taxes that the auditors pay. The benefits of reputational power leading to the capture of the regulatory agencies (e.g., the FRC in UK) also enables the Big4 firms to capture or dominate the usual regulatory forces of supply and demand in the audit market of listed firms in the UK (Sikka,2019). Additionally, this is due to the level of services that they advertise, the perception of directors and shareholders that high audit quality is associated with the Big4 – especially services relating to audit, finance, and taxation (DeAngelo, 1981; Chaney *et al.*, 2002).

Moreover, the perception that Big4 auditors '*have deep pockets'* to defend themselves and the client in case of litigation, also accentuates the extent of regulatory capture (Gopal *et al.,*2015, p.2), despite the financial scandals associated with the Big4. Hence, there appears to be a symbiotic relationship between the Big4 and the large, listed companies (Jones *et al.,*2018). Basic economic theory implies that the fear of reputational damage should prevent such

auditors from tacitly colluding with the agents of shareholders. However, Pai & Tolleson (2012) assert that this is not always applicable in practice.

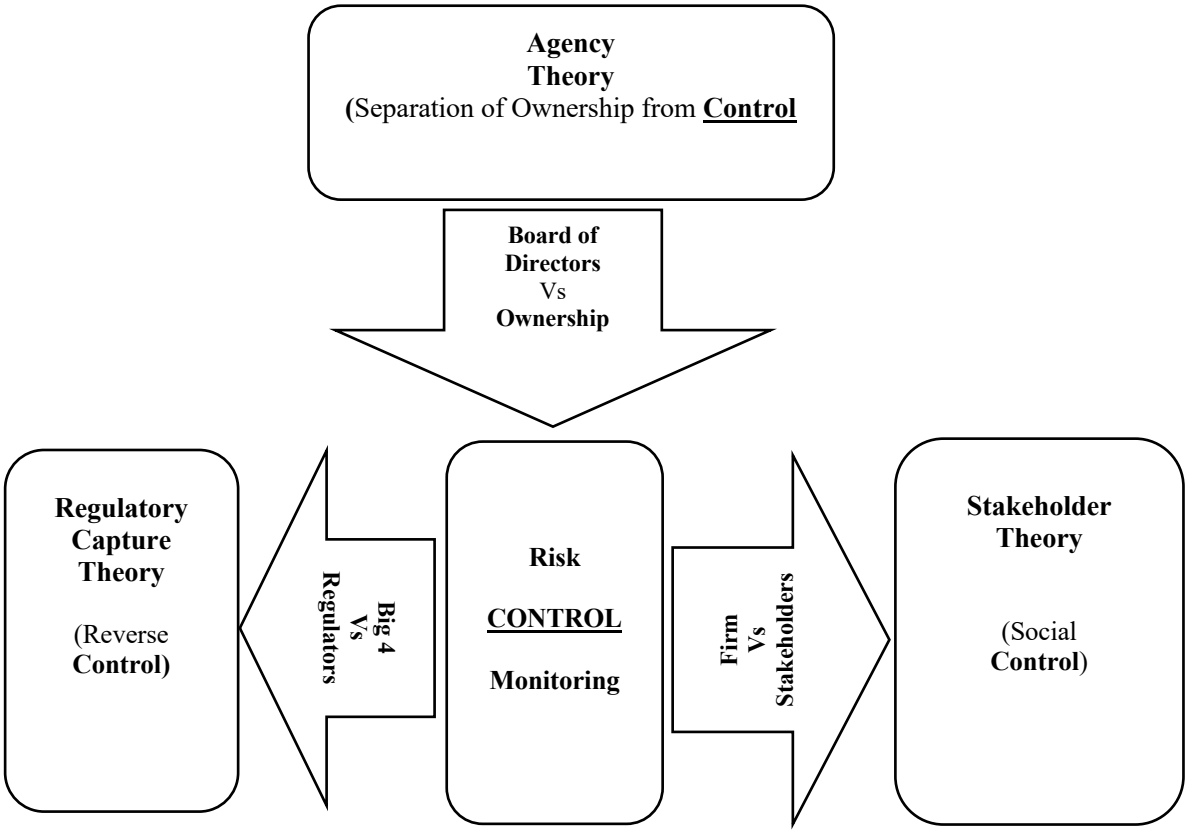
The authors quote Dr. B Krisnamurthya's response to a Harvard Business School article entitled 'Are conditions right for the next accounting scandal*?'* (in Heskett, 2003, n.p.): "*The service providers and their clients have a vested interest, as their survival depends on each other. Due diligence becomes another buzzword to be used at every seminar or symposium and quickly forgotten thereafter. The relationship between service providers and clients, unfortunate as it might sound, is likely to be in the nature of 'You scratch my back and I'll scratch yours'.''* (Pai & Tolleson, 2012 p.88).

The outlawed practice (by shareholders) of entering covenant with firms to employ the services of Big4 firms (CBI, 2012) was strong evidence of regulatory capture in the UK. The indication of regulatory capture is not limited to the UK because in the US there is reluctance on the part of the US regulators to indict any of the Big4 for criminal actions despite well documented failures involving Big4 audit firms, and thus creating a moral hazard (Pai, 2012).

4.6 :Interrelationships Across AT, ST and RCT

Taking the issues discussed above, the researcher innovatively conjectures that the main inter-relationship between AT, ST and RCT is centred on the issue of **control**. While AT focuses on **loss** of much **control** to directors, ST extends accountability of agents to both owner and non-owner stakeholders (and hence, is an **extension** of stewardship and **control**). RCT also focuses on the **loss** of some **control** by regulators to the regulated firms. In essence, the loss of control by principals, some stakeholders, and regulators (in particular) makes audit (and AF) even more relevant to CG. **Figure 4.2** below, illustrates the main theoretical links between the theories with 'control' being the common denominator.

Figure 4.2: Main Theoretical Dinominator across AT, ST and RCT



Source: Author (2023)

4.7:Review of Some Non-Primary Research Theories (OBJ1(1.1)

Some other theories, other than those discussed above (especially AT and ST) appear to have some linkage/s with the principles of auditing and information asymmetry (which are relevant to AF determination). However, they are **not** theories that are **primarily** employed in AF modelling research and hence are only briefly explored here.

4.7.1:Institutional theory (IT)

IT views organisations as operating within a social framework of norms, values, and taken-for-granted assumptions about what constitutes appropriate or acceptable economic behaviour (e.g., the economic choice of auditor-selection explained within this chapter); (Oliver, 1997).

Audit has been institutionalised by virtue of the needs/preferences of stakeholders (e.g., corporate structure, reporting, and disclosure), regulation (e.g., laws, corporate governance codes, auditing, and accounting standards) and public opinion (accounting practice, analysts, and other practitioners). Empirical studies on AF modelling have institutionalised Simuni's (1980) demand-based model and hence enabled similar findings to be made regarding the key factors that determine audit fees payable and those that influence management's selection of auditors (i.e., client-size, auditor-size and other size-related factors).

Auditor-size has also been institutionalised by auditors, clients, and authors as proxy for legitimacy, transparency, and quality of audit (De Angelo, 1981), in accordance with isomorphism – a dimension of institutional theory (Deegan and Unerman, 2011). The Big4 have institutionalised oligopoly as an acceptable economic behaviour; despite the highly publicised audit inefficiencies associated with them (Matthew, 2015). Njeri (2013, n.p.) quotes Rob Tautges, (the CEO of HLB International; ranked 12th amongst audit firms in the world) that ' *It is true that the 'Big4's dominance is maintained by institutional preference…'* which amounts to 70% or 80% of AF worldwide.

4.7.2: Signaling Theory (SIT)

Wu, (2012 p.326) cites Fan and Wong (2005) in arguing that the two fundamental ways in which a company conveys a signal in the audit market are the selection of '*reputable information intermediaries voluntarily, to assure outside investors of the credibility of accounting information and to purchase more audit services* …'. It indicates that AF are increased in both situations and such companies are typically those with better corporate governance (as represented by any of the various corporate CG variables such as audit committee proficiency). The companies use the stern test of external audit /audit fees to signal

their high governance level to the market to increase their value in the eyes of prospective investors.

Additionally, the argument exists that companies with serious agency problems are incentivised to hire auditors with a high reputation as a signal to the market that they are attempting to minimize agency costs and hence to improve firm value (Wang & Zhou, 2006; Wang, 2009). Evidence also exists that better internal firm-governance reduces audit risk (i.e., inherent risk, control risk and detection risk) (Carcello *et al.*, 2002).

In this thesis, CG is indirectly being tested in the form of relationship of audit quality /audit committee competence with AF. Hence SIT is relevant in discussing the signaling effect of CG (level of efficiency of auditors and the audit committee) with AF. Virtually all studies conducted on audit fees have found size, complexity, and risk to be positively associated with AF (e.g., Simunic,1980).-It could be argued that the size, risk, and complexity of clients do signal higher audit fees arising from additional work to be conducted. If so, this is very relevant to this thesis as a way of extending the knowledge embedded in prior studies to the identified FTSE 250 companies.

4.7.3: Dynamic Capabilities Theory (DCT)

DCT was **not** identified as being previously associated with AF modelling by the researcher. DCT aims to understand the way firms use Dynamic Capabilities (DC) to create and sustain a competitive advantage over other firms by responding to and creating environmental changes (Miles, 2012). It also relates to efficient exploration and implementation of new opportunities. This resonates very well with the Big4 auditors that prevail in the audit market of the FTSE 250 audit market. Some previous authors (e.g., Owusu & Bekoe, 2019) arrogate audit quality

to the Big4 because of their ability to respond to professional regulation and market changes in ways that enable the perpetuation of their competitive advantage over smaller firms.

An entity is judged to have DC when it can organize, frame and re-adjust its internal and external firm-specific activities in line with the changes in its environment (Miles (2012) as Big4 audit firms peculiarly do. Hence DCT postulates that firms with greater DC will outperform those with smaller DC. Inferential logic assumes that auditors or client-firms that have capabilities to grow into much larger and more resilient firms, do adjust appropriately to changes in their environment, survive, and maintain competitive advantage. That is, they have higher DC and are usually larger and more successful than their competitors, have presence in more locations (e.g., regions or countries) and are predisposed to higher loss-exposure and hence higher AF (Simunic (1980).

This will be more pronounced in terms of litigation propensities by users, against the company /directors and the auditors. This risk is usually reflected in AF modelling (Simunic 1980; Taylor & Simon,1999) an resonates with AT and ST. Hence the bigger the size of a firm, the higher the DC, the agency costs (including AF) as well as the number of stakeholders to be considered under s.172 CA2006. It also supports RCT in the sense that only firms that have high DC (e.g., the Big4) will be capable of dominating the market, creating an inevitable position of necessity, and possibly capturing their regulators.

4.7.4: Knowledge Based Theory (KBT)

KBT was also **not** identified as being previously associated with AF modelling by the researcher. It asserts that firms which perform better than their competitors are more effective at finding, absorbing, and exploiting knowledge from both internal and external environments

(Miles 2012). If this is extrapolated to audit firms and their clients, it could be that client firms that have knowledge, grow, survive better and are usually bigger with the same ultimate impact on AF through influence of size, information asymmetry and competitive advantage. This theory has its linkage to the way in which Big4 audit firms exist within the audit market in relation to their knowledge and the fact that (in substance) they constitute the most professionally resourced firms in relation to audit.

This theory could also be considered in a similar context to DC theory when analyzing and drawing inferences from results obtained from the empirical investigation of the impact of Big4 and other size-related factors on AF (e.g., in OBJs 2,3,4). That is, larger audit/auditee firms are likely to have higher growth potential by exploiting internal and external environments and the increased size would therefore lead to increased fees.

4.7.5: Resource Based Theory (RBT)

In similarity with the DCT, the RBT assumes that firms compete against others based on their resources and capability and it seeks to explain how firms '*maintain unique and sustainable positions in competitive environments'* (Miles 2012 p.217). Firms would aspire to create unique resource situations that can hardly be replicated (i.e., with Valuable, Rare, Inimitable and Non-substitutable (VRIN) resources) making it difficult for its rivals to compete. This leads to Social Competitive Advantage (SCA), market concentration and domination (e.g., large client or audit firms). In terms of auditing, several FTSE 250 firms are global firms, just like the Big4. Most of them have highly trained staff and huge administrative and technical resources with which they differentiate their products and services, dominate the market, and perpetuate an oligopoly.

Taking the issues addressed under various headings above, it is not unreasonable to conclude that in relation to **Proposition 1.1 in OBJ1**, AF modelling (including this research) is mainly facilitated by AT and ST since the key variables (e.g. client's size, risk, and complexity) and the AF model design (based on loss exposure (Simunic, 1980)) align with accountability of the Board to the principals and other interested parties as anticipated by AT or ST.

4.8:Limitations of The Main Research Theories and AF Modelling Design.

4.8.1: OBJ1 (1.2)

To identify possible limitations inherent in AF-modelling theories and design based on gaps and assertions in existing literature.

Having reviewed the main research theories and their relevance to AF determination (which address **OBJ1(1.1),** this subsection deals with **OBJ1(1.2**) which deals with the limitations of the main research theories of **AT, ST and RCT** and AF modelling **design**. Although AT postulates that directors encourage asymmetry of information, this is not always true. For instance, directors offer voluntary disclosures such as management forecasts, press releases, information websites and information from researchers and analysts when spurred by the need to cope with capital market-forces (Bueno e*t a.l*,2018).

Despite a plethora of literature and empirical evidence in support of AT (Shi,2017) a presumption of complete or absolute mistrust between the owners and management will not always exist. Therefore, this presumption about AT should be overtly qualified to refer to conditional trust between agents and principals instead of complete mistrust. If so, AT could be referring to conditions which are axiomatic in nature and hardly demand a detailed theory (such as AT) to explain their existence.

The above discussion leads to ways in which AT is limited in its application and requires some expansion to cope with the new scope and complexities of relationships inherent in modern corporate world and its governance (Bendickson, 2016). On this basis, some limitations of AT are discussed below, followed by limitations of ST and RCT. The fact that these theories do suffer from some demerits provides necessity for further exploration of this aspect. This leads to **Proposition 1.2 (OBJ1).**

4.8.2: Proposition 1.2 (OBJ1:1.2)

That existing literature indicates some limitations/ gaps to be filled about AF-modelling framework which relate to theory and design.

4.8.2.1: Limitations of AT

AT fails to emphasize the relationship between the ***auditor*** who is also an **officer** (i.e.an agent) of the company (s.206-212 and s.218 Insolvency Act 1986) and the **company**. Moreover, it usually takes management, audit committees and shareholders some time to confirm their perception of the quality of new auditors (Department for Business, Innovation and Skills (DBIS), 2006). Hence several other asymmetries may well exist at different times over different durations and regarding different issues which are not considered by AT. The researcher also opines that the growing expectations of several users of financial statements regarding auditors' responsibilities coupled with the continuing extension of auditors' legal and professional responsibilities, makes auditors liable to a disproportionate level of compliance requirements far beyond the intended aspirations of AT in its pure form.

In essence, the Audit Profession and AF modelling authors must have to re-consider the scope of asymmetries /responsibilities in relation to the auditor and the wider nexus of relationships

of the corporation such as lenders, suppliers, customers, government, the public and competitors (s.172, CA, 2006; FRC, 2014). Therefore, AT appears to be very myopic in scope. Additionally, managers are not always opportunistic. As mentioned within this section and they also do attempt to reduce asymmetry of information by voluntary disclosures and can be proactive in organising meetings with key shareholders (e.g., institutional shareholders) and /or encouraging shareholder-participation in decision–making process (Mohammadi & Nezhad, 2015).

Despite the lack of trust implied by AT, the Board may also be more cautious or risk-averse than principals and hence fail to take advantage of risky (but potentially lucrative) projects that have benefited their competitors. Hence AT focuses on **micro-economic** factors and requires some adaptation to accommodate **macro-economic** factors, most of which are not within the control of management or shareholders.

For instance, it does not overtly deal with the information **asymmetry** between the **auditor** and the **auditee**. Additionally, the assumption that management and ownership have diverging interests may not always be the case. ICAEW (2005, p.2) in its *Audit Quality Forum* report, ('*Agency Theory and the Role of Audit'*) also highlights some key issues, which obscure the role of audit as depicted by the AT. Since auditors are company officers, this affects issues such as auditor's independence, objectivity, and the auditor's role in controlling the agency problem (Jensen and Meckling, 1976; ICAEW, 2005). Hence, the idea that auditors can be employed as an independent monitoring tool to reduce asymmetry and prevent management from issuing biased information could therefore be flawed. Based on the above limitations, AT appears to be too parochial to explain the much wider nexus of transactions and relationships

that exist in the modern corporation and requires modification or more confined application to real world issues within audit, AF modelling and CG.

4.8.2.2: Limitations of ST

Despite ST being more accommodative than AT, some critics highlight some of its limitations. **Firstly**, it is difficult to understand or rank stakeholders perfectly and prioritise their needs; while others highlight the difficulties of differentiating legal rights from ethical (social) rights (Deegan and Unerman,2011). **Secondly**, the researcher perceives that there is a risk that some stakeholders may arrogate rights to themselves under ethical grounds or that of corporate social responsibility, thus opening floodgates to unmerited claims. **Thirdly**, it would also be difficult to consider what action is required when the interests of a particular class of stakeholder's clash with those of another class or when the interest of a particular group cannot be satisfied (Odje, 2016).

AF modelling authors therefore need to consider the true complexities of the extended relationships instigated by ST. For instance, there should a balance in the type of variables included in their models. The variables should reflect wider features /interests/ of stakeholders (including regional differences and legal propensity) rather than being limited to those relating to management and shareholders. For instance, Brin *et al.* (1994) considers types of share ownership and location of companies in designing an AF model.

4.8.2.3: Limitation of RCT

Research leading to this study has not identified direct quantitative research which is expressly underpinned by RCT although it has been much discussed in accounting publications qualitatively (e.g., Chambers 2013). On this basis, the impact of this theory on AF modelling

appears to rely only on qualitative logic, rather than on reliable empirical analysis. For instance, the claim that the UK audit regulators (i.e., the FRC) are to some extent captured by the Big4 is not always applicable because there have been several occasions when the regulators imposed substantial fines against them due to lack of professionalism in their work as already explained in Chapter 3.

4.8.2.4: Limitations Due to AF Modelling Design

Some problems do arise as to the merits of the pricing model of Simunic (1980) which substantially underpins most of the present AF modelling,. The model makes provision for '*possible future losses that could arise from current year's financial statements* and the '*probability that the auditor would pay for the losses from the current year's audited financial statements*; (Simunic,1980 p.164). In practice, the estimation of the client's future losses cannot be precise and so is the probability of the auditor paying for the losses from any accounting period. It could be influenced by the extent of legal propensity within the client's business environment (Taylor & Simon,1999).

Moreover, there is hardly any assurance that the audit client would exist for the duration over which the estimated future losses have been forecast. The model also combines **actual** figures (e.g., actual audit fees paid, actual sales etc.) with hypothetical figures (for unknown contingent amounts (e.g., possible losses by auditor /auditee). Simunic's model and its adaptations by various authors are also essentially demand-based models and hence focus insufficiently on the supply side (auditors characteristics). Also, the DV adopted by some authors (e.g., Francis and Simon,1987; Kohler and Ratzinger-Sakel, 2012; Andre *et al*., 2016) including this research is the natural logarithm of AF.

The thinking is that a variable such as size (Total Assets) is assumed to have a log-linear (rather than linear) relationship with AF due to potential economies of scale in the audit function (Simunic 1980). However, some authors adopt actual audit fee paid (as DV) on the basis that the use of AF that is transformed logarithmically makes '*the relationship between the explanatory variables a multiplicative one due to the additive effect of the logarithm of fees'* (Pong & Whittington (1994 p.1075). This implicit assumption rather than explicit assessment of the suitability of using natural logarithm for each empirical study could also affect empirical results.

Cullinan *et al.* (2016) explains that more complexly valued assets are less likely to conform to the traditional log transformation since the assets have a stronger relationship with AF than is captured by the coefficient on the logged variable alone. Therefore, it must be applied with a caveat. Since size (usually total assets or total revenues) and size-related variables (e.g., inventories, receivables) are the main determinants of AF, the researcher infers that a model's predictive power relies on the valuation of assets, correctness of sale values and other size related items all of which could be manipulated. Moreover, asset or sale values could become volatile over different periods due to market forces or going concern problems which could therefore necessitate revaluation based on break up values of variables which are not comparable to those included in models.

4.9: Chapter Summary

The chapter focused on identifying and evaluating some theories that underpin AF modelling. By doing so, it offered reasons why priority was given to AT as the main theory that is of primary relevance to this research, before ST. Thus, it emphasised the role that audit plays as a monitoring tool that reduces asymmetry between the principal and the Board (as agent). It

also explained the relevance of ST on the basis that it is an extension of AT, in that, it involves macro-economic issues and relationships. RCT was reviewed restrictively since the latter theory is only qualitative in its application. In similar vein, the shortcomings of the key research theories and AF modelling design were emphasised and elaborated upon. Since this Chapter has addressed **propositions** relating to the **first theoretical** objective (OBJ1), this is an appropriate juncture at which to address **propositions** relating the **second theoretical objective** (OBJ5). The latter objective links theories with AF movements arising from the effects of MAR based on a selection of FTSE 250 companies. Chapter 5 devotes itself to that purpose.

CHAPTER 5

Audit Fee Empirical Literature,Proposition Development and Findings

(OBJ5 - MAR).

5.1: Chapter Introduction

The previous chapter devoted itself to a review of theoretical literature (especially in relation to **AT** and **ST**) that are potentially associated with the central objective of this research. While these theories are not regarded as fundamentally CG in nature, a closer examination reveals how intrinsic they are to the domain (Jensen and Meckling,1976; Simunic,1980, Freeman,1984; Porter, 2009; and D'Silva & Khan,2010). As indicated, such an examination enables an evaluation of relevant associated propositions and provide the different bases from which hypotheses are developed or spawned.

This chapter concerns itself with the theories and literature that underpin the consequences of MAR in terms of AF movements. Equally, this section does so in relation to the set of identified companies, who have retendered their audits and rotated their auditors, together with others that did not retender their audits. It is logical to expect an unduly lengthy audit tenure to create an economic bond between a client and its auditor which could pose some familiarity threats to an auditor's objectivity. Several incidences of audit failures have already been cited, in this thesis [22] where long-term audit clients (essentially of the Big4 auditors) suddenly collapsed, despite receiving unqualified audit reports over several years. Therefore, consideration of regulation to limit audit tenures was necessary in the form ARD (2014) to minimise the length

[22] See Chapter 3

of engagements that may have contributed to such failures which impacted on the confidence within the audit market.

5.1.1: Overall Background and Embracing Literature.

OBJ5 focuses on the ARD (2014), a key regulatory instrument in the audit profession and upon on which the thesis is expected to contribute to original knowledge. Clearly, this perspective **varies** much from that of discussing the **entire** ARD (2014) or discussing its **merits /demerits** or the entire regulatory system of the audit profession**.** MAR regulation has its roots in the occurrence of the separation of ownership from control as envisaged by AT (Jensen & Meckling, 1976). In part, this is because (as argued above), long tenures of auditors could lead to familiarity threats and the effects of economic bonding hypothesis could cause the auditor to be unwilling to challenge '*aggressive or abusive accounting practices for fear of losing a lucrative client arrangement'* (Obasi & Okoye,2012 p.7).

Because the Big4 have been accused of connivance and having cosy relationships with audit committees (Sweet, 2018), there is a view that more regulation has become necessary and institutionalised as in **Institutional Theory (IT)** (Deegan and Unerman, 2011) in response to the needs of all stakeholders (as in ST) (Miles 2012). In UK, The ARD (2014) rules require PIEs to effect MAR of audit firms every 10 years. Similar measures include the Sarbanes - Oxley Act (SOX) (2002) in the US which requires rotation of the main audit engagement partner every 5 years in order to improve auditor independence and thus audit quality (Corbella *et al,* 2015).

In 2017, the Independent Regulatory Board of Auditors (IRBA) in South Africa required MAR for listed companies within every 10 years, but later revoked it in 2023 (PwC, 2023). Other

countries e.g., Australia, China, Taiwan, Italy, Brazil Singapore operated similar requirements at firm or partner level (Bandyopadhyay, 2013). The EU's (and later UK's) reforms are aimed at improving confidence in the audit of PIEs by various means, including implementation of the mandatory rotation, retendering, restriction of NAS and empowerment of audit committees.

5.1.2: Some Key Aspects of MAR (ARD (2014).

Briefly, Perrin (2016) explains some key aspects of the ARD (2014) rules as follows:

- Audit Tendering and Rotation – Auditors of PIEs, can be appointed for a maximum of 10 successive years prior to tender; but may be reappointed for a further maximum of 10years. The FRC could grant a further extension of 2 years. The same auditor cannot be re-appointed within the following 4 years after 20 years of consecutive tenure. But some transitional arrangements exist.
- Audit Committees – They are responsible for the audit tender, the appointment or recommendation of (at least two) auditors (with a preference for one) but have no influence or imposition of contractual clauses. They must discuss the findings of FRC's audit quality reviews and disclose significant findings with auditors.
- Ethical standards - A revised ethical standard for auditors by the FRC in certain aspects (e.g., independence and objectivity, prohibition of certain types of NAS and capping of NAS), FRC's quality control are to reflect the changes made in the ARD rules.

5.1.3: MAR Scenarios Under Consideration And The Review Strategy.

MAR became effective in 2016. Hence the two scenarios consider in 2016 ed in this research are in relation to a set of identified FTSE250 companies which retendered their audit in 2016 and rotated their auditors and another set that did not retender their auditors. That is:

- 10 companies that Retendered With Auditor Rotation (**RWAR)** and

- 10 companies in which there was No Auditor Rotation **(NAR)**

Within the above context, the relevant discussion is presented essentially via an appropriate **analytical review (A/R)** of data related to these scenarios. The movements of AF are analysed while being supported by theories and prior literature at appropriate points in the discussion. The findings and implications are then appropriately considered in relation to each of the two selected sets of 10 FTSE250 companies. All the 20 companies are observed over 7years (i.e., 2013-2019) amounting to **140** observations altogether.

5.2:RWAR:Proposition 5.1: Overview of MAR Consequences - OBJ5 (5.1).

As stated above, RWAR leads to a change of auditors; hence changes must occur which directly affect AF as different auditors have different auditor differentiation strategies towards their clients and vice versa (Numan & Willekens, 2012). These authors assert that auditees also demand quality-differentiated audits regarding agency/contracting costs with their auditors and this would affect AF with a new auditor. Therefore, the changes in AF within the 10 (RWAR) companies are likely to be a product of several observed and unobservable MAR- related issues.

This makes the theoretical analyses of changes/movements in AF (within a MAR regime), more complicated as a multi-aspect issue. MAR (i.e., ARD,2014) was introduced to improve independence and promote trust by the shareholders and other stakeholders; especially due to accounting scandals (Sikka,2019). The atmosphere of lack of trust and confidence appear to resonate with AT (and by extension) to ST and **Social Contract Theory (SCT)** in which there is an assumption that social responsibility is a contractual obligation between the company and other members of society (Tabassum & Singh, 2020**).** Taking regard for the identified relevant

preceding contextual literature, and individual introductory comments immediately above, it would not be unreasonable to suggest and consequently propose that:

Proposition 5.1:

Extant Corporate governance and other relevant theories and literature help to explain the associated consequences of regulation (influence of MAR) in terms of RWAR) on AF, within the identified set of 10 FTSE250 companies.

5.3:RWAR:Analytical Review (A/R) of Possible Influences of MAR on AF.

A selection of 10 FTSE 250 companies is first considered in relation to the 10 (**RWAR)** scenarios for which the companies and relevant AF figures are shown in **Table 5.1 below.**

5.3.1:RWAR:Proposition 5.1 - A/R based on 10 selected FTSE250 companies - Table 5.1.

RWAR is considered for the relevant companies which rotated audits during **2016.** The AF paid in 2016 for each of the companies is then compared with f**ees** paid **in three years before 2016 (i.e.,2013 - 2015) and also with three years after 2016 (2017 - 2019),** to assess the direction and magnitude of the possible consequences (in terms of movements in AF).

5.3.2:RWAR:A/R of AF Changes within 3 Years Prior to 2016 (2013-2015).

5.3.2.1 Preamble

. The changes in AF prior to 2016 (i.e., 2013-2015), show that there has been net average increases in five companies and net decreases in five companies as shown in Table 5.1. above. Taking the 10 companies together, the average change for the three years prior to 2016 is **-3.6%**.Firstly, this appears to be explained partly by Smith (2016), that the AF market within the whole UK FTSE 350 (including the FTSE 250) companies was getting into overdrive in terms of awareness of retendering.

Table 5.1: AF of 10 FTSE250 Companies Selected on Basis of RWAR.

Company Name (Plc)	2013 AF (£) '000	2014 AF (£) '000	2015 AF (£) '000	Average % Change Pre-MAR (2016) (2013-2015) *%	Average % Change. 2015 to 2016 (RWAR Year) *%	Year-end of RWAR 2016 AF (£) '000 *FEES	Average % Change. 2016 (RWAR Year) to 2017	2017 AF (£) '000	2018 AF (£) '000	2019 AF (£) '000	Average % Change Post RWAR (2017-2019)
Aggreko	908	878	955	+5	+6	1008	+18	1189	1361	1442	+21
Balfour Beatty	4500	4700	3900	-13	-49	2000	+35	2700	2600	2900	+45
Dechra Pharmaceuticals	303	280	265	-13	+90	503	+14	574	800	**890**	+7
Fidelity China Special Situations	25	27	30	+2	-7	28	0	28	28	32	+14
Grafton Group	573	726	632	+10	+28	809	+20	974	965	1122	+15
Perpetual Income. & Growth Inv. Trust	25	27	29	+16	-7	27	0	27	27	28	+4
Serco Group	1900	2100	1500	-21	-13	1300	-8	1200	1200	1900	+58
Shaftesbury	133	149	156	+17	-9	142	+32	188	177	**199**	+6
Foreign & Colonial Inv. Trust	101	74	79	-22	-5	75	+16	87	85	98	+13
The Go-Ahead Group	600	600	500	-17	+20	600	+33	800	900	900	+13
Average change Pre - 2016 (MAR Year) (i.e.,2013-2015)				**-36/10= -3.6% TOTAL**							
Average % Change MAR year - 2015 to 2016 (RWAR Year)					**+54/10 =5.4% TOTAL**						
Average % change for 10 companies Post MAR (2016-2017)							**160/10 =16% TOTAL**				
Average change for 10 companies Post MAR (2017-2019)											**196/10= 19.6% TOTAL**

Source : Author (2023)

This could have led to more competitive AF pricing. On the other hand, some authors (e.g., Kwon *et al.,* 2014; Corbella *et al*., 2015; Masters, 2019) contend that, in general, AF do increase in the period of MAR which could possibly explain the increases in the other five companies. The conflicting evidence of individual increases and decreases reflects the mixed views of many of the prior authors**.** For instance, opportunistic auditors (as in AT) could reduce AF prior to year of audit tendering to retain clients while others may seek to recover earlier discounts by increases in AF before the retendering date. They may not be retained after then. Auditors may also increase the AF to signal stakeholders as in **Signalling Theory,** AT, and ST that they are offering superior services prior to tender (Wu,2012).

5.3.2.2:RWAR:Decreases in AF in selected companies (2013-2015).

Based on the above argument, there is reason to align any **individual decreases** as well as the **overall decrease** in **Table 5.1** with AT **or Legitimacy Theory (LT)**. The AF for some companies such as *Serco* and *Foreign and Investment Trust* have dropped by more than 20% during the period (2013-2015). This is despite companies preparing to implement several additional layers of regulation to meet with an important legislation (MAR), ahead of 2016. As stated, it could be due to self-interested consideration by some auditors seeking to retain the client (as in AT) and hence reducing the AF ahead of RWAR in 2016 despite the increased risk of loss exposure (Taylor & Simon 1999; Simunic 1980) from increased legislation.
Perhaps the auditors are also **legitimising** their services by discounting their services as in LT and AT.

Additionally, companies rotating auditors in **2016** must have last retendered several years ago and the incumbent auditor would have been in place for a long period prior to RWAR in 2016, thus lowering fees due to year-on-year accumulation of knowledge about the clients. Also, as

retendering becomes more prevalent, audit committees (as company agents) may have taken advantage of the improved competitiveness of the market to ensure all costs (including AF) reflect changes prior to a retendering process; thus, leading to lower AF. Basic rules of negotiation **(**Solomon, 2020) dictate that the hand of the auditee should be strengthened against its incumbent auditor because tenders take years to finalise, and they are decided by the audit committees and shareholders of the auditee. This could therefore lower the AF payable.

Apart from self-interested behaviour arising from AT or possible dependency threat (as also in **Resource Dependency Theory – RDT**) on the part of the auditor, a conflict of interest could occur on the part of the audit committee when reduction in audit quality causes a reduction in AF with broader consequences for several **stak**eholders (e.g., employees, government, and the community) - which resonates with ST (Miles, 2012). Moreover, an incumbent auditor who is fully aware of an imminent tendering imposed by legislation may be unwilling to invest in new audit technology that particularly serves the current auditee. Thus, lowering AF can be better condoned by such auditors. As the year of mandatory change gets closer it should also be increasingly difficult for the Board (through the audit committee) to justify AF increases as they invite tenders.

In some cases, in re-tendering, the incumbent auditor is not allowed to take part in tendering bid, and this could act as a disincentive in terms of seeking to improve quality and hence lead to reduction in AF. On the other hand, the researcher argues that decrease in AF leading to retendering under MAR (RWAR) could be a means of (self-interested) **signalling** to the audit client of AF-competitiveness ahead of RWAR and aligns with **Signalling Theory (**Wu, 2012). Apart from two main spikes in **Table 5.1,** (of slightly above **20% decrease** for *Serco* and *Foreign and Colonial Investment Trust*) amongst the **5** companies with a **negative average**, all

other individual decreases between 2013 -15 are similar. That is, between -13% to -17% . This is almost consistent with the other **3** companies with negative changes outside of the two mentioned above (i.e., *Balfour Beatty, Dechra Pharmaceuticals and The Go-Ahead).* Despite some explanations for the average decreases offered in the previous paragraphs, any such decreases are contrary to assertions of some previous authors (e.g., Kwon *et al.*, 2014) who claim that AF does increase (rather than decrease) during a regime of MAR.

5.3.2.3:RWAR:Increases in AF in selected companies (2013-2015).

Regarding the companies that show average percentage **increases** in AF, several authors (including Corbella *et al.,* 2015) argue that the additional layers of new regulation such as Sarbanes Oxley (2002) (Mandatory Partner Rotation) and ARD (2014) (MAR) do increase AF, due to increased agency responsibilities imposed by regulation **as soon as** the date of implementation of the regime is known. Therefore, as an agent (hired and paid by the company), it is not unreasonable to claim that the auditor not only invests in his/her systems and staff to address the imminent regulation, but also starts to instruct and guide the clients towards compliance.

This could increase audit time and hence AF, prior to date/year of implementation. In alignment with AT (and **Stewardship Theory**) the auditor, being an agent would seek to recover earlier investment costs (including those arising from lowballing, inflation, and third-party contracts with specialists) to maintain profit margins prior to the year of MAR. Moreover, Griffin and Lont (2007) assert that AF is partially determined by the client's level of risk exposure which could include imminent litigation risk associated with regulation (e.g., MAR). This does reduce the threshold of litigation hence auditors (as agents in AT), may consider charging AF premia to address additional risks in pricing of the audit due to the MAR-related risks. On the other

hand, the incumbent auditor could engage in signalling and legitimising their services (as in SIT and LT) by claiming to offer improved quality and increased investment by increasing AF as referenced above. Under '*economic-based perspective of 'rationality' (self-interest)'* some stakeholders such as banks and suppliers (as in ST and SCT) also assume that directors could be opportunistic in their behaviours (Deegan and Unerman (2011p.62).

Hence it is possible that any of the latter stakeholders (who do not have a track record of the audit quality of a relevant auditee) may rely on other indications of safeguards (e.g., amount of AF charged) when assessing the security of money lent or goods supplied just before year of tendering. On this basis, the researcher opines that an increase in fees close to the year of retendering in an era of new legislation (as in MAR) might be a means by which the auditor offers some assurance of high-quality audit to such lenders and suppliers under a regime of a new auditor and new piece of legislation (i.e., MAR).

5.3.3:RWAR: AR of AF Changes within the Year of Change (i.e., 2015 to 2016).

5.3.3.1:Preamble

This subsection focuses on **average changes (increases/decreases)** between 2015 and 2016 (the year of MAR with RWAR). Some of the points argued for the previous subsection also apply to several aspects of 2013-2015 already reviewed above. Hence points which are common with those in this subsection do not require detailed discussion. For instance, some possible reasons have already been indicated under 2013-2015 for increases and reductions in AF as envisaged by AT, ST or LT.

5.3.3.2:Decreases in AF within selected RWAR companies (2015-2016).

If the above sharp rise of **90% increase** in ***Dechra Pharmaceuticals Plc*** in **Table 5.1** is **excluded** from the analysis, the average-percentage-change is reduced from **+5.4** to **-3.6%** in AF. This amounts to the same percentage change as in 2013-2015, above. Hence the 90% increase appears to be an outlier within the 10 companies.. Regarding the Balfour Beatty decrease (of -49% in AF), the Chairman's statement and audit committee report do not indicate any MAR-related reasons for the **significant drop** in AF even when the company just returned to profit 'a*fter two years of heavy losses* (Balfour Beatty, 2016 p.2).

Therefore, the decrease could be related to change of auditors (RWAR), Overtly, 6 out of 10 individual companies experienced a percentage decrease in AF in **this year of MAR**. Firstly, reductions of AF on the resumption of audit engagements (after rotation of auditors) resonates with the phenomenon of lowballing and audit quality lowers in the following three years (Cameran *et al.*,2015). Lowballing is aimed at securing an initial audit engagement and is associated with the Big4 auditors that audit virtually all the FTSE250 firms and is motivated by self-interestedness/opportunism, as in AT - and (by extension), ST (Pong & Whittington; Peel,2013). The fact that all the incumbent and new auditors of the 10 selected companies are Big4 audit firms, attest to the finding of the latter authors as well as the findings of this analysis that identifies AF decreases in 6 out of 10 companies in the year of auditor change.

In line with AT, Goodley (2019) also claims that audits of EY usually **overrun** on 32% of audits while KPMG performed **additional work** 16% of the time during the same year. Thus, the full cost of the audit is not regularly charged to clients and supports the assertion of industry critics and prior authors that accounting firms (especially the Big4) do '***loss-leading on fees'*** to secure more lucrative work and undercut rivals **when auditors are rotated** (Goodley (2019

n.p.). This further resonates with AT (Jensen and Meckling,1976) and RCT (Miles,2012; Deegan & Unerman, 2011; Sikka, 2018).

The researcher opines that in the long-term, agents would usually not render services above the level of quality that has been billed in financial terms; without alternative means of being compensated. If so, rendering audit as a loss-leader could lead to lower quality or probably to an increase in the volume of Non-Audit services (NAS) charged. Big4 **loss-leading** on AF is made possible due to factors such as their ability to respond to professional regulation and market changes in ways that enable the perpetuation of their competitive advantage over smaller firms as envisaged by **Dynamic Capability Theory (DCT) and Knowledge Based Theory (KBT) which** can enable lower costs and improved efficiencies **(Miles 2012)**[23]. The researcher did not previously identify the latter two theories in prior studies as being linked to AF studies.

Corbella *et al*. (2015) contend that despite both auditors and auditees investing significant effort and time (i.e., cost) following a change in audit firms, the higher start-up costs are spread over few years and hence might not affect the AF paid immediately after change. Therefore, opinions are mixed, and no single study or theory explains all the perceived scenarios represented by the AF movements in **Table 5.1.**

5.3.3.3:RWAR:Increases in AF (2015-2016) - Within Year of Auditor Change.

In **Table 5.1**, the average percentage **increase** for 2015-2016 is +5.4% for the 10 selected RWAR companies. As explained above, it is significant to note that the average **positive** figure of +5.4% is mainly due to the positive change (i.e., +90%) relating to *Dechra Pharmaceuticals*

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Plc. Smith (2017) confirms the percentage increase for the latter company as it claims that '*Among those reporting increases, Dechra Pharmaceuticals* ***saw its fee increase 90%*** *when it* ***switched from KPMG****, which had been in situ* ***since 1997****, to* ***PwC*** *(£265,000 in 2015, £503,000 in 2016*)' (Smith, 2017 p.20). The significant average increase in AF, aligns with assertions of Kealey *et al*. (2007) that as auditor's tenure increases, the auditors charged higher AF.

Although the justification for AF charged for any specific company is not within the scope of this objective, it is also worth offering likely company-specific reasons underpinning the spike (of +90% spike in percentage of AF) in *Dechra Pharmaceuticals Plc*. During 2016, the company made some foreign acquisitions; namely, 'Brovel', 'Genera', 'Putney', (Dechra Pharmaceuticals Plc (2016 pp. 6-10). More interaction with audit committee to understand the business environment of these new subsidiaries could have led to more audit time and more AF (Januarti *et al.,*2020). FRC (2017) claims that following a change in auditor there is no significant downward pressure on fees because of the tendering process.

For this year of rotation (2015-2016), the researcher expects additional auditors' investments on employing, retraining, and actually appraising appropriate staff (including relevant third-party specialists) and adopting new technology (Swales, 2018). The authors assert *'that Audit committees commented that, where they had seen a change of auditor as result of rotation, they had been impressed by the time* ***t****hat had been invested by the new auditor to understand the business and to be able to develop a high-quality plan'* (p.7). More audit time increases AF. *Dechra Pharmaceuticals Plc* (subject to explanations already offered), *Grafton Group Plc* and *The Go Ahead* in **Table 5.1** have significant increases in AF in this year of RWAR (2015-2016) and appear to confirm the assertions of Swales (2018).

The conclusion drawn from the above can be summarised by another quote from the FRC (2017): *'Firms report that the **costs** and challenges connected with tendering, as well as those related to taking on new clients with complex businesses are high. It is important that the audit firms devote sufficient resources and focus to ensure that these challenges are met'.*

5.3.4:RWAR:A/R of AF Changes within a Year of 2016 (2016 to 2017).

5.3.4.1: Preamble

Table 5.1 shows **average positive** change of 16% in AF between 2016 (year of RWAR) and 2017). This is consistent with several arguments already made and theories already offered above. For instance, Keally (2007); Chi (2011); Masters (2019), AT, ST, SCT, LT, RDT or Signalling Theory. Hence they do not merit repetition, especially as research must be parsimonious (Ang, 2014). The usual pattern of elaborate discussion of decreases and increases (separately) is therefore unnecessary. Hence a **summarised discussion** is therefore offered below.

5.3.4.2: Summary AF Changes within selected RWAR companies (2015-2016).

The huge disparity between the **average percentage changes** in AF **up to** 2016 (the year of RWAR/auditor change) (i.e., **-3.6%** (2013-2015); **5.4%(**2015-2016) conforms with the literature already reviewed. Most significantly, it demonstrates a significant increase in AF after RWAR as already referenced in relation to some previous studies (e.g., Corbella *et al*., 2015; FRC, 2017; Smith, 2017 and Swales, 2018) and some theories (e.g., RDT, AT, ST, and Stewardship Theory) for increased investment costs, possible improvements to audit quality arising from investments.

5.3.5:RWAR:A/R of AF Changes Post-RWAR Years (i.e., 2017-2019).

5.3.5.1 Preamble

In similarity with the previous subsection (5.3.4, above) a more summarised approach is also adopted for this subsection to avoid undue repetitive analysis.

5.3.5.2:RWAR:AF Changes within selected RWAR companies (2017-2019).

In **Table 5.1,** there are significant **individual company increases** in the **post**-RWAR years for all 10 selected companies especially for *Balfour Beatty Plc* and *Serco Group Plc*, both of which also **reference significant decreases** for the three years **before** the RWAR year (2016). The average increase over the 10 companies is 19.6% which appears to be significant as an average increase over 2017-2019 (post RWAR). The **significant average-increases** in the post RWAR years are also supported by the findings of prior authors on the new auditor's fees as already cited (e.g., Keally,2007; Chi,2011; Masters; 2019). Indeed, Kwon *et al.* (2014) argues that post MAR increase in AF occurs even without rotation.

Apart from *Balfour Beatty Plc* and *Serco Group Plc*, significant increases are also associated with *Aggreko Plc* (21%) *Grafton Group Plc* (15%) *Fidelity China Special Situations* (14%) and *Foreign & Colonial Investment Trust* (13%), and *The Go-Ahead Group* (13%). Arguments relating to increases in AF resonate with the need for further investments in technology, '*richer staff mix'* (Swales, 2018, p.7). As already explained, the increases may also be attributable to increased audit testing to further understand the client's internal control systems and business environment, the implementation of innovative systems to match the increased loss-exposure due to new legislation all of which do not merit further elaboration (Simunic,1980; Seetharaman *et al.,* 2002; Chi, 2011; Evans and Schwartz, 2014; Smith, 2018; Swales, 2018);

Masters, 2019). Other factors include the need for the new auditors to compete on the basis of audit quality due to MAR (Smith (2016).

Therefore, taking regard for all the literature, the individual AF figures presented for the 10 selected client companies in **Table 5.1** and the relevant CG theories cited above, it would not be unreasonable to propose in accordance with **Proposition 5.1,** as stated far above.

5.3.5.3:RWAR:Findings on Possible Influences on AF movements.

RWAR arising from increased regulation (i.e., MAR) potentially increases the asymmetry of information between directors, audit committees and shareholders (and subsequently, between the latter group and other relevant stakeholders such as banks, customers, and suppliers). This in part is because it usually takes some time for management, audit committees and shareholders to confirm their perception of the quality of new auditors, an observation supported by DBIS (2006).

In general, average increases in audit fees occur close to the year of implementation of the regulation (i.e., ARD, 2014) which was implemented in 2016 and continue to prevail for several years thereafter. Thus, overtime, the increased fees align and accommodate increased regulation and audit effort. Therefore audit, while reducing information asymmetry mainly resonates with Agency Theory, and by extension with Stakeholder Theory.

5.3.5.4:RWAR: Conclusions on Possible Influences on AF movements.

Inferentially, when there is RWAR, it is likely to increase compliance requirements and agency fees (i.e., audit fees) mainly in line with Agency Theory (Masters, 2019). The increase is likelyto influence the level and complexity of information relating to other entities

(stakeholders) that could be affected by /or could affect the organisations - as in Stakeholder Theory.

5.4:NAR:Proposition 5.2:Overview of MAR Consequences - OBJ5(5.2).

The focus in this subsection is on A/R of numerical aspects pertaining to AF within the 10 (NAR) companies in **Table 5.2 below** and application of theories and literature to the AF movements with **no** auditor change. Hence the matters relating to the impact of actual rotation (change of auditor) become virtually redundant and reduced to issues that focus more on extended tenure of the auditor. However, this is different from an evaluation of the impact of audit tenure in general on AF because MAR regimes do have maximum tenures imposed by the state from the outset of engagement.

Kwon *et al.* (2014 p.169) use a database that includes South Korean public companies both before and after the introduction of the mandatory rotation policy in 2006 and find that there was **increase** in **AF** for '***all t****ypes* of engagements ***after*** *the* ***introduction*** *of* ***the mandatory rotation*** *requirement'* **including firms** that **did not rotate** auditors. Arguments have already been made above for possible influence of MAR regime in the years **leading to the effective year** of MAR (2016) and will therefore either be omitted or summarised. Also, arguments made earlier regarding further investments in technology, training of staff, additional time spent with audit committees regarding the extra layers of MAR regulations (irrespective of rotation), or increases meant to signal higher quality of audit in general, also apply to this subsection. This is because the incumbent auditor will also have to adapt to changes in

Table 5.2:AF of 10 FTSE250 companies selected based on NAR.

Company Name (Plc)	203 AF (£) '000	2014 AF (£) '000	2015 AF (£) '000	Average % Change Pre-MAR 2013 - 2015	Average % Change 2015 to 2016	2016 Year of ARD (2014) AF (£) '000	Average % Change. 2016 to 2017	2017 AF (£) '000	2018 AF (£) '000	2019 AF (£) '000	Average % Change Post 2016 MAR (2017-2019)
F&C Global Smaller Companies	29	29	38	+31	-3	37	+5	35	36	36	+3
Green King	300	300	300	0	+100	600	0	600	500	600	0
Mitchell & Butler	300	400	400	+33	0	400	0	400	400	500	+25
Page Group	476	580	604	+27	+13	684	+7	732	758	784	+7
Savills	900	1200	1400	+56	+14	1600	+13	1800	2000	2200	+22
Sports Direct	648	620	801	+24	+21	966	+45	1400	1200	1400	0
Talk Talk Telecom Group Plc	500	500	500	+0	+0	500	+20	600	600	800	+33*
Temple Bar Investment Trust	26	26	30	+15	+3	31	-3	30	26	26	-13
The Rank Group	400	400	400	0	0	400	0	400	500	500	+25
Templeton Emerging Markets Inv. Trust	26	28	29	+12	+3	30	+3	31	32	33	+7
Average change Pre-2016 – (MAR Year (i.e.,2013-15)				+198/10= +19.8% TOTAL							
Average % change - MAR Year but No Audit Retendering (NAR) (i.e., 2015 – 2016)					+151/10 = 15.1% TOTAL						
Average % change Post - MAR (2016-17)							+90/10= 9% TOTAL				
Average % change – Post - MAR (2017-19)											+109/10 =10.9% TOTAL

Source: Author (2023)

regulation as soon as MAR is anticipated because the client's staff and systems have to be adapted accordingly even without a change of auditors. Yasar *et al*. (2020) claims that in signalling theory, receivers of information do react to positive signals from a credible insider signaller (e.g., an auditor) '*to obviate information asymmetry'*. Therefore, the incumbent auditors may also use AF as a signal of perceived improvement in audit quality with existing clients (Wu,2012).

Taking regard for the literature and individual introductory points above, it would not be unreasonable to suggest and consequently propose that:

Proposition 5.2:

Extant corporate governance and other relevant theories help to explain the associated consequences of regulation (influence of MAR) in terms of NAR) on AF within an identified set of 10 FTSE250 companies.

5.5:NAR:A/R of Possible Influences of MAR on AF

A selection of 10 FTSE 250 companies (each) is now considered in relation to the 10 **NAR** scenarios for which the companies and relevant AF figures are shown in **Table 5.2.**

5.5.1:NAR:Proposition 5.2 - A/R based on 10 selected FTSE250 companies - Table 5.2.

RWAR is considered for the relevant companies which **did not** rotate their audits during **2016.** The AF paid in **2016** for each of the companies is then compared with f**ees** paid in three years **before** 2016 **(**i.e.,2013 - 2015**)** and also with three years **after 2016** (i.e., 2017 - 2019)**,** to assess the direction and magnitude of the possible consequences (in terms of movements in AF).

5.5.2:NAR:A/R of Changes within 3 Years Prior to 2016 (2013-2015).

5.5.2.1:Preamble

Some earlier arguments in previous paragraphs which support average or individual **increases** in AF **can also be associated** with **NAR**. A key difference between the three years (2013-2015) under **RWAR (Table 5.1 above)** and **NAR (Table 5.2, below)** for the 10 selected companies is that the **minimum** average change in AF, under NAR (**Table 5.2**) is NIL. That is, under NAR there is **no negative average** change, unlike under RWAR (**Table 5.1**). **Table 5.2** therefore signifies, that (on average) the incumbent auditors have not reduced AF . **Hence only increases in AF apply within this period**. Indeed, **significant** average increases have been recorded for some companies (e.g., F*&C Global Smaller Companies* (31%), *Mitchel & Butler* (33%), *Savills* (56%).

5.5.2.2:NAR:A/R of Changes in AF (2013-2015).

The researcher conjectures that the **absence of negative percentage-changes** identified above, for NAR scenarios, may be due to a few factors. The audit committees do work closely with auditors and hence could explain and agree increased fees as soon as the date of implementation MAR regime is known, even without any consideration of retendering (Corbella *et al.,* 2015). Additionally, it is likely that the relevant auditors spent more time and effort inducting the committees and appropriate staff on the extra layers of MAR regulation ahead of retendering year (2016), as already explained in this chapter.

For instance, as of 2016, *Savills'* incumbent auditor (PwC) had been in position for 15 years without *Savills* retendering the audit **(**Savills Plc,2019 p. 77). Year-on-year increases have been significant since 2013-2015 (closer to 2016) despite the same auditor being in place.

Furthermore, under NAR circumstances, the rising costs, especially for *Savills Plc* (56%) and *Mitchell & Butler* (33%) could reflect an existing plan by the incumbent auditors to recover set up costs incurred in earlier years, especially if there was initial lowballing with same client in the past (Cameran *et al*.,2015), as in AT. Moreover, the latter pattern also supports arguments by Kwon *et al.* (2014) that AF increases occur in MAR regime, irrespective of retendering. Also, it is likely that increases are due to additional costs of sustaining audit quality (e.g., as explained by EY and accepted by Page Group audit committee) (Page Group 2020 p.78).

5.5.3:NAR:A/R of Changes in AF (2015-2016) – Effective Year of MAR.

5.5.3.1:Preamble

Comparing the **average** movements in AF (2015-2016)) under **NAR** (**Table 5.2)** with those under **RWAR Table 5.1,** the latter has several reductions in AF. As already noted, (under RWAR - **Table 5.1**) between 2015 and 2016, the average positive change (+5.4%) would have been a negative average change (-36 %) in the absence of the average spike in individual change (+90%) for *Dechra Pharmaceuticals Plc*. There is also the existence of several average individual decreases (i.e., 6 out of the 10 individual companies under RWAR (**Table 5.1).** The two latter factors appear to confirm that in **RWAR**(**Table 5.1)** as **opposed** to **NAR** (**Table 5.2**), there appears to be discounting of fees in the year immediately preceding the year in which the audit is rotated (Corbella *et al.*,2015).

5.5.3.2:NAR: A/R of Changes in AF (2015-2016)

The fact that only average increases exist under NAR scenarios has already been highlighted within the previous subsection. Indeed, in **Table 5.2**, the fees for *Green King Plc* reflects 100% increase in AF (2015-2016), despite the fact that the last change of auditors was in 1997.

No specific reasons were identified in its annual report as reasons for the spike in AF between 2015 and 2016. It eventually retendered its audit in 2020 and rotated its auditors in 2021. The significant increase also appears to align with assertions of Evans and Schwartz (2014) who claim that *financial cost* of additional regulation (e.g., SOX Act, 2002 and ARD, 2014) has been substantial and persistent and auditors charged higher AF **even when there has been no change of auditors.**

5.5.4:NAR:A/R of Changes Post 2016 (i.e., 2017-2019)

5.5.4.1:Preamble

The arguments in the previous paragraphs together with similar arguments in support of average or individual increases in AF can also be associated with the review of this period/section.

5.5.4.2:NAR: A/R of Changes in AF (2017-2019)

The **total** of **average increases** during **2017-2019** (**10.9%)** is lower than those for previous periods except **2016-2017** period (9%)**.** On average, the incumbent auditors appear not to have reduced AF in each of the individual companies over the period except for *Temple Bar Investment Trust*. This also appears to align with the findings of some prior authors (e.g., Masters, 2019 and Kwon *et al.*, 2014) as cited within this chapter. However, the latter author's assertion that **post-MAR** increases are substantially more than Pre-MAR increases, does not appear to hold in relation to the NAR circumstances within the selected 10 FTSE250 companies. The average increase for 2017-2019 **(10.9%)** is **less than** the averages increases for other periods except for **9%** (2016-2017). This re-enforces the earlier argument that the incumbent auditor (having continued the audit for several years without rotation) would have

been able to spend less time carrying out the same annual tasks because several related procedures may have been institutionalised, as in IT (Miles 2012).

Comparison between the **average increase** in AF within 2017-2019 in **Table 5.1 under RWAR (19.6%)**, and in **Table 5.2 under NAR (10.9%)** appears to align with AT, IT, RDT, and DCT and other arguments previously cited above. That is, a change of auditors (under RWAR) usually reduces familiarity with systems to be checked and also requires additional investments, audit work and hence increased AF. A key consideration from observations made in the above sections on RWAR and NAR including the disparity between the net individual and collective movements in AF in **both Tables 5.1 and Table 5.2** indicate relatively higher averages for **post-MAR** periods. This is more emphasised for the period between **2017-2019** (**RWAR -** 19.6%); and **2017-2019** (**NAR** -10.9%) which agrees with several conclusions drawn in this section; including the last paragraph.

Therefore, taking regard for all the literature, the individual AF figures, client companies and relevant CG theories cited within the paragraphs above, it would not be unreasonable to propose in accordance with **Proposition 5.2** already stated above.

5.5.4.2:NAR: Findings on Possible Influences on AF movements.

Where there is NAR in a MAR regime, there appears to be apparent reduction in the average percentage increase of AF by the incumbent auditor, close to the year when the regulation becomes effective. That is, just before 2016 when ARD (2014) became effective). This is likely an expression of self-interestedness by auditors (as agents) to retain clients (as envisaged in Agency theory) and as a quasi-agent of other stakeholders such as suppliers, customers, and government (as envisaged in Stakeholder Theory).

5.5.4.3:NAR:Conclusions on Possible Influences on AF movements.

Considering all the above discussions as supported by relevant literature and theories cited, it is not unreasonable to conclude that where there is NAR, the auditor (possibly, out of self-interestedness - as in Agency Theory) appears to reduce the yearly increases made to the AF closer to the year of implementation of regulation. Although NAR scenarios do not involve a rotation of auditors, it is possible that the reduction in the average increase made to AF close to the effective year of MAR, may signal the audit committee and shareholders about the likely cost effectiveness of the incumbent auditor.

5.6: Chapter Summary

The chapter devoted itself to reviewing literature and formulating propositions relating to possible underpinning theories/literature that explain the influence of MAR on AF movements. It is based on analytical review of AF, involving cases with auditor rotation and those in which the incumbent auditor was reappointed during the effective year of MAR (2016), using a non-statistical and limited sample of twenty cases, in total. It was conducted based on numerical information relating to AF over a duration of seven years (2013-2-019). The years include three years just before (and after) 2016. Having analysed the empirical literature relating to the **qualitative** objectives (in Chapters 4 and 5) and hence offered relevant conjectures in the form of propositions (relating to OBJ1 and OBJ5), an appropriate gestation has been provided for the hypotheses that relate to indications that have to be tested . This is because the propositions have enabled identification and association of theories to outcomes of AF modelling studies which explain the behaviour of AF charged to several auditees. These should be of benefit when addressing the quantitative objectives (OBJ2-4).

CHAPTER 6

Audit Fee Determining Empirical Literature and Hypotheses Development (Objectives 2(NCGVs), 3(CGVs) and 4(Big4)

6.1:Chapter Introduction

The previous chapter concerned itself with a review of literature and formulation of propositions relating to possible underpinning theories /literature that explained the influence of MAR on AF movements. In doing so, it used 10 cases that rotated their auditors and 10 other cases in which the incumbent auditor was in place throughout the seven years under consideration. Based on the numerical values of AF of the selected cases for the relevant years, the evaluation was made on the bases of analytical review based on average percentages changes before MAR became effective, the year MAR became effective and three Post-MAR years.

It is worth restating that the identification and evaluation of theories (i.e., propositions) relating to the qualitative objectives (OBJ1 and OBJ5) in Chapters 4 and 5, offer some form of gestation for the quantitative objectives (i.e., testing of hypotheses) in OBJ2,3 and 4. Accordingly, in part, the theories reviewed such as AT,ST,DCT, KBT also offer rationale for the selection and inclusion of the variables considered within the subsequent analysis and evaluation of this research.

This chapter concerns itself with hypothesis development relating to the empirically focused Objectives 2,3 and 4 for which hypotheses are developed in this chapter prior to empirical testing in Chapters 8 and 9. Consistent with several other authors, D'Silva & Khan (2010)

contend that Corporate Governance (CG) (the domain within which audit and AF are contained) is a multifaceted phenomenon. On that basis, it is reasonable to suggest that the variables influencing the determination of AF could well be of both NCGVs genre, as well as a CGV one. Traditionally, much of the research conducted within this domain has concerned itself with (primarily financial) NCGVs. In this research, the relevant NCGVs[24] comprise of six important factors that are identified and selected based on AF modelling literature as follows:

1) Size (Total Assets).
2) Complexity (Number of subsidiaries).
3) Risk (Profit before Tax (PBT) Current Ratio (CRA).
4) Auditor (Big4).
5) Location.
6) Sector.

Additionally, within the context of these NCGVs, this chapter also seeks to provide some **indicative** illumination of AF determination within the identified **sectors** contained within the overall set of 83 companies of the FTSE 250. Thus, the purpose of this effort is **not** to provide robust statistically supportable evidence on the determination of AF within their individual sectors. Rather it is to provide an indication of the impact that the variables of concern may exercise within that activity /business sector.

The present research extends its efforts beyond the consideration of NCGVs by concurrently considering any additional enhancing insights that consideration of CGVs may offer when added to NCGVs. Accordingly, having considered NCGVs, some potentially relevant CGVs

[24] Fuller details in Chapter 7

are duly considered in OBJ3. Such variables are features and matters considered to be of benefit and/or detriment to the practice of sound CG, and accordingly are so 'badged' with the term CGV[25]. As such these variables include matters associated with and related to the following variables, both of which are considered in some detail within subsequent paragraphs of this chapter .The two variable[26] are:

1) Audit Committee Competence (**ACC**)
2) Audit Quality (**AUQ**)

The key aim of the associated objective (OBJ3) is to attempt a quantification of the role of possible significant enhancement played by the CGVs (when considered in conjunction with the identified NCGVs) in terms of AF determination.

The chapter also reviews literature and offers hypothesis in relation to the general practice (in AF modelling) of considering the Big4 auditors as homogenous in terms of AF determinant variables (as expressed within four articulated Hypotheses (4.1a - 4.5a)[27] in fulfilment of Objective 4. In this regard, this research is more inclined towards the opinion that there is a likelihood of an absence of shared commonality in relation to the impact of the identified NCGVs and CGVs across the Big4 auditors.

Having regard for the above , the chapter is structured within three sections/segments:

The **first** core section **(6.2)** concerns itself with overall background and embracing literature relating to the development of hypotheses (2.1a - 2.5a) relating to the potential influence of NCVGs on AF (OBJ2). It is important to restate that the latter hypotheses are offered for

[25] Chapters 2 and 7.
[26] See Chapter 7 for the **principle of derivation** of the CGVs.
[27] Chapter 2

subsequent testing in relation to both unlagged and lagged information as conveyed within Chapters 1and 2 . Significantly, most of those factors accord with those addressed by Simunic (1980), in this domain, and AF modelling Metanalyses provided by Hay (2006) and later by Widmann (2020). In doing so, this section explains, in turn, each of these six factors and discloses how/why they (in the form of their variables) accord mainly with AT/ST.

The second core subsection (**6.3**) is developed in similar vein but concerns itself with overall background and embracing literature regarding the development of hypotheses relating to the potential significance of the influence of CVGs on the predictive power of the selected NCGV's. The third core subsection (**6.4**) is similarly structured but does so in relation to whether there is an indication of shared commonality across the Big4 auditors, in relation to the influence of the NCGVs and CGVs considered in the previous subsection. Hypotheses are developed for each of the Big4 audit firms to assess the shared commonality across them.

Finally, the chapter concludes with a synoptic review of the contents, and the matters, considered within the chapter and how it sets the ground for the efforts and focus of the next chapter (i.e., Chapter 7).

6.2:Overall Background and Embracing Literature - H2.1a-H2.5a (OBJ2)

6.2.1:Preamble

It is most reasonable to contend that the external audit fee is primarily influenced and /or determined by auditee characteristics (Simunic,1980; Axen,2020). The variables selected in this research have already been listed within the introductory section above. Based on prior AF modelling studies, some characteristics include size (e.g., expressed as *turnover/total assets*

- Simunic,1980)*;* risk (expressed as quick ratio - current assets (less inventory)/current liabilities - Silva *et al.,*2019) complexity (e.g., expressed as number of subsidiaries - Widmann, 2020), risk (e.g., expressed as the ratio of debt to total assets - Musa *et al.,*2020), Non-audit fee (Kohler and Ratzinger-Sakel, 2012; Widmann, 2020); Location (Beattie *et al.*, 2001), industry (Prawitt *et al.,* 2010).

Some other variables that could have been adopted but were not considered due to the key relevance of the selected variables (as explained below) include auditor tenure (McMeeking, 2000, Kikhia, 2014); joint auditors (Kohler and Ratzinger-Sakel, 2012) director's remuneration (Castro *et al*.,2015), new client status (Peel, 2013), auditors' opinion (Hay, 2012), financial disclosures, regulation, or legal propensity (Taylor and Simon,1999), internal audit (Prawitt *et al.,* 2010) and AC independence (Abbott *et al*., 2003; Ghafran, 2013).

The basis for classification of factors into NCGVs and CGVs has already been made in Chapter 1. NCGVs have consistently been the focus of most authors including Simunic,1980).

6.2.2:Hypothesis Development relating to H2.1a – H2.5a (OBJ2 - 2.1-2.5)

While there is statistically confirming literature, relating to the influence of NCGVs on AF in several studies (e.g., Simunic,1980; Silva *et al.,*2019 and Widmann, 2020) there is a perceived absence of literature that specifically focuses on the determination of their influence on NCGVs within the FTSE 250 index or its business sectors. This gap creates the need for researching some NCGVs of FTSE 250 companies to know what relationships such variables have with AF, compared with those of other indices in prior studies. While the findings of most authors vary as to the influence of each characteristic, there is virtual unanimity in the finding that proxies representing size, risk and complexity have the most significant and positive influence

on AF (Hay *et al*., 2006; Hay, 2010; Hay, 2012). This thesis therefore also seeks to confirm or disconfirm this virtual unanimity of opinion within the identified FTSE 250 index. This academic curiosity also adds some premium to the value of this thesis.

As already indicated in Chapter 2, the thesis maintains the same approach adopted by virtually all previous authors on AF modelling by focusing on client's characteristic in its determination of AF. Indeed, further credence is offered to this approach by Gonthier-Besacier and Schatt (2006)) who find client's size as a variable that accounts for 82% influence on AF by observing 127 French companies. The approach also resonates with AT and ST because larger clients will likely demand more audit work consequent to increased asymmetry of information (and the ensuant agency problems/costs). Auditees manifesting a higher number of transactions and a more complex nexus of contracts/stakeholders (e.g., customers and suppliers) will likely encounter more governance responsibilities as envisaged within ST (Deegan and Unerman; 2011; Miles, 2012).

6.2.2.1: The Size Hypothesis H2.1a(i)

Axiomatically speaking, larger companies would involve more audit work since they are expected to have a higher number of total transactions and comparatively increased magnitude of individual transactions. Thus, such companies are expected to have a more intricate nexus of relationships with other stakeholders such as the number/size of customers, suppliers, and creditors, Accordingly, **Hay (2012**) (a **metanalysis** of several AF modelling studies (states that **virtually, all studies** involving AF modelling include a **measure of client size** usually proxied by **total assets (TAS)** and found **significant** results.

As already indicated, Gonthier-Besacier and Schatt (2006)) find that client's size accounts for 82% influence on AF. The linkage between increased size and increased agency costs (and hence increased AF) has already been considered in Chapter 4, while linking AT and ST to AF modelling variables. Nasser (2013) suggests that most large companies are more publicly visible and tend to disclose more information than small firms (Carson *et al*., 2004), so requiring and leading to more audit work. Often, they have financial resources to recruit big international auditors (such as the Big4) who also charge higher fees. Much of the literature considered confirms size to be the most significant and positive determinant of AF (Simunic 1980; Beattie *et al*, 2001; Gonthier-Besacier and Schatt, 2006; Hallack, 2012; Köhler and Ratzinger-Sakel, 2012; Kikhia, 2014 and Musah, 2017) irrespective of the explanatory variables/or proxies adopted.

In general, auditee size could be proxied by items within the Statement of Financial Position (e.g., inventories, receivables, payables, and total assets creditors (Kikhia, 2014). The authors describe the latter measures as areas where audit *'work load is heaviest, and which major efforts could be expended'* (Kikhia, 2014 p.43). They also argue that the size variable proxied by total assets is the factor mostly used in prior studies to represent clients' size, and they cite Hay *et al.(*2006) (**as adopted by this thesis**). This highlights the **high relevance** of the size variable and its chosen proxy to this thesis. As such, it is expected to have a positive and significant relationship with AF. If so, its overall impact on the outcome of this thesis is to confirm the assertions of prior authors (e.g. Hallack, 2012; Köhler and Ratzinger-Sakel, 2012; Kikhia, 2014 and Musah, 2017).

As might be expected, an increase in size leads to increased agency concerns for the auditor as suggested by AT (Fama and Jensen, 1983). To capture the size feature or variable, several

authors such as Pong and Whittington (1994); Brinn *et al*. (1994), Castro (2015) adopt total assets as a proxy. Köhler and Ratzinger-Sakel (2012) however, adopt the sum of receivables and inventories as proxy for size. In Germany, Fleischer (2012) uses an uncommon proxy in the form of the number of employees for client's size, but nevertheless finds a positive relationship between client's size and AF as significant.

Other alternatives of measuring size which were **not used** in the thesis include total funds (Cantoni *et al*., 2011), current liabilities, current assets, cash, and proportion of assets represented by inventories (Taylor and Baker, 1981) and return on shareholders' equity (Chan *et al.,*1993). Hassan and Nasser (2013) indicate other significant proxies for size, which include total assets (Khan, 2010; Owusu & Bekoe,2019) total sales/turnover (Horvat, 2020 and Widmann, 2020) and market capitalization (Naser *et al*., 2006; Ghazali, 2007 and Chatterjee & Mir, 2008). However more current and relevant studies on AF modelling in UK listed companies are sparse. Hence it is vital for this research to rely on relevant studies irrespective of the time to which they relate.

Therefore, taking regard for all the above identified literature, supporting explanation and the referenced individual research proxies of size (especially in relation to the cruciality of **size and its proxy (TAS) to AF determination** as espoused by Hay (2012) and Gonthier-Besacier & Schatt (2006) (as **rationale** for variable/proxy selection), it would not be unreasonable to suggest and consequently hypothesise that:

Hypothesis H2.1a (i):

There subsists a positive & significant relationship between AF and Client's Size (*represented by Total Assets) within the set of 83 (FTSE 250) companies, using U&L information.*

6.2.2.2: The Complexity Hypothesis H2.1a(ii)

Like size variables, increased client's complexity should result in more audit work and hence generally expected to have a positive relationship with AF. This is because increased complexity would usually involve more time and/or a higher level of training/experience to disentangle the more varied requirements and transactions. This extra audit effort would be expended to ensure that the asymmetry of information between the Board and the shareholders (as envisaged in AT), as well as the wider asymmetry between the client and non-owner stakeholders (as envisaged in ST), is as limited as possible.

On that basis, increased audit work would be needed to reduce the risk of material misstatements to an acceptable level. Concurrently, one must note that a significant number of authors (Simunic 1980; Beattie *et al.,* 2001) state that the complexity variable is influenced by factors such as client's size, nature of transactions (or assets) and the industry/sector in which a company operates. Empirically, in this context a significant proportion of prior studies have observed a positive and significant relationship between corporate complexity and AF. This is consistent with intuition which would suggest that more complexity would involve a more complicated nexus of transactions /relationships which, in turn, will require more audit time or expertise. This is consistent with AT (Simunic, 1980; Chan *et al.,*1993; Brinn *et al*.,1994; Firth, 1997; Carson *et al.*, 2004; Cameran, 2005; Hay, 2006; Köhler and Ratzinger-Sakel, 2012; Hassan and Naser 2013; Kimelli, 2016; Owusu & Widmann,2020).

Hassan & Naser (2013), together with these authors also assert that auditees with more complex operations necessitate more comprehensive auditing. Some **alternative** proxies adopted for complexity include business segments, geographic distribution, or the number of local and international subsidiaries and/or branches (Hay, 2006; Owusu and Bekoe, 2019 and Widmann,

2020). Additionally, Khikia (2014) offers other proxies that have been adopted for this variable, some of which could also have been adopted by this thesis except that the selected variables in this thesis were considered to be of higher relevance based on explanations offered within this chapter. These include number/ location of business units, diversification of product lines, (i.e., physical complexity), the number of the company's subsidiaries/affiliates, the client's number of operating countries (legal complexity), the number of separate annual audit reports that have to be consolidated on subsidiaries, branches, or affiliates (reporting complexity)(p.44)

The relatively consistent results presented undertaken by Hay (2010) extends an aspect of the *meta-analysis* by Hay *et al*., (2006) and **re-enforces** the view that a **significant positive relationship** exists between complexity and AF. They assert that the more complex a client is, the more demanding its audit would be, with more time-consuming measures being required to appropriately consider and navigate the more numerous issues associated with the audited unit. Out of **33** identified metrics that could proxy for complexity, Hay (2010) claims that organizational complexity is mostly measured by **number of subsidiaries** (82 of 169 studies), and often the number of business segments or of the relevant Standard Industrial Classification (SIC) codes.

Indeed, it is not unreasonable to suggest that when a company has none or few subsidiaries the related client's/audit complexity is reduced. Conversely, when the number of subsidiaries is high, clients/audit complexity is also high. Using the conclusions drawn by many of the authors above, (especially Hay, 2012 and the metanalysis of Hay *et al*., 2006) as **rationale** for selection of the complexity variable and its proxy, the present research employs the square root of the relevant number of subsidiaries as a proxy variable for complexity – and it is

expected to be positively and significantly associated with AF. If so, the expected impact on the outcome of this thesis is to confirm, the results of prior authors some of which have been cited above (e.g., Hay *et al.,* 2006, Hay,2012 and Kikhia, 2014).

Therefore, taking regard for all the issues and literature identified immediately above and the individual research proxies indicated, in relation to **complexity variable and its proxy number of subsidiaries /branches**, it would not be unreasonable to suggest and consequently hypothesise that:

Hypothesis H2.1a(ii):

There subsists a positive and significant relationship between Client's Complexity (as represented by number of subsidiaries (SUB) and AF within the set of 83 (FTSE 250) companies, using (U&L) information.

6.2.2.3: Risk and AF: Linked to Hypothesis H2.1a(iii)

The audit function is certainly predicated on the governance of risk (stewardship) associated with the reporting and accountability by the Board on behalf of the company. Accordingly, all audits seek to ensure that the risk of material misstatements is reduced to a level acceptable to the auditor. In so doing, the auditor and the audit report inform the investors about the credibility of the relevant financial and other statements. In turn, this supports investment decisions based on trusted credible information. Being so aware, a fundamental consideration that is given a high priority when an auditor plans an audit engagement, is the risk associated with the relevant audit client. Therefore, it follows that where the auditor perceives a high level of risk in relation to a client, he/she would engage in more intensive audit work to ensure that the level of audit risk is contained within the auditor's acceptable level of risk.

Therefore, audit risk is a variable of **significant interest/relevance** in terms of AF determination including in this thesis. Indeed Kikhia (2014) adds substantial credence to the latter assertions as it states that *'financial **risk** **must** be incorporated in audit program to determine "red flags" signals which point out to opportunities of fraudulent activities ...Furthermore, Hay and Knechel (2004) point out that the demand for auditing is a function of the set of risks faced by **stakeholder**s in an organization (creditors, management, shareholders, etc.) and set of control mechanisms available for mitigating those risks'*. Hence the relevance of the risk variable espoused above, makes it a mandatory consideration in the determination of AF.

In this thesis, the client's risk is proxied by the relevant **Current Ratio (CRA)** which is a key measure of **liquidity** and **Profit Before Tax (PBT)** which is a critical measure of **profitability.**. Silva *et al.* (2020) describes audit risk as the probability of an inappropriate opinion being issued on the auditee's financial statements. This includes the risk of material misstatements being present in the financial (and non-financial) statements of the auditee (inherent and control risks) and the risk that such material misstatements are not detected (detection risk). It is not uncommon for risky companies to be in poor financial condition and to also be loss-making.

This may also lead to litigation against the auditor and/or the company due to subsequent bankruptcy proceedings. In such situations, auditors almost always undertake further tests to pre-empt such legal suits (Francis & Simon, 1987; Pong and Whittington, 1994; Taylor and Simon, 1999 and Huang *et al.*2010). Taylor and Simon (1999) contend that high litigation pressures increase AF due to increased loss-exposure. This may well suggest an explanation for audit fees being higher in the USA in comparison to the UK.

Alternative proxies for audit risk include investment opportunities. One perspective to risk is that it is associated with the amount of **set up costs**, as well as the **size** of the audit client (Pong and Whittington, 1994). These perspectives accord well with AT and ST as the more financially perilous or larger-sized clients (as expressed via auditee non-current and current assets) or clients with higher litigation risk, the higher the level of risk being undertaken by the principals and other relevant stakeholders, including the auditor. Thus, client's audit risk is critical to AF determination.

Within an audit risk context, while taking regard for **liquidity** (which involves current ratio (current assets/current liabilities) and AF, some previous studies (Simunic, 1980; and Chan *et al*., 1993) confirm some other **alternative proxies** which were not adopted in this thesis**.** They find that there exists a positive relationship between audit fees and audit risk if the nature or the **size of inventory** and **receivables** are used as a proxy. This may well be attributable to factors such as subjective valuation and/or deliberate efforts by management to misrepresent the values of inventory (such as in Enron in 2001, WorldCom in 2002, Parmalat in 2003 and Satyam in 2009) (Tchouassi and Nosseyanba, 2011; Bahsin, 2013). Hay *et al*. (2006) (in their meta-analysis) finds the relationship between audit fees and inventory or receivables (often an important component of current assets, and so of the current ratio) to be **very significant**.

The latter author asserts that contextual statistical results are indicated to be **strongest** when inventory and receivables are combined. Indeed, **84 percent of the studies report significant positive results**. This appears to resonate well with AT and ST, especially in large companies as inventories and receivables both arise because of nexus of several transactions several transactions amongst several stakeholders (e.g., suppliers /creditors and customers/debtors and

transporters, with a need for more and intensive audit work (e.g., stocktaking and confirmation of valuation methods /value). The current ratio is often considered to be a better measure of solvency of the auditee since it recognises the opportunity to relate *current assets* to the *liabilities* (André *et al*., 2016). Accordingly, Silva *et al.* (2020 p.6) (citing Pratt and Stice, 1994, a US study) adopt a similar version of liquidity **ratio** (i.e., quick ratio - current assets (less inventory)/current liabilities) as a proxy of risk and find a negative and significant relationship between company liquidity and AF.

On the above basis, and in part, taking consideration for Hay *et al.* (2006) a meta-analysis of AF modelling as part of the **rationale** for the selection of risk and its proxy, this thesis considers **current assets and liabilities** (i.e., **current ratio** - current assets /current liabilities) as one of the proxies that potentially identify the impact of audit risk on AF. In doing so, the research accordingly expects a positive and significant relationship with AF**.** If so, the expected impact on the outcome of this thesis is to confirm the results of prior authors some of which have been cited above.

In a similar vein, within the context of AF determination, in terms of **profitability,** (e.g., expressed as the ratio of net profits to shareholders equity - i.e., **Return on Equity(ROE)** - Gonthier-Besacier and Schatt (2006)). These authors, interestingly, determine a negative relationship between profitability and AF. This may well suggest that increased profitability indicates a reduction in risk and vice versa. Hay *et al.* (2006) also finds a negative relationship between profitability (using **return on assets- (ROA)**) and AF.

However, Pong and Whittington (1994), in their UK study of large, listed companies, indicate that although an increase in profits may signify a reduction in risk and expectation of lower

audit fees, it might also be an opportunity for the auditor to increase the fees to match the increased ability of the client to afford an increased fee. Together with Prawitt *et al.* (2010), these authors suggest that unadjusted Profit (or loss) Before Interest and Tax (**PBIT**) (Pong and Whittington, 1994,) are positively associated with AF.

Considered collectively, the findings in relation to risk (in terms of profit/loss) have overall been mixed. In comparable vein, this thesis adopts a similar **profit-related** proxy for risk (Profit Before Tax (**PBT)**, that focuses on the auditee's ability to pay linked to its profit, as such thinking suggests and expects a positive and significant relationship between profitability and AF. If so, the expected impact on the outcome of this thesis is to confirm the assertion of Pong & Whittington (1994) which is also a study into AF determination into UK listed companies. Essentially, the **rationale** is premised on the argument that as profits increase, the auditor should seek to confirm that such increases are significantly underpinned by genuine transactions. In turn, this could lead to further testing, increased effort, and additional AF as evoked within AT considerations

Therefore, taking regard for all the literature and the individual research proxies (i.e., PBT and CRA) immediately above, in relation to audit **risk** , it would not be unreasonable to suggest and consequently hypothesise that:

Hypothesis H2.1a(iii):

There subsists a positive and significant relationship between Client's Risk (represented by Current Ratio (CRA) and Profit before Tax (PBT)) and AF, within the set of 83 (FTSE 250) companies, using U &L information.

6.2.2.4: The Big4 Audit Firm Hypothesis H2.1a(iv)

Because the Big4 auditors are perceived to have higher quality and sophisticated resources supported by a higher level of currency, proficiency, and knowledge than mid-tier auditors, it is reasonable to expect them to charge higher AF. Unlike most prior studies in AF modelling, the **Big4/Non Big4** dichotomy is **not an important consideration** in this study as it is **not** vital to any of the present research objectives[28]**.** Several issues relating to the Big 4 have been qualitatively discussed in Chapters 1 and 3, (including their degree of dominance). OBJ4 in this chapter focuses on the Big4. Hence further elaboration is not appropriate at this juncture.

However, the level of their dominance in relation to the audit market within the UK and globally, acutely **heightens the extent of their relevance** to AF determination and hence the necessity for the consideration the Big4 auditor variable in every research on AF determination. In particular, they also dominate the FTSE250 which provides the main gap and hence the primary focus of this thesis (Smith, 2020). As with some other variables discussed in this section, there are mixed findings on the impact of Big4 firms' clients on the AF of their auditees. Simunic (1980) finds the existence of price competition within the audit market for listed companies in the U.S. T

his could suggest the absence of significant price differentials between prices charged by audit firms in relation to the same category of auditees (e.g., between small entities and between large-sized auditees). Interestingly, Beattie *et al.* (2001) highlight Simunic (1980)'s explanation indicating that Big6 audit firms enjoy an economy of scale, which they transfer to clients in lower AF. Conversely, other researchers (Carson *et al*., 2004, Kohler and Ratzinger-Sakel, 2012) conclude that a premium is being charged by 'Big' audit firms regarding small clients; compared with those of 'non-Big' audit firms. Other researchers including Chan *et al*.,

[28] Chapters 2 and Chapter 7.

(1993), Brinn *et al.* (1994) and Pong and Whittington, (1994), in UK; Cameran (2005) in Italy; Kohler *et al*., (2010) in Germany) also find that in general the Big4 firms and their equivalents charged a premium for AF in comparison to 'non-Big' firms.

However, Pong and Whittington, (1994) a UK study that focused on lowballing observes that the Big-auditor premium for complexity was less than that charged by 'non-Big' audit firms. Impliedly, lack of linearity exists between the premium and AF due to the counter effect of economies of scale and small-sized clients (Chan *et al*.,1993; Pong and Whittington,1994; Chaney *et al.,*2002). The implication is that there is an interaction between the extent of the premium and other AF determinants (e.g., size and complexity of the auditee). The premium is instigated by both the auditee and the auditor.

The client's perspective associate's higher quality work and *'deep pockets'* with services offered by the 'Big' firms (Gopal *et al.,*2015, p.2) as well as protection of their reputation in case of litigation and recovery of their investments (through litigation), if the company goes bankrupt (DeAngelo, 1981; Chaney *et al.*, 2002; Gonthier-Besacier and Schatt, 2006, p.14). From the auditor's perspective, DeAngelo (1981) also attributes the premium to the perception of 'Big' audit firms that they are better resourced than 'non-Big' firms; and thus, do charge a compensatory premium for that element of their service. The Big 4 also engages in significant exploitation of information asymmetry between the auditor and client and in reduced competition (DBIS, 2006).

Indeed Ye (2020) asserts that listed firms are willing to pay higher audit fees for high-quality audit services usually provided by the Big4 accounting firms, and this causes AF to increase. Considering the latter factors especially the lack of competition, in the UK (FTSE250) audit

market (Smith, 2019), a positive and significant relationship is expected between auditor variable (i.e., Big 4) and AF. If so, the expected impact on the outcome of this thesis is to confirm the assertions of some prior authors (e.g., Pong & Whittington (1994).

Therefore, taking regard for all the literature and the individual research assertions immediately above, in relation to auditor (Big4) variable, it would not be unreasonable to suggest and consequently hypothesise that:

Hypothesis H2.1a(iv):

There subsists a positive and significant relationship between the Auditor variable (AUF) (represented by AF paid to Big4 audit firms) and AF within the set of 83 (FTSE 250) companies, using U&L information.

6.2.2.5: The Location Hypothesis H2.1a (v)

Clients' geographical locations may differ and hence some locational influences may affect the audit fees. This may well provoke significant variability in AF from one location to another. Equally, one might argue that auditees in relatively more expensive cities are likely to be involved in more activities /transactions, especially a city such as London in UK which is an international nucleus for the financial sector. Accordingly, Hay (2010) indicates that despite the significance of auditee location to AF, the location of the auditee is often not included in studies on audit fee determinants. In part, this is based on the premise that different locations (both locally and internationally) often exhibit different (more local) levels of commercial vibrancy, including the '*location in a large expensive city'* (Hay, 2010 p.3). In the same publication ('*Accumulated weighted of evidence in audit fee research'*), Hay (2010 p.21) states that '*Some studies, especially in the UK, include a measure for "city effect".*

This is done on the expected basis that firms audited in the **most expensive cities** (**e.g., London*)*** *'*... will cost more'. Additionally, intuitive logic would suggest that real estate and other items of expenditure; including wages/rents are higher in such cities. Hence in such expensive cities companies are likely to have relatively larger or will have higher levels of transactions than those located away from big cities. On the above basis, the corresponding asymmetry of information and client risk would likely be higher. Thence, in accordance with AT, the audit would likely require more specialised and intensive work. This location variable is also worth considering as Hay (2012 p.5) contends *'that 'indications that the city location* ***is*** *usually significant but is* ***omitted from many studies'.*** As such**,** its inclusion **… '***may help to* ***improve future audit fee research'***.

In the UK, the assertion relating to regional differences in AF is also supported by Brinn *et al.* (1994) in their investigation into AF determinants in a total of 154 independent and subsidiary unquoted companies in the UK using client's registered-office-locations. They confirm that their findings accord with previous authors who have similarly examined U.K quoted companies in terms of regional differences in AF. These authors use binary variables to indicate whether a company was based in London, Southeast (excluding London), the Southwest, West Midlands, the East Midlands, The North, Scotland, and Wales.

Significant differences were found between the location proxies. Furthermore, the research revealed that a premium was charged for independent companies in London and subsidiary companies in Southeast (outside of London). Using the evidence from the latter UK research as rationale for selection of Location variable and its proxies, this thesis adopts three proxies (LOC1 = *London*; LOC2 = *England outside of London* and =*Outside of England*) and hence expects client's location to have a positive and significant relationship with AF.

Taking regard for all the literature and the individual research considerations by prior authors, immediately above, in relation to Location variable, it would not be unreasonable to suggest and consequently hypothesise that:

Hypothesis H2.1a(v):

There subsists a positive and significant relationship between Client's Location represented by region of clients registered office address (LOC)) and AF within the set of 83 (FTSE 250) companies, using (U&L) information.

6.2.2.6: Business sector Hypothesis H2.1a(vi)

The very specific nature of certain sectors/industries might well suggest that more (or specialised) audit procedures will be required to audit companies within them. This could be due to such issues as the nature of more complex systems and procedures being necessary to make their products, render their services, implement appropriate controls and/or safeguard their assets or the integrity of their transactions. For instance, Hassan & Naser (2013) contend that a higher level of audit quality is required by manufacturing companies due to higher agency costs in that sector.

If so, in accordance with AT, a higher quality of audit staff with relevant level of specialisation, would be required to conduct the audit. In turn, this will likely lead to higher AF. The same authors (Hassan & Naser, 2013 p.15) suggest that this is also attributable to the '*big capital investment'* required by manufacturing companies, causing them to seek external sources of funding and the need for them to report relatively more information than non-manufacturing companies in order *'to assure the money providers' (*i.e., external stakeholders in line with ST). Equally, citing Hackston & Milne, (1996) and Tagesson*, et al*. (2009), Hassan & Naser (2013)

assert that such companies voluntarily disclose detailed information in order to minimise public pressure and the additionally imposed regulations to which they must adhere to legitimise their activities. Accordingly, more governance (compliance work) is undertaken high quality auditors, and in turn, this increases the AF. Additionally, in the case of manufacturing companies, they would likely be subject to more public pressure than other types of companies due to the perception that the activities of such companies often negatively impact on the environment and the community.

In similarity with the above conclusions, some other authors also find that sector disparity has an impact on AF. Gonthier-Besacier and Schatt (2006) research firms in France and find that information technology companies incur higher audit fees relative to others. Companies in communication, transportation and utilities have been associated with lower audit fees in Canada while manufacturing companies pay higher fees due to pressure to disclose more information, voluntarily (Tagesson, *et al*., 2009; Anderson and Zeghal, 1994; Ahmed & Abdullah, 2016). The early research of Simunic (1980) demonstrates that audit fees for the utilities sector was lower than fees paid within some other sectors.

Most FTSE 250 are large, and the companies contained within the index have much significance. They are very much a good barometer of the health of the UK economy (Cunningham,2017). In this research, the identified sectoral companies (which fall within [29]E11, RC/ REITS,T&L and SS sectors), belong to the most populated sectors in the FTSE 250 and therefore provide the appropriate proxies for testing in this thesis. The researcher therefore expects that the four identified independent sectoral categorical variables relating to the set of 83 FTSE 250 companies will each have a significant and positive relationship with AF. If so,

[29] As already identified in Chapter 2

the expected impact on the outcome of this thesis is to confirm the cruciality associated with the business sector variable by some previous AF authors as cited above.

Therefore, taking regard for the literature and the individual research considerations by prior authors, noted immediately above, in relation to the business sector variable, it would not be unreasonable to suggest and consequently hypothesise that:

Hypothesis H2.1a(vi):

There subsists a positive and significant relationship between Client's sector represented by FAME industry trade description (EII, R&C/ REITS, T&L and SS) and AF within the set of 83 (FTSE 250) companies, using (U&L) information.

All the above hypotheses only address the aspects of H2.1a which relates to testing the influence of the variables (i.e., client's: size/ complexity /risk/ auditor/ location/sector) in the total set of 83 FTSE250 companies. The hypotheses for the subgroups of four business sectors, (32 EII, 18 R&C REITS, 17 T&L and for 16 SS sectors) will also be tested regarding the same relationships in each sector, separately. Consequently, there are five sets of hypotheses altogether as presented in **Chapter 2 (Table 2.7).** The variables having previously been reviewed individually on a variable-by-variable basis, the hypotheses are nevertheless presented for each **sector**, in the interest of better clarity.

Therefore, taking regard for all the literature and the individual research considerations by prior authors, above, in relation to the individual variables, it would not be unreasonable to suggest and consequently hypothesise that:

Hypothesis H2.2a(i-vi):

There subsists a positive & significant relationship between AF and the primary NCGVs (Client's: Size/ Complexity / Risk/ Auditor/ Location) within the set of identified 32(FTSE 250) EII companies; using U &L information.

Hypothesis H2.3a(i-vi):

There subsists a positive & significant relationship between AF and the primary NCGVs (Client's: Size/ Complexity / Risk/ Auditor/ Location) within the set of identified 18(FTSE 250) R&C-REITs *companies; using U &L information*.

Hypothesis H2.4a(i-vi):

There subsists a positive & significant relationship between AF and the primary NCGVs (Client's: Size/ Complexity / Risk/ Auditor/ Location) within a set of identified 17 (FTSE250) T&L companies*; using U &L information.*

Hypothesis H2.4a(i-vi):

There subsists a positive & significant relationship between AF and the primary NCGVs (Client's: Size/ Complexity / Risk/ Auditor/ Location) within a set of identified 16 (FTSE 250) SS companies ; using U &L information.

6.3: Overall Background and Embracing Literature (H3.1a -H3.5a)

(Corporate Governance Variables:(CGVs) - OBJ3)

6.3.1:Preamble

Firstly, as indicated above, the proxies for CGVs are various, hence it is important to **align the CGV considerations with audit and AF**, rather than solely with CG in general. Therefore, variables discussed must be limited to the facet/s connected with AF modelling studies. Hay *et al*.(2006a) argues that research on governance and regulation has been scarce and offer conflicting results. Although more governance variables have become included in AF modelling recently, this thesis appropriately responds to that scarcity of CG variables (Hay (2012), by focusing on governance under OBJ3 - within this subsection.

Hay (2012) states *'The addition of audit fee studies from the more recent period shows that there is now evidence that audit fees are positively associated with internal control and with corporate governance'.* Furthermore, the collective results of that research review, associate improved governance (by virtue of active directors/audit committee **(AC)** members) with a positive influence on AF. In this connection, OBJ3 adopts variables[30] that represent both the financial competence and independence of the members of the AC (Audit Committee Competence - ACC) as well as the proficiency of the auditors (Audit Quality - AUQ) while assessing possible enhancements of the explanatory powers of the NCGVs.

It is worth stating that the proxies adopted for ACC and AUQ in this research are original and hence differ from those adopted by prior researchers. Hay (2012) briefly reviews some

[30] Chapter 7 offers further details derivation of the CGVs (ACC and AUQ)

alternative AC proxies adopted for CGVs (AC variables) which are mainly found to be significant and positively associated with AF by some researchers. These include outside directors, number of board meetings, AC expertise, AC meetings and AC independence. In similarity with the approach adopted in OBJ2, objectives and hypotheses are developed and considered for the identified **83 companies (jointly),** followed by hypotheses for **each of their four sectors,** after the review of relevant literature.

6.3.1.1:Audit Committees (AC) and AF: Theoretical Underpinnings

It is a key duty of NEDs/IDs to monitor actions/decisions of directors (as agents) and hence to safeguard investors' interests from the opportunistic behaviour of such agents (Farooq *et al.* (2018 p.97), This resonates with AT and (by extension) ST. Indeed, the authors claim that the '*theoretical underpinning for audit committees* ***is agency theory*** *whereby appropriately constructed audit committees are expected to enhance governance quality, in particular by improving the quality of financial reporting and* ***auditing****'* (p.581). Januarti *et al.* (2020) lends credence to the view that audit committees play important roles in monitoring company policies and the related audit is '*a form of supervision to prevent agency problems from arising*' (p.180).

As section 172, CA (2006) extends the duties/obligations of directors (i.e., agents) to **several stakeholders**, it follows that audit committees' actions also safeguard interests of non-owner stakeholders as in **ST**. Despite the widespread theoretical assumption that AC's improve financial reporting quality, it is not unequivocally supported by empirical evidence. Bajra and Cadez (2018) contend that the presence of an AC is necessary (but not a sufficient condition) for enhancing financial reporting quality, although this could increase AF. They ascribe the conflicting evidence to the highly diverse nature of the '*size, independence, monitoring*

effectiveness, competencies, and other relevant quality features' of AC (Bajra and Cadez,2018 p.151).

On the other hand, Wu (2012) argues that when viewed from the lens of the **Signalling Theory** (SIT), corporate managers (including AC members) could convey the impression of highly effective corporate governance to external stakeholders by employing very rigorous external audit with higher AF (Januarti *et al.,* 2020). If the relationship is viewed from the latter lens, it follows that companies with sound corporate governance (i.e., with effective audit committees) do pay more AF to audit firms. The conflicting hypotheses being offered by these two theories complicate attempts made to understand the dynamics that exist between these internal and external strands of the phenomenon of CG (i.e., audit committees and audit/AF). Farooq *et al*. (2018) acknowledges the mixed findings and offers some explanation (in the next subsection) on whether the quality (and hence competence) of CG agents affect AF.

6.3.2:Hypothesis Development relating to H3.1a - H3.5a (OBJ3 : 3.1-3.5)

The continued spate of Big4 accounting scandals already discussed in detail in Chapter 3 appears to indicate an inappropriate level of professional scepticism/competence by auditors. While these events appear to reflect poor audit quality by auditors, the responsibility for governance rests on the company directors especially the competence of the AC in relation to audit. Hence the events also appear to reflect ineffective audit committees and how ethical/economical they have governed corporate finances by ensuring that money is only paid for good quality audit service. Given that audit committees are influential in agreeing the level of audit work performed by auditors, it is also logical to conclude that apart from auditors, the composition (and hence the competence of the audit committee) could be a significant determinant of AF .

This also relates to the number of Non-Executive Directors (**NEDs**) or Independent Directors (**I/Ds)** and their qualifications and areas of competence). These phenomena call for a consideration of the possible influence of these audit related CGVs on the NCGVs (as primary determinants of AF). This is to understand if the combination of both types of variables could lead to significant enhancement of the predictive abilities of the NCGVs, about the AF paid.

6.3.2.1:Demand Based and Risk Based Views of Audit Committees and AF

Farooq *et al*. (2018) offer the demand-based view which suggests that governance agents that implement sound CG, demand high quality audits in order to '*further ensure reliability and validity of accounting statements and consequently this will lead to increase in cost of external auditors' fees*.' (p.96). On the other hand, the risk-based perspective argues that '*firms with sound governance practices reduce the risk of external auditor and shorten the scope of audit, ...* thus leading '*to reduction in cost of audit fees'* (p.196). In part, the thinking is that NEDs on the board are assumed to be independent and less fettered in their ability to advise or challenge management in their assessments of company issues.

Accordingly, the higher the number/proportion of NEDs /IDs the more effective an AC is expected to be. They cite Yatim *et al.* (2006) in asserting that the bigger the size of the audit committee, the better the firm's reporting quality, thus reducing audit effort, and very likely lowering AF.

6.3.2.2:Empirical Analysis of AF and ACC - H3.1a - H3.5a (OBJ3: 3.1-3.5)

Tugman and Leka (2019), n.p.) while writing for IFAC also contend that '*Effective audit committees are a critical part of delivering trust and confidence in reporting and risk management'.* Therefore, the ACC variable is a very important CG instrument and audit

committees are very central to the determination of AF in conjunction with the quality of audit work. These authors also emphasize the significance of effective CG by stating that when impaired, it is the main reason why companies fail.

'Companies do not fail because of poor quality audits. An audit is designed to enhance confidence in financial reporting, but it does not relieve management or those charged with governance of their responsibilities. Ultimately, corporate failures and the resulting impacts on financial statements are consequences of poor governance and decision' (Tugman and Leka (2019, n.p.). This implies that AUQ alone does not lead to a company's failure. Hence Boards should look to other aspects of CG such as audit committees.

6.3.3:Proportion /Qualification of NEDs and Frequency of Meetings and AF

Consistent with Farooq *et al*. (2018), some other prior authors point to a possible relationship between the **function** of audit committees in relation to AF determination, using proxies such as the proportions of qualified NEDs, their qualification, and the frequency of meeting, although their findings are inconclusive (Fama & Jensen 1983).

6.3.3.1:Proportion of NEDs in AC and AF

Liu and Hu (2006) assert that the proportion of NEDS on the board have a significant influence on AF; as supported by some subsequent authors (e.g., Januarti *et al.,*2020). A higher proportion of NEDs could lead to more independence of the AC which could induce more interaction between a higher proportion of AC members and auditors involving more audit time and higher AF. Hence board independence is positively associated with AF.

6.3.3.2: Qualification of NEDs

Fama & Jensen (1983) reveal that the presence of several highly qualified NEDs/IDs would likely result in a high-quality audit report which enhances the client's reputation as experts in decision control. This would be due to the IDs demanding a high-quality audit to obtain further assurance of compliance and leading to increased fees. Yatim *et al*. (2006) finds a positive significant association between AF and AC members' professional qualifications (e.g., ACCA and ICAEW). This arises from increased monitoring which is aimed at protecting their reputations as experts in accounting/financial matters. However, the presence of several qualified NEDS could also lead to a perception of reduced audit risk with reduced audit testing and lower AF (Hassan & Naser, 2013).

6.3.3.3: Frequency of AC Meetings

Ghafran & O'Sullivan (2017) find mixed evidence regarding the impact of meeting frequency of audit committees and the AF. This is because the frequency of AC meetings may indicate some alignment with audit related matters. For instance, very frequent meetings may indicate more urgent audit-related issues which increase client risk, audit time and AF, while regular meetings would indicate the reverse. Equally, Yatim *et al*. (2006) and Jizi and Nehme, (2018) find a positive relationship between the external AF and board frequency of meetings. However, the Farooq *et al.* (2018) measure AC diligence by the number/frequency of meetings and argue that ACs which meet more frequently reduce the problems of financial reporting. which leads to lower external audit efforts, and lower audit fees. This could be due to frequent meetings which allow for better exchange of opinions and timely resolution of agency issues. However, some authors (e.g., Hashim and Abdul Rahman (2011) find a non-significant relationship between AC meetings and AF.

6.3.3.4: AC Expertise and AF

Ghafran & O'Sullivan (2017) investigate the impact of AC expertise (i.e., AC competence - ACC) on AF paid by FTSE350 companies. The study is based on 991 observations of FTSE 350 companies from 2007-2010and citing several sources in their reference to previous literature (including Carcello *et al,.*2002; Abbott *et al.,* 2003; Boo & Sharma, 2008; Zaman *et al*., 2011). They assert that the size and level of independence of AC's have a positive impact on AF. It is not unreasonable to assume that more expert members would be more independent and diligence. Yatim *et al.* (2006) and Jizi and Nehme (2018) report a positive relationship between AF and board diligence (as aspect of AC competence).

However, the study finds that the impact of **financial expertise** is confined only to **FTSE250** firms. This points to the potential value of AC expertise in smaller UK listed auditees (FTSE250) as opposed to larger UK listed firms (100 FTSE firms). Part of the thinking of these authors is reflected in designing the proxy for AC in this thesis[31] on the basis of proportion of NEDs having **financial expertise**, combined with the proportion of NEDs in each identified company. Thus, this enhances the **rationale** for selection/construction of the ACC variable, devised originally by the researcher regarding this research which also focuses on the **FTSE250** and thus increases its **relevance**.

Yatim *et al*. (2006) finds positive significant association between AF and **AC expertise** (as indicated above) because AC members who possess professional qualifications (e.g., ACCA and ICAEW,) may protect their reputations as experts in accounting and financial matters and hence demand increased monitoring. If so, this would imply that the more expert and diligent (and hence more competent) audit committees are likely to seek higher quality audits, resulting

[31] Chapter 7

in higher AF as argued by Carcello *et al.* (2002) and Abbot *et al.* (2003). This appears to support the demand-based perspective of Farooq *et al*. (2018) already referred to above. It can be implied that since members with higher ACC are likely to demand higher quality audits it follows that this could improve governance and also improve management of NCGVs, thus significantly enhancing their predictive powers regarding AF.

More recently, Januarti *et al*. (2020) examine the relationship between independent AC effectiveness (i.e., AC competence - ACC) and AF, using a sample of 130 manufacturing companies on the Indonesia Stock Exchange (IDX) (2016–2017). They proxy AC effectiveness include the size of AC's, the frequency of meetings, and AC expertise. In similarity with some prior studies *(e.g.* (Fama & Jensen, 1983; Hay, 2012; Ghafran & O'Sullivan, 2017) they find a positive relationship with size and frequency of meetings with AF. However, Januarti *et al. (*2020) fail to provide evidence that the expertise of the AC significantly influences AF. Farooq *et al.* (2018 p.97) explain that the independent nature of NEDs/IDs enables '*sound governance mechanism'* especially as they are not under any '*hierarchal authority and do not face the issue of retaliation'.* Hence, they are less conciliatory with the board including their possession of rich *'experience of controlling and monitoring due to their directorship in other boards'* (p.97).

The argument is that the more perfect the internal CG structure of a client, the lower the agency costs, and the fewer the audit risks (Wu,2012). If so, the relationship between AF and ACC could also be negative. Considering the arguments above, especially the influence of the proportion of NEDs and financial expertise of AC members on AF, this thesis adopts AC competence (ACC) as one of the CGVs to be empirically tested for its likely enhancement of the predictive powers of NCGVs on AF. As already indicated above, ACs with higher proportion of qualified members and financial expertise request more audit testing which

leads to high quality reports and governance. This is likely to enhance the predictability of the NCGVs since they will be appropriately stated/valued and presented.

Furthermore, justification of the rationale for adoption of the ACC proxy for CG is well endorsed by Potter (2009, p.20) who states that the '*significance of the role of audit committees has been broadened from one focused almost exclusively on the external audit process, to one concerned with* ***corporate governance in general****'*. Additionally, the choice of the two proxies of CG involves the competence of the auditor and the competence of the AC and appears to be substantiated by their established statuses as aspects of the Governance Audit Trinity ('Governing Body of Corporate Entity') in conjunction with Internal Audit (Porter ,2009 p. 22-25).

Considering the findings of prior authors and the logical arguments and reasoning offered in the above review, **the hypotheses** relating to **OBJ3** (the likely enhancement of NCGVs by CGVs) are provided later and only after reviewing the literature relating to the second CGV (i.e., AUQ) in continuation of OBJ3.

6.3.4:AUDIT QUALITY (AUQ) AND AF

6.3.4.1: Preamble

In similarity with any other service provided to a company, the directors (especially those within the audit committee) would seek to ensure that the level of audit service provided is set and performed at an appropriate level and is also consistent with the assertions of the audit report. The preponderance of accounting scandals and audit failures[32] tends to indicate that,

[32] As in Chapter 3

in practice, the quality of the audit work could be different. This is because directors could connive to retain auditors that provide lower quality of service if they provide unqualified audit reports.

However, a good quality audit would usually demand audit work that enables the auditor to detect material errors and misstatements which are then appropriately reported to the shareholders. Therefore, some material misstatements may not be detected if the level of audit work is not appropriate. Intuitively, it could be argued that improved quality of audit would involve more audit work and possibly better trained/qualified staff - all of which would impact on AF. Additionally, the service of the auditor as an agent may occasionally fall below the expected audit quality (AUQ), if he/she arbitrarily reduces AF (e.g., in order to retain some clients).

Therefore, there could be different relationships that may exist between AF and AUQ. If so, such a relationship requires regular investigation, especially within the FTSE250 as is intended by the thesis.

6.3.4.2: Empirical Analysis of AF and AUQ - H3.1a - H3.5a (OBJ3: 3.1-3.5)

AUQ has already received some focus in Chapter 1. According to FRC (2018), high quality audit provides investors and other stakeholders with a high level of assurance that an entity's financial statements give a true and fair view and offer a reliable and trustworthy basis for making decisions. However, no consensus exists in the definition or measurement of AUQ which substantially relies on a consideration of some perceptions and views (Chadegani, 2011, Competition & Markets Authority (CMA), 2018). Thus, the former author focuses on the accuracy of the audited documentation and describes AUQ as the probability that financial

statements do not contain any material misstatements. Conversely, CMA (2018, p.30) focuses on the auditor's characteristics and cites the Competition Commission (2013) in defining quality '*in terms of auditors' scepticism, objectivity, integrity and independence'*.

DeAngelo (1981 p.186) focuses on the competence of the auditor and his/her willingness to report an adverse finding, by defining AUQ as *'the market-assessed joint probability that a given auditor will **both** (a) detect a breach in the client's accounting system, and (b) report the breach'*. Hence, AUQ is a function of the auditor's ability to detect a breach (depending on technical capabilities, audit procedures, sampling etc.) and report the breach (depending on auditor independence and objectivity). Samsuri & Arifin (2018) cites Riyatno (2007) in defining AUQ '*as something that is intangible, hard to measure and can only be perceived by the users of audit'*.

Considering the above definitions, the researcher's opinion is that the intangibility of AUQ and the lack of a universal definition makes it an elusive concept which should be judged contextually on the merits of each audit. Since sound quality audit offers shareholders and other stakeholders with substantial assurance regarding the stewardship of the Board (FRC, 2018), AUQ is a key instrument with which the Board can justify its agency role to shareholders (as in AT) and also to the expansive list/scope of other stakeholders (as in ST).

Thus, its relationship with AF and its possible influence on the NCGVs reviewed in this thesis are worth investigating. Although the studies reviewed are universal in nature, this subsection focuses on AUQ within the UK where the FTSE 250 companies are listed and in which they also act as barometer of national economic health (Cunningham, 2017).

Table 6.1: Overview of AQR results by the FRC.

Inspection cycle	Good or limited improvements required. No.	Good or limited improvements required. %	Improvements required. No.	Improvements required. %	Significant improvement required. No.	Significant improvement required. %	Total No.	Total %
2016/17	102	70.3	33	22.8	10	6.9	145	100
2017/18	106	76.2	20	14.4	13	9.4	139	100
2018/19	96	70.6	33	24.3	7	5.1	136	100
2019/20	81	62.3	34	26.2	15	11.5	130	100
2020/21	99	67.3	41	27.9	7	4.8	147	100

Source: FRC (2021)

In recent times, the reputation of the audit profession has been damaged both in the UK and internationally by audit failures and accounting scandals, hence the restoration of trust requires improvement in audit quality (Sweet, 2014). The ARD (2014) rules such as rotation, retendering, restriction of NAS and empowerment of audit committees are all aimed in that direction (Fowler, 2015). In its '*Developments in Audit 2021'*, FRC (2021) conducted its usual Annual Quality Review (AQR) on 147 audits (103 were audited by Top 7 auditors i.e., the Big4 plus BDO, Mazars & Grant Thornton). The number of audits classified as '*improvements required' and 'significant improvements required' remains unacceptably high* and audit *quality varied to a greater degree between different firms* (FRC,2021p.20) including inconsistencies within the same firms. As shown in the **Table 6.1 above,** 99 (67%) of the 147 audits inspected were considered as good or requiring no more than limited improvements (62% in 2019/20).

In its summation, the FRC (2021) acknowledges some improvement on the previous year's results which it describes as marginal. It demands significant change to meaningfully improve audit quality while stressing that '*quality audit is crucial to maintaining trust and confidence in the UK's financial markets.'* (White (2021, n.p.).In recent times, the FRC has put forward its programme of measures in response to recommendations of significant Reviews as already explained in Chapter 3.

The fact that most of the actions required are not yet underpinned by legislation increases the challenge relating to enforcement and enhancement of audit quality. Accordingly, the BEIS White paper, *'Restoring Trust in Audit and Corporate Governance'* (BEIS, 2021p.1) can become very crucial to the enforcement of actions. ARGA (the new regulator from 2024) is expected have an expanded remit and authority to promote and ensure implementation of improved AUQ in the interest of the public.

6.3.4.2: Overview of AUQ Measurement and Empirical Analysis of AUQ and AF.

Firstly, AUQ has been discussed in part, within Chapter 1. The variations arising from measurements of AUQ with different variables/proxies have created a lack of universality amongst stakeholders, including researchers and regulators (IAASB ,2014; ICAEW (2021). Due to the latter position, there is lack of consensus amongst prior research in terms of the relationship between audit quality (AUQ) and AF. As already noted above, (with focus on the UK), AUQ is not reaching the necessary high standard expected by the FRC (FRC,2021).

The high-profile corporate failures involving the Big4 appear to indicate that either AUQ is being measured inappropriately or not being appropriately delivered by most auditors.. Although much has been written about AUQ (including some of its proxies), research directly

dealing with AF research on AUQ are sparse compared to issues such as client size, risk, complexity auditors' size and some other variables (Hay, 2012). Hence this thesis responds to a call from the latter author for more studies on AUQ. Kim *et al.* (2010) indicate that one of the proxies for AUQ (the magnitude of absolute discretionary accruals) is negatively associated with positive abnormal AF. However, due to economic bonding hypothesis, the authors argue that auditors that receive unusually high AF from clients may value the benefits of retaining those profitable clients over the risk of increased litigation, reputation loss, which comprise the costs of allowing substandard reporting (Singh *et al*.,2019).

This indicates self-interestedness and opportunism which is symbolic of AT (Jensen & Meckling, 1976; Miles,2012). Samuri & Arifin (2018) (citing Ettredge, Fuerherm and Li, 2014) measure AUQ by misstatements in audited data using a sample of 3,039 public listed companies. They also reveal a negative association between AF pressure and AUQ. Intuitively speaking, AF may be increased without an increase in AUQ if the client does not receive an adverse audit report or if a cosy relationship exists between the auditor and the client. However, Ganesan *et al.* (2019) state that there is a positive relationship between AF and AUQ and cite Hoitash *et al.* (2007) who assert that an audit firm that charges higher AF will tend to perform good quality audit.

Thus, high quality audit (i.e. improvement of AUQ or addition of the AUQ variable) can be induced by higher AF. Inferentially, improved AUQ is likely to lead to improved accountability and CG. If so, the improved quality audit would improve procedures such as calculation, classification and cut off procedures in relation to NCGVs which would enable the latter to be more predictive about AF. Therefore, it is reasonable to conclude that an auditor will be concerned about losing a profitable customer if their audit is of a low quality.

Ganesan *et al.*, 2019) authors also rely on Ghafran & O'Sullivan (2017) who infer that companies will pressurise auditors to perform better quality audit once higher AF have been paid. Thus, the conclusions of prior authors are mixed. Relevant AF modelling studies on AUQ are sparce (Hay, 2012). Hence reliance is placed on much earlier studies (e.g., Jensen and Payne, 2003) that are relevant, to explain certain phenomena. The latter authors investigate audit firms in Florida and conclude that competition on AF pricing affects AUQ.

However, they also claim that '*the relationship between AUQ and AF is unclear'* (Jensen and Payne (2003 p.2). Hay *et al.* (2004) and (2006) argue that a firm recognised to have superior quality is expected to attract higher AF as their review claims that a dummy variable for Big 8/6/5 (now Big4) was used in 63 studies proxy for AUQ variable. The results on AUQ strongly support the contention that 'Big4' is associated with higher AF, with 67% of all studies finding a significant positive result. Understandably, some opinions on the performance of the Big 4 would not encourage the use of the Big4 as a proxy for AUQ (Sikka,2019, FRC, 2021).

Hence there is an important need to be innovative in suggesting a proxy for AUQ in this thesis as demonstrated within the next subsection. Bowens (2016) contend that it is not obvious that audit clients who pay a premium fee get better AUQ and this is also supported by Camp (2013) - a UK AF modelling study. They claim that the Big4 charge a premium although the AUQ is not commensurate with the premia charged. Additionally, the UK House of Lords have determined that the Big4 concentration of the UK audit market leads to excessive fees being charged by the dominant Big4 without any improvement in AUQ (House of Commons Library, 2018). If so, the fact that the Big4 could sustain their dominant position in the market may well be due to regulatory capture[33] (Chambers 2013).

[33] Chapter 4.

6.3.4.3: Proxy Adopted for AUQ in this thesis (NAF/AF)

The proxy used for AUQ in this research is the ratio of NAF/AF. Some regulations exclude certain types of NAS provided by the auditor or impose a limit on the amount of NAF paid to an auditor because of its possible threat to independence and objectivity (ARD 2014; SOX,2002). Herath & Tori (2018) (citing Gul *et al* (2007) contend that NAF is likely to affect the auditor's independence for **short** audit tenures. However, studies about the effect of NAF on AUQ have been found to offer conflicting results as this depends on the proxy of audit quality adopted (Lim & Tan (2007).

The authors claim that recent studies indicate that NAF is not associated with the incidence of higher discretionary accruals or the propensity to satisfy earnings targets (and they cite Ashbaugh, Lafond, & Mayhew (2003); Chung & Kallapur 2003). Additionally, they suggest an absence of evidence that associates the provision of Non-Audit Services (NAS) with a reduced likelihood to issue going-concern opinions in the case of financially distressed firms.

With regard to AF and AUQ, Stanley and DeZoort (2007) determine that AF is associated with improved AUQ when the latter is measured by a lower likelihood of restatement for firms with short tenure. However, NAF has insignificant relationship with AUQ during **long** tenures. This contradicts concerns about NAF payable to entrenched auditors. Due to the mixed results, the association of NAF or AF when assessing AUQ, depends on the way AUQ is being measured. Since research leading to this study did not identify AUQ being proxied in the manner that has been implemented in this research, the findings of this research contribute originally to knowledge in this aspect and appear not to have a direct precedent. Despite the likelihood of provision of NAS altering the auditor's behaviour in terms self-interest, independence and

hence AUQ (as in AT), Carmona *et al*. (2015), argue that any knowledge spill overs obtained from providing NAS can improve the auditor's understanding of the auditee and its risks.

They argue that providing NAS '*allows for better planning of the fieldwork that results in greater quality'* (p.790). '*When it comes to assessing* ***audit firm quality****, most audit clients* ***highly value audit firm's orientation to consulting activities*** *because, in general, it* ***does not impair*** *auditor independence and it does enhance auditor skills and performance...'.* Thus, a positive relationship could be expected. Singh *et al.* (2019 p.189) support the '*knowledge spill over hypothesis'.* They find a negative relationship between NAS (i.e., NAF) and earnings management. The relationships discussed above, especially Carmona *et al*. (2015), indicate the significance of NAF (as a part of total AF paid to the auditor) in relation to AUQ.

This is because NAF appears to be related to AUQ although the evidence about the direction is mixed. Therefore NAF (based on the knowledge spill over argument) could improve AUQ despite the argument of some authors (Gul *et al.*, 2007) about perceived threat to independence and objectivity referenced above. This could also significantly increase AF especially as auditors also use audit time to explain NAS to clients (Hackenbrack and Knechel,1997). Accordingly, AUQ is expected to be positively and significantly associated with AF. In assessing the predictability of AF models and the variables involved, it is usual to identify some variables of influence and asses their predictive abilities.

As already explained within this chapter, in the presence of sound CG, the degree to which these variables could influence AF, or any determinable expense should be enhanced. This is more so as competency in CG (and the management of its related variables, e.g., AC

competence and audit quality) are expected to improve the predictability of AF determining factors (e.g., NCGVs such as size,
complexity, and risk).

Therefore, taking regard for all the literature and the individual research opinions considered above in relation to **both proxies** (ACC and AUQ), it would not be unreasonable to suggest and consequently hypothesise that:

Hypothesis 3.1a: [34]

*The addition of **CGVs** (ACC and AQ) to the primary **NCGVs** significantly enhances the explanatory powers of the latter set of variables within an identified set of **83 (**FTSE 250**)** companies, using (U&L**)** information.*

Hypothesis 3.2a:

*The addition of CGVs (ACC and AQ) to the primary NCGVs (Client's: Size / Complexity / Risk / Auditor/ Location /Sector) significantly enhances the predictive powers of the latter set of variables within the identified set of **32 (FTSE 250) EII** companies; using (U&L) information.*

Hypothesis 3.3a:

*The addition of CGVs (ACC and AQ) to the primary NCGVs (Client's: Size / Complexity / Risk / Auditor/ Location /Sector) enhances the predictive powers of the latter set of variables within the identified set of **18 (FTSE 250) R&C-REITs** companies; using (U&L) information.*

[34] Chapter 2

Hypothesis 3.4a:

*The addition of CGVs (ACC and AQ) to the primary NCGVs (Client's: Size / Complexity / Risk / Auditor/ Location / Sector) significantly enhances the predictive powers of the latter set of variables within the identified set of **17 (FTSE 250) T&L** companies; using (U&L) information.*

Hypothesis 3.5a:

*The addition of CGVs (ACC and AQ) to the primary NCGVs (Client's: Size / Complexity / Risk / Auditor/ Location /Sector) significantly enhances the predictive powers of the latter set of variables within the identified set of **16 (FTSE 250) SS** companies; using (U&L) information.*

Taking regard for the reviewed literature leading to Hypotheses 3.1a -3.5a (OBJ3), a relevant summary exists within the **combined Chapter Summary** at the end of this chapter. This is after the discussion of Hypothesis 4.1a - 4.4a (OBJ4) and Propositions 5.1 and 5.2 (OBJ5).

6.4:Overall Background and Embracing Literature (H4.1a -H4.5a)

(AF & Auditors' influence on All variables - OBJ4).

6.4.1. Preamble.

A common feature in AF modeling is the consideration of the Big4 as one homogenous unit. (Kanakriyah,2020). This is mainly due to the joint influence they appear to exhibit over the audit market internationally as already explained within this chapter. Given that firms vary in their pricing strategies and the portfolio of clients they audit, it is reasonable to suggest that the AF determinants within the relevant and identified cases audited by the Big4 in general (and in this research) would **not** totally exhibit a shared commonality in their influence (on AF)

across the Big4 audit firms. To provide an indicative knowledge regarding that conjecture, this thesis considers the possibility of an absence of shared commonality in relation to the AF determinants within the identified FTSE 250 cases audited by the Big4 audit firms. This is an aspect for which the researcher did not find prior research with identical objective. Accordingly, this subsection goes on to accomplish the latter.

Firstly, this section (6.4) restates the assertions that a good majority of the FTSE 250 is audited by the Big 4[35]. It then briefly undertakes a general overview of some issues associated with Big4 including AF determinants within that context. In this objective the focus is on **clients attributes** (such as client's size, complexity, risk, and audit quality), all of which have already been reviewed at different points within this thesis especially within this chapter. The reviews are based on several studies of large companies (essentially audited by the Big4 or their equivalents, globally (e.g. Simunic,1980; Campa, 2013; Kikhia 2014; Farooq *et al.* (2018).

Secondly, the section then proceeds to discuss the likelihood of an absence of shared commonality in terms of the influence of the selected AF determinants in this thesis, across the Big4. This assessment is made against prior literature and substantially from the data observed from the cases regarding the identified AF determinants in this thesis.

Finally, the section offers hypotheses based on the review of prior literature and the research data collected in this thesis together with the expectations of empirical testing of identified cases in relation to the Big4 auditors.

[35] Chapters 1 and 3

6.4.2:Brief Overview of Auditors of Listed Companies (Big 4 focus).

As already indicated above, OBJ4 is **not directly** aimed at reviewing or assessing the impact of Big4 on AF, especially as **a unit**. Unlike listed companies, which are bound by C.A.2006 to disclose certain information on their websites, much of the information of Big4 auditors **constitutes proprietary data**. Indeed Axen (2020 p.1) states that the *'**Absence of proprietary** audit cost data forced Simunic to relate the audit fees to different **client** attributes, essentially to **client** size, client complexity, and client;* while Shah (2015 n.p.), asserts that researching the Big 4 *'is generally very, very difficult as they are very secretive'.*

Essentially all studies reviewed in relation to this study relate to large companies audited by the Big4 or their equivalents; globally (e.g., Simunic ,1980 in the US; Campa, 2013 in the UK) They focused on the possible significance of the influence of Big4 compared to non-Big4. This is different from investigating the homogeneity (Hrazdil *et al,*2020) of the Big4 audit firms or the shared commonality regarding the individual impact of each of the Big4 auditors on the independent variables being tested, as is being presently investigated in this thesis.

The Big4 firms have already received much consideration and focus within some previous chapters (especially in Chapter 3 and there is need for parsimony in research (Ang, 2014). Accordingly, this section minimizes reference to a general discussion of Big4 firms including their dominance, their influence on concentration of the market and other associated issues.

6.4.3:Brief Overview of Some AF Modelling Features Inherent in the Big 4.

Despite the caveat offered above, an overview of the influence of auditor size on certain key AF determinants selected in this thesis is offered while limiting the discussion of direct comparison of Big4/Non-Big 4**,** since the dichotomy is **not vital** to OBJ4 or this thesis. For

instance, several authors (e.g., Francis and Simon, 1987; Jacob *et al*., 2015) find that Big 4 audit firms (as a unit) have more expertise and manpower and hence attract a fee-premium; although their premium for complexity variable was less than that charged by non-Big4 firms (Pong and Whittington, 1994).

Auditor-firm characteristics which could influence AF, have been much researched and according to Ahmed and Abdullah (2016), these variables include the size of audit firm (Big 4/Non-Big 4) (Kikhia, 2014), its experience (El-Gammal, 2012), its industry expertise (Simon, 1995; Hay *et al.*, 2006) or its reputation (Craswell et al., 1995). Liu (2017) conducts an empirical study into auditors' characteristics and AF determination of Chinese listed companies audited by the Big10. It concludes that in addition to the factors of audit client level and accounting firm level, the **auditor's individual characteristics** also have influence on AF.

Other factors indicated include the auditor's gender, educational background, age, position, industry specialization, number of audit years, and busyness which are significantly related to AF charged by Big10 (for Big4). Female or younger auditors, audit partners and those with higher level of education, more relevant experience, and higher reputation are preferred by audit clients of the Big4 and attract higher audit fees. Considering all the latter factors that could influence /determine AF within such audit firms it is not unreasonable to suggest that AF determinants across the cases audited by the Big4 are **not** likely to exhibit shared commonality.

In terms of AT, this can be explained from the view that bigger firms have better financial, technological, and other resources. Intuitively, they are therefore more capable of delivering better quality to reduce the information asymmetry associated with the agency phenomenon of separation of ownership from control (Miles, 2012) - especially when dealing with large firms.

Considering macroeconomic relations of the modern corporation, the latter assertion could be extended to non-owner stakeholders in relation to ST. The better reputation enjoyed by the Big4, and their *deep pockets* prompts the auditees' Boards (as self-interested agents) to hire their services to protect them in case of litigation (Gonthier-Besacier & Schatt, 2006, (p.14); Campa, 2013).

6.4.4:Big 4 Influences on Selected Client Variables in this thesis

As explained above, several arguments offered previously in relation to the selected AF determinants (e.g., size, complexity, risk, and the other selected variables) in earlier sections of this chapter) also apply to the same AF determinants within this Objective (4). Indeed, as stated, the review leading to this study was essentially conducted on the basis of large companies audited by the Big 4 or their equivalents.

This objective has no precedent in prior research, and the review of literature essentially revolves on the use of secondary data obtained from Big4 **clients** within the identified FTSE250 companies in this thesis as further offered in subsequent paragraphs within this chapter. Hence only a very brief recap is offered for discussion of the selected characteristics below.

6.4.4.1: Overview of Big4 Client's Size and AF

This has been elaborately reviewed in OBJ2 above. For instance, in relation to the AF determinant of auditee size (e.g., Total Assets (TAS), Cameran (2005) finds that the size of the auditor has a considerable impact on the amount of AF thus asserting that AF increases with the size of the audit firm.

6.4.4.2:Overview of Big4 - Client's Complexity and AF

A significant and positive relationship exists between the auditees' complexity and AF charged by Big4 audit services (e.g., Simunic (Chan *et al.,* 1993; Cameran, 2005; 2011, Köhler and Ratzinger-Sakel, 2012; Hassan and Naser 2013; Kimelli, 2016; Owusu, 2019). This is principally due to the fact that most companies audited by the Big4 are large companies with more complicated nexus of transactions and micro/macro relationships.

6.4.4.3:Overview of Big4 - Client's Risk and AF

This variable has also been extensively reviewed in OBJ2 within Chapter 5. Big audit firms are very conscious of their brand value/ high reputation, and hence they seek to minimise audit risks as much as possible. For instance, they endeavour to make the necessary investments to achieve this objective (Ye, 2020). However, when the use of these resources fails to minimise audit risk appropriately, the Big4 (or equivalent) firms charge risk premium to compensate for the possible losses that may arise in the future (i.e., litigation compensation) (Ye, 2020

6.4.4.4: Overview of Big4 - Client's Location and AF

Suryanto (2014 p.29) research the determinants of AF including the attributes of auditors using evidence from 104 respondents from public accounting firms in Indonesia and cites Hay *et al.* (2006) which posits that the 'the far distance' between the audit firms and their clients is associated to an increased cost of AF paid. As stated within this chapter, Hay *et al.* (2006) assert that certain locations (metropolitan centres) in some countries (e.g., London in UK) are associated with higher fees simply because the auditor or auditee is located within it and hence a significant positive relationship exists in relation to AF charged.

6.4.4.4:Overview of Big4 - Client's Industry /Business Sector and AF

In addition to the review on industry variable within listed companies audited by the Big4 in OBJ2, additional considerations prevail. Numan & Willekens (2009), examine the effect of the presence of competitors on AF while considering that auditors do use product differentiation (i.e., industry specialization) to soften price competition. It examines whether the Big4 auditors are competitive in pricing, as they do choose to specialize in offering services in some industries by applying the theory of spatial competition. While acknowledging that auditors compete on AF, they opine that they can soften the price competition by specializing into industries auditors.

6.4.4.5:Overview of Big 4 - Client's ACC and AF

The review of the AC variable in this chapter (as duly cited) relates to studies which involve clients of Big4 or their equivalents and AF. As stated, the findings are inconclusive, although some prior research identify possible relationship between AC's function and AF, using proxies such as AC effectiveness, size of AC's, the frequency of meetings, proportions of qualified NEDs and financial expertise (Fama & Jensen 1983; Hay, 2012; Ghafran & O'Sullivan, 2017; Farooq *et al.,*2018). Because the Big4 are perceived to have higher qualify services (Owusu and Bekoe, 2019) large companies are usually audited by Big4 with implication for higher fees.

6.4.4.6: Overview of Big 4 - Client's AUQ and AF

In relation to audit quality, the relationship between AUQ and AF based on listed clients of the Big4 their national equivalents was elaborately explored in OBJ3. For instance, empirical studies based on study of listed companies audited by Big4 firms have indicated that the size of an audit firm has a significant relationship with AUQ and AF (Ahmed & Abdullah, 2016;

Choi, Kim, Kim, & Zang, 2010). Martinov–Bennie (2014) surveys Australian Chief Finance Officers (CFO's) to rank the relative importance of each of ten attributes in the assessment of audit quality and ranked auditor-size (i.e., Big 4/Non-Big4), as the most important driver of audit quality. This is due to protection of reputation, resources, and higher credibility and general belief that they have a much higher litigation risk exposure and much improved competitive capability (Al-Harshani, 2008) and hence attract higher AF.

6.4.5:Other specific considerations leading to the Hypotheses 4.1a - 4.4a (OBJ4)

Having conducted an overview of the influence of selected factors/variables that determine AF in this thesis above, it is evident that except for the client's size-factor, the findings regarding the influence of the AF determinants are very mixed for each of the selected variables. Thus, an **absence of shared commonality** is probably **more likely across** the Big4 in terms of the clients' variables within the relevant cases in this research.

6.4.5.1: Likelihood of Lack of Shared Commonality Across the Big4 in this thesis.

It is not unreasonable to expect some subjectivity in the level of significance that each of the Big4 auditors' attributes to the possible influence of AF determinant variables, in respect of each of their clients. Additionally, the selection of the cases in this research enables a consideration of certain business sectors based on the total size of their populations. Therefore, the selected variables reviewed in this thesis also have the potential of exhibiting significant variances in levels of influence across the Big4 auditors. Hrazdil *et al*. (2020) assess the Big4 auditors as one homogeneous unit in the U.S., based on audit fee premia charged and industry specialisation.

Their results fail to support the common practice of treating the Big4 as one homogenous entity. In a similar manner, Fafatas and Sun (2010) investigate the Big4 in nine emerging economies

and observed that the individual Big4 firm reputations, based on audit fee premiums, are not homogeneous across the economies investigated. The authors conclude that the Big4 provide quality-differentiated services and hence charge higher fees. Thus, their findings also fail to support the common practice of classifying the auditors into '*a pool of the Big Four* ' and they emphasize the importance of considering each audit firm's market share in each geographical area when examining auditors' reputation and pricing (Fafatas and Sun , 2010 p.1).

Unlike the two latter studies, this thesis is focused on assessing **shared commonality** based on the influence of each of the client's variables (characteristics), rather than on audit premia or reputation of each of the Big4 companies. Hence OBJ4 seeks to make original contribution to knowledge. In much the same context, Numan & Willekens (2012) investigate the effect of the presence of several competitors on AF while considering that the Big4 auditors do use product differentiation (i.e., industry specialization) to soften price competition by specializing into industry sector auditors. They cite Shockley and Holt (1983) who assert that auditees also differentiate between audit firms, hence are also willing to pay a premium in AF for audits performed by Big4 audit firms (Craswell et al. 1995, Francis *et al*., 2005).

Therefore, they argue that the AF charged is also determined by the Big4 auditor's differentiation strategy and its level of congruity with a client's preferences (and the latter is determined by certain client's characteristics e.g., industry**)**. Hence, the researcher asserts that in the determination of AF, (regarding the Big4), weightages of variables could significantly vary across the auditors due to the impact of the latter influences. At the least, they will vary due to both the consequences of **clients' perceptions**/preferences of different **auditors'** specialisation (i.e., **auditees'** differentiation strategy) and the **auditors' perception** of different **auditees** which are also related to client's preferences (i.e., **auditors'** differentiation strategy).

Furthermore, the latter authors argue that in terms of competition, the audit market is imperfect *and 'it has a large number of heterogeneous clients that pay a unique audit fee based* on *client-specific characteristics. We further assume that clients value audits differently and are willing to pay different fees for audits performed by different types of auditors'* (p.453**)**. They cite Simunic and Stein (1987) Watts and Zimmerman (1986) to substantiate the latter assumption by its consistency with some findings of prior literature that explain *'demand for quality-differentiated audits in terms of agency/contracting costs'* (p.453).

Following the above arguments, the industry sector/business sector disposition of the FTSE250 auditors in this research are discussed further, below. **Tables 6.2 and 6.3 below** present a sector-wise distribution in relation to the auditors. They show the numbers of cases audited within each business sector (**in Table 6.2**) and the associated numbers of observations within this thesis **(in Table 6.3)**. Regarding the distribution between **numbers** of business **sectors** in **Table 6.2,** there is significant disparity between the auditors in terms of number of cases with which they are involved in this research. Amongst other key points, **Table 6.2** identifies **PwC** as being involved with the highest number of total cases. That is, 31 out of the 99 involvements of audit firms with the 83 identified cases, including partially audited cases within the three years of study.

Table 6.2. shows the breakdown as SEC1(14), where it is the most dominant, overall (SEC2 (7);SEC3(4) and SEC4 (6)). Similarly, **Deloitte** with a total of 27 cases (SEC1(7); SEC2 (7); SEC3 (5) and SEC4 (8)) is also dominant, based on individual sectors (especially in SEC4) and in terms of overall considerations. **EY** is associated with 19 cases (SEC1(12), where it is almost as dominant as PwC; (SEC2 (1); SEC3(5) and SEC4 (1)) which exceeds 16 cases associated with **KPMG** (SEC1 (2); SEC2(5); SEC3(3) and SEC4 (6)). Non-Big4 is associated with only

6 cases involving only three sectors with its highest involvement in SEC1(4).

6.4.5.2: Sector-wise Distribution Relating to Big4 Auditors in this Research.

Table 6.2:Number of Cases: Sector-wise Distribution In Relation to Auditor

	SEC 1 (EII)		SEC2 (R&C REIT)		SEC3 (T&L)		SEC4 (SS)		Total cases including partially audited cases in the 3years of study.	Total
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Auditors										
PwC (AUF1)	**14**	35.9	**7**	33.3	**4**	22.2	**6**	28.6	31	31.6
DELOITTE (AUF2)	**7**	17.9	**7**	33.3	**5**	27.8	**8**	38.0	27	26.5
EY (AUF3)	**12**	30.8	**1**	4.8	**5**	27.8	**1**	4.8	19	19.4
KPMG (AUF4)	**2**	5.1	**5**	23.8	**3**	16.7	**6**	28.6	16	16.4
Non-Big4 (AUF5)	**4**	10.3	**1**	4.8	**1**	5.5	**0**	0	6	6.1
Total Cases involved	**39**	100	**21**	100	**18**	100	**21**	100	**99***	100
Less 16 cases audited by two auditors within the 3 years under study due to a change of auditors.									(16)	
Total Number of Testable companies									**83**	

**The total 'cases involved' are 99 (instead of 83) because for certain cases two auditors have audited one client within the three-year period (2014-2016) due to auditor-change. So, there is no precise parity between the actual number of clients and the number of cases that have been audited by a particular set of auditors. 16 cases were audited by two auditors which has been reconciled above because for such cases one case has two auditors.*

Source: Author (2023)

In terms of number **of observations** (revealed in **Table 6.3 below)**, the number of observations linked to **PwC** are 84 (i.e., 40,18,12,14 for SEC1, SEC2, SEC3 and SEC4, respectively). This

can be contrasted with **KPMG** (the lowest observations for the Big4) with 6,12,9,12 across the same four sectors, respectively. Amongst other key points, **Tables 6.2** and **Table 6.3** identify **PwC** as having been involved in the highest share of observations (84) and highest number of cases (31). **Deloitte** (with 70 observations and 27 cases) is also dominant based on individual sectors and overall considerations. **EY** is associated with 43 observations and 19 cases which exceeds 39 and 16 (respectively) associated with **KPMG**.

Non-Big4 auditors are linked with 13 observations and 6 cases overall. It is worth noting that each observation relates to each year in which an audit firm has acted as auditor for each case, without necessarily being the auditor on a consecutive basis for the 3 years under observation. The other figures in **Tables 6.2 and 6.3** strengthen the arguments made above regarding industry differentiation strategy (Numan & Willekens (2012 p.11). That is, different individual auditors auditing more (or less) cases within specific business sectors. These differences in sector-focus by individual Big4 firms point to other potential differences and likely lack of shared commonality in how AF is determined across the Big4 in relation to different auditee characteristics of companies within the industries/sectors of the FTSE250 being researched.

Hence, there is also the **likelihood of absence** of shared commonality in terms of the influence of the selected AF determinants across the auditors in this thesis, when tested empirically. Also, on a collective basis, the Big4 appear to have been most involved in SEC1(35 cases). Numan & Willekens (2012) assert that **audit firms** can only be in a strong position if its industry/sector specialisation strategy closely aligns with the client's preferences which in turn depend on the client's characteristics (e.g., its industry /sector).

Table 6.3: Number of Observations: Sector-wise Distribution In Relation to Auditor

	SEC 1 (EII) Observations (Obs.)		**SEC2 (R&C REITS) Obs.**		**SEC3 (T&L) Obs.**		**SEC 4 (SS) Obs.**		**Total Obs.**	**Total**
	No.	%	No.	%	No.	%	No.	%	**No.**	**%**
Auditors										
1=PwC	**40**	41.7	**18**	33.3	**12**	23.5	**14**	29.2	84	33.7
2 =DELOITTE	**17**	17.7	**20**	37.0	**13**	25.5	**20**	41.6	70	28.1
3 = EY	**26**	27.1	**1**	1.9	**14**	27.5	**2**	4.2	43	17.3
4 = KPMG	**6**	6.2	**12**	22.2	**9**	17.6	**12**	25	39	15.7
5= non-Big4	**7**	7.3	**3**	5.6	**3**	5.9	**0**	0	13	5.2
No. of Observations	**96**	100	**54**	100	**51**	100	**48**	100	**249**	100
GRAND TOTAL of Observations. (**83** cases x 3years)									**249**	
SEC1(EII) (18 x 3yrs)	**96**								96	
SEC2 (R&C REITS) (17 x 3yrs)			**54**						54	
SEC3 (T&L) (16 x 3yrs)					**51**				51	
SEC4 (SS) (16 x 3yrs)							**48**		48	
									249	

Source : Author (2023)

Axiomatically, it could be argued that absence of shared commonality is also likely to exist between the individual auditors due to different audit time/effort/cost structure assigned to a particular variable with regard to different audit clients (Numan & Willekens, 2012). For instance, audit clients are not expected to be associated with identical level of risk of material misstatement, audit time, effort, in relation to the same variables. Therefore, taking regard for all the literature and the individual research issues (including auditors' differentiation preferences in relating to clients and vice versa) immediately above, it would not be unreasonable to suggest and consequently hypothesise that:

- Hypothesis 4.1a – Re: PwC

The AF determinants in the identified cases within the FTSE 250 companies audited by PwC do not exhibit shared commonality in influence with those of the cases audited by Deloitte, EY, and KPMG, using (U & L) information.

- Hypothesis 4.2a – Re: Deloitte

The AF determinants in the identified cases within the FTSE 250 companies audited by Deloitte do not exhibit shared commonality in influence with those of the cases audited by PwC, EY, and KPMG, using (U & L) information.

- Hypothesis 4.3a – Re: EY

The AF determinants in the identified cases within the FTSE 250 companies audited by EY do not exhibit shared commonality in influence with those of the cases audited by PwC, Deloitte, and KPMG, using (U & L) information.

- Hypothesis 4.4a – Re: KPMG

The AF determinants in the identified cases within the FTSE 250 companies audited by KPMG do not exhibit shared commonality in influence with those of the cases audited by PwC, Deloitte, and EY, using (U & L) information.

Having reviewed literature and offered hypotheses relating to all empirical objectives (OBJ2,3 and 4), within this chapter, an **illustration** of some variables 'Some Key Audit Fee Determinant Variables by Prior authors' are provided in **Table 6.4, below after the chapter summary**. Additional information on 'Some Key Audit Fee Determinant NCGVs and CGVs with Related Authors' is provided within ***Appendix 7.*** It is based on eleven authors and eleven variables (including the DV), some of which are adopted in this thesis (e.g., Totals Assets -TAS). By so doing, some variables which are significant (or not) in each relevant author's modelling study are highlighted. The table also highlights related outcomes of this research.

6.5:Chapter Summary

The chapter initially devoted itself to explaining why NCGVs should be statistically tested in relation to the identified FTSE 250 companies being mindful that several prior authors have tended to focus on NCGVs. Hence, prior literature relating to the relationship between several

selected NCGVs, and AF were reviewed before offering relevant hypotheses for the five distinct categories (83 overall identified companies and four of their business sectors) mainly on the potential basis of AT and ST. The chapter then devoted itself to reviewing literature and formulating hypotheses relating to CGVs which are to be tested jointly with NCGVs (in OBJ3) to assess potential enhancement of the of predictive powers of the latter variables.

Following the review of the CGVs, the shared commonality (or otherwise) of the influence of selected AF determinants across the client's (Big4) auditors was considered. In so doing, literature which set a basis for anticipating significant variability in weightages of AF determinants across Big4 was reviewed. Having offered propositions in relation to OBJ1 and OBJ5 in Chapters 4 and 5 respectively and offered hypotheses regarding the empirically focused (Objectives 2-4) in this chapter, an appropriate foundation has been provided for the exposure of the research design and methodological discussion; to which Chapter 7 devotes itself.

Table 6.4: Some Key Audit Fee Determinant Variables by Prior Authors.

No	Dependent Variable	Description of Independent Variable	Factor(s)	Employed by	Year	Country
1	AF /Assets	Total Assets (TAS)	**Size**	Simunic (Seminal Author)	1980	U.S.A
2	AF/Assets	Ratio of accounts receivable to total assets	**Size**	Simunic	1980	U.S.A
3	AF	Return on shareholders' equity / Ln Turnover	**Size**	Chan *et al.,*	1993	UK
4	AF	TAS	**Size**	Pong and Whittington	1994	UK
5	LnAF and AF/Asset	TAS	**Size**	Gonthier-Besacier and Schatt	2006	France
6	LnAF	TAS above 500 Euro. Binary variable -1 for presence 0 for absence **(BV)**	**Size**	Köhler and Ratzinger-Sakel	2012	Germany
7	AF	-Total assets -Profitability -Total Sales	**Size**	Owusu & Bekoe	2019	Ghana
8	AF/Assets	No of subsidiaries / Number of two-digit auditee's SIC sector lees 1/ and Ratio of foreign to total assets	**Complexity**	Simunic	1980	U.S.A
9	AF	No of subsidiaries Segmental reporting)	**Complexity**	Chan *et al.*	1993	UK
10	AF	No of subsidiaries	**Complexity**	Pong and Whittington	1994	UK
11	LnAF and AF/Assets	Receivables plus Inventories/Total Assets	**Complexity**	Gonthier-Besacier and Schatt	2006	France
12	LnAF	- % of receivables and inventories / TAS - Square root of no. of business segments - Foreign segments BV	**Complexity**	Huang *et al.*	2010	U.S.A
13	LnAF	No of subsidiaries	**Complexity**	Kimeli	2016	Kenya
14	AF/Assets	Receivable & Inventory	**Risk**	Simunic	1980	U.S.A
15	AF	Profit or loss Before Interest and Tax (PBIT)	**Risk**	Pong and Whittington	1994	UK
16	LnAF and AF/Assets	Return on Equity(ROE	**Risk**	Gonthier-Besacier and Schatt	2006	France
17	LnAF	Current Ratio, Debt/TAS	**Risk**	Huang *et al.*	2010	U.S.A
18	LnAF	Quick Ratio	**Risk**	Silva *et al.*	2020	Spain
19	LnAF	Ratio of Debt/TAS	**Risk**	Musa *et al*.	2020	Nigeria
20	AF/Assets	Big6/Non-Big 6 **(BV)**	**Auditor**	Simunic	1980	U.S.A
21	AF	Big8 /Non-Big8 **(BV)**	**Auditor**	Chan *et al.*	1993	U.K
22	AF	Big8 /Non-Big8 **(BV)**	**Auditor**	Pong & Whittington	1994	UK
23	LnAF	Big4 /Non-Big4 **(BV)**	**Auditor**	Kimeli	2016	Kenya
24	AF	BigN /Non-BigN**(BV)**	**Auditor**	Castro	2015	Brazil
25	LnAF	Big4/Non-Big4 **(BV)**	**Auditor**	Silva *et al.*	2020	Spain
26	AF/Assets	Utilities	**Business sector (Sector)**	Simunic	1980	U.S.A
27	AF/Assets	Stock Exchange Sector & Auditor Classification into 4 sectors **BV**	**Sector**	Taffler & Ramalinggam	1993	UK
28	LnAF and AF/Assets	Technology sector **(BV)**	**Sector**	Gonthier-Besacier and Schatt	2006	France

29	AF	Industrial, Service and Consumer Staples	**Sector**	Hassan & Naser	2013	United Arab Emirates
30	AFE	Industrial/Services/Finance **BV**	**Sector**	Kikhia	2014	Jordan
31	LnAF	High-litigation Industry SIC code BV	**Sector**	Huang *et al.*	2010	U.S.A
32	AF	8 locations including London BV	**Location**	Brinn	1994	UK
33	AF	Auditee's London office or non-London office **BV**	**Location**	Chan et al.	1993	UK
34	LnAF	Auditor's London office or non-London office	**Location**	Beattie e*t al.*	2001	UK
35		Auditor's London office or non-London office	**Location**	Clatworthy & Peel	2005	UK
36	Metanalyses	Auditee/Auditor (illustrated by) London office or non-London office **BV**	**Location**	Hay 2012	2010	Metanalyses
37	LnAF	-AC size -No of meetings and -Proportion of Non-Executive directors (NEDs	**Audit committee competence (expertise/existence)-ACC**	Yatim *et al.*	2006	Malaysia
		LogAF	**ACC**	Goodwin-Stewart & Kent	2006	Australia
38	Ln AF	AC Financial expertise and frequency of meetings	**ACC**	Harris	2007	U.S.A
39	Unexpected AF	Composite score of 10 dummy variables (Blue Ribbon Committee (BRC 1999) for committee effectiveness	**ACC**	Prawitt *et al.*	2010	U.S.A
40	LnAF	Existence of Audit Committee(AC) BV	**ACC**	Köhler and Ratzinger-Sakel	2012	Germany
41	Ln AF and AF	Number of AC members with educational accounting or finance backgrounds	**ACC**	Januarti	2020	Indonesia
42	LnAFE	Big6/Non-Big6 **(BV)**	**Audit Quality (AUQ)**	Jensen & Payne	2003	U.S.A
43		Big4/Non-Big4 **(BV)**	**AUQ**	Singh & Van der Zahn	(2010)	Australia
44	LnAF	-Earnings management. -Accounting conservatism. -Value relevance of earnings.	**AUQ**	Campa	2013	UK
45	AF	BigN /Non BigN **(BV)**	**AUQ**	Castro	2015	Brazil
46	LnAF	-Financial expertise. -Accounting expertise. -Non-accounting expertise.	**AUQ**	Ghafran & O'Sullivan.	2017	
47	LnAF	-AC size -No of meetings and -Proportion of Non-Executive directors (NEDs	**AUQ**	Farook *et al.*	2018	Pakistan

Source: Author (2023)

CHAPTER 7

Research Design & Methodology

*'The **broad research approach** is the plan or proposal to conduct research, involves interaction of philosophy, research design and specific methods.'* (Creswell & Creswell, 2018 p.4).

7.1: Introduction

The previous chapter discussed the empirical analysis relevant to this thesis and presented the relevant theoretical arguments on AF determination in several settings, contexts, and time frames as well as the relationship of AF with auditee characteristics involving NCGVs and CGVs with alignment with the relevant objectives. Because several prior authors have considered the Big4 as one homogenous unit (Fafatas & Sun,2010; Hrazdil,2020), the chapter also considered literature that could be extrapolated to the likely influence of the selected auditee characteristics across the Big4 auditors in this research.

This chapter discusses issues relating to the design of the research and the methodology through which it has been conducted. This includes the sets of data that are relevant and appropriate to address the research questions underpinning this research as indicated in Chapter 2**.**

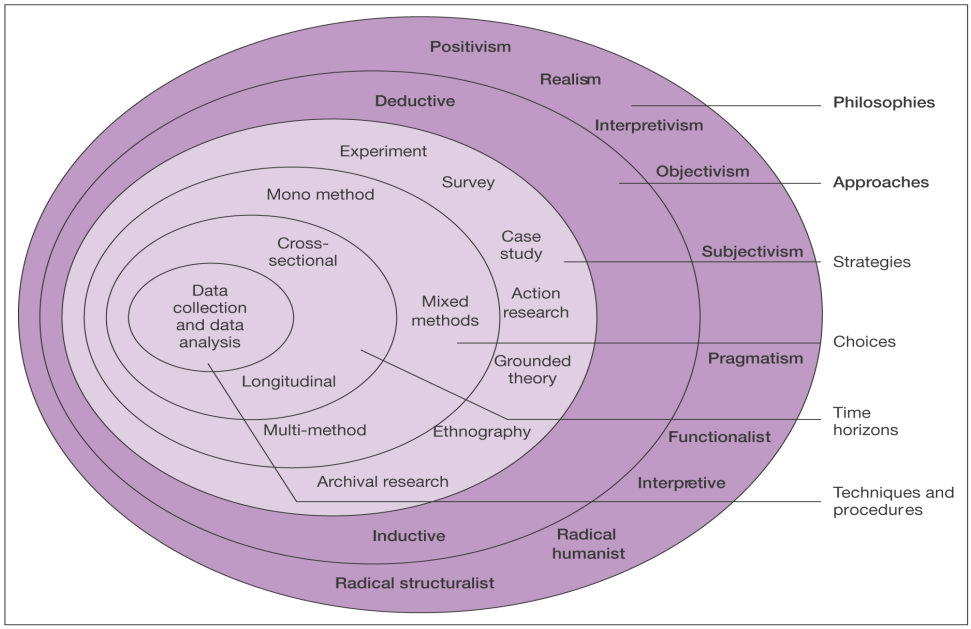
Firstly, it considers the opinion of Saunders *et al.* (2023) (as represented in **Figure 7.1** below), regarding the requirement to outline some possible research paradigm(s) (especially the paradigms influencing this research). This includes the epistemological and ontological positions adopted when choosing appropriate research strategies and approach(es).

Secondly, it exposes the research strategy including data selection /capture which involves the definition of data and steps underlying the selection of the whole frame of cases and sectoral

categories. In so doing, it also offers the key issue of research method/choice and its cross sectional and longitudinal designs.

Finally, it goes on to discuss some other data-related issues including construction of variables, data analysis, diagnostic checks, validity, and reliability of the research. By doing so, it offers some ethics-related issues, a synopsis of this chapter and preamble to the next chapter.

Figure 7.1:Representational Framework for the Formulation of the Research Design



Source: Saunders *et al*. (2023)

Matters arising from and in relation to the 'research onion' (Saunders *et al.,*2023 p.177) with regard to the particular research decisions made (and have been employed) within the research are briefly explained and clarified at this juncture. A **table** providing the same in columnar form is provided within **Table 7.1** below. Taking regard for the preceding, the immediately following paragraphs are essentially focussed on offering clarity as to how each layer of the research onion has been engaged within the present research, for each of its objectives.

Table 7.1: Layers Within the Research Onion of Saunders *et al.*(2013)

Objective No.	Research Philosophy	Research Approach	Research Strategy	Research Methods	Time Horizon	Key Data Considerations
ONE	Interpretivist	Inductive	Fundamentally Archival Theoretical	Qualitative	N/A	Notes 1 and 2 below & section 7.7 of this chapter
TWO	Positivist	Deductive	Fundamentally Archival Experimental	Quantitative	Longitudinal & Cross Sectional	Notes 2-7 below & sections 7.7 of this chapter
THREE	Positivist	Deductive	Fundamentally Archival Experimental	Quantitative	Longitudinal & Cross Sectional	Notes 2-7 sections 7.7 of this chapter
FOUR	Positivist	Deductive	Fundamentally Archival **(F/A)** Experimental	Quantitative	Longitudinal & Cross Sectional	Notes 2-7 sections 7.7 of this chapter
FIVE	Interpretivist	Inductive	Fundamentally Archival Theoretical	Qualitative/ Quantitative	N/A	Notes 1and 2 below & sections 7.7 of this chapter

Source: Author (2023) (as adapted from Saunders *et al.,* 2023)

Notes

1). Several authoritative publications accessed through LSBU **(Qualitative Objectives 1 and 5).**

2). Culled from Published Annual Reports triangulated by information from The Companies House & London Stock Exchange

3) Empirical Analysis - Multiple Regression-Dependent Variable (AF) - Unlagged & Lagged data (**Empirical Objectives 2, 3 and 4)**.

4) Independent Variables - Size, Complexity, Risk, Location, Sector & Auditor (**Empirical Objectives 2).**

5) Independent Variables - Size, Complexity, Risk, Location, Sector, Auditor, Audit Quality, Audit Committee Competence & (**Empirical Objectives 3 and 4)**.

6) Ordinary Least Squares for Statistical testing hypothesized relationships (**Empirical Objectives 2,3 and 4)**.

7) SPSS Software (Version 27) for Statistical implementation of regression & analysis of quantitative data **(Empirical Objectives 2,3 and 4)**.

7.2: Research Design & Methodology

Creswell (2023 p.3) claims that the choices made about research design or strategy should be influenced by '*the philosophical worldview assumptions that they bring to the study, the research design that is related to this worldview, and the specific methods or procedures of research that translate the approach into practice'*.

7.2.1: A Methodological Overview of Research Paradigms in this research

Research philosophies (paradigms) mainly include **Positivism and Interpretivism (relativism) (**Walliman, 2018 p.22; Saunders *et al*., 2023). In terms of this research, the choice of **philosophical** worldview (i.e., '*basic set of beliefs that guide actions*') that the researcher has brought to this research has been justified by the nature of its sets of objectives (Guba,1990, p.17). The thesis is principally underpinned by the positivism and interpretivism philosophies.

7.2.2.1: Positivism

The second set of objectives (**OBJ's 2-4)** are empirically (**quantitively**) focused and give expression to **positivist** philosophy (Saunders *et al.*,2023). This involves the testing of hypotheses derived from theory and uses an instrument to measure the score of the variables (Creswell, 2023). Also, the data collection is exclusively based on documentary secondary data

which implies quantitative research (Stokes, 2011). Research questions are answered using Ordinary Least Squares (OLS) regression model, comprising of multiple variables.

In terms of **epistemology**, positivists are deductive in approach (e.g., in this research, hypothetical questions are developed and applied to quantitative data) (Stokes, 2011). This aspect of the thesis reflects the belief in cause and effect which is a feature of 'determinism'. (Stokes 2011, p.36). The methodologies used (i.e., in **OBJs 2-4**) are principally experimental and the quality and rigour of the research is assessed on its validity, reliability, objectivity, and generalizability (Bozkurt and Souza-Poza, 2005). The objects being studied (i.e., the sectors of the FTSE 250 companies - as represented by relevant variables and proxies) have been sourced from websites of companies, the London Stock Exchange, and Companies House, all which are independent of the researcher. The results have been determined independently, objectively, and externally by SPSS software.

In terms of **ontology**, the key assumption made (in **OBJs 2-4)** within this thesis is in line with that of positivists since it reflects the belief that '*social entities exist in reality which is external to social actors concerned with their existence'* (Saunders *et al*., 2023 p.134). For instance, implicit in the aims of this thesis is the argument that there is a correct and detached way to redevelop or explain the rationale for an AF model and the variables adopted. Therefore reality is there to be observed by experimentation (i.e., 'objectivism') (Stoke, 2011 p.89).

Axiologically, positivists believe that research should be 'value-free' (Collis & Hussey,2014 p.48). Hence, the phenomena under investigation (sectors of the FTSE 250 companies) are unaffected objects from which the researcher is detached and independent.

7.2.3: Alternative Paradigm in this research

7.2.3.1: Interpretivism (Relativism)

In terms of this research, **OBJ1and OBJ5** are **qualitative** and underpinned by **interpretivist** philosophy with its associated ontological, epistemological, and axiological issues. This is because it attempts to reflect the meaning that the researcher has about a social phenomenon (e.g., the interpretation of the theoretical underpinnings of AF modelling and the consequences of MAR) (Creswell and Creswell, 2023). The two objectives focus on this aspect because research leading to this research indicates a lack of generally accepted set of theories and thus an absence of overt linkage of theory to AF modelling and its variables. In that connection, a qualitative approach is merited. Also, this approach is applicable theories because if a '*concept or phenomenon needs to be explored and understood since little research has been done on it … then it merits a qualitative approach'* with concomitant interpretivist-implications (Creswell and Creswell, 2023 p.23).

In terms of **epistemology**, OBJ1 and OBJ5 (being interpretivist in expression) apply an **inductive** approach in which data is collected for the purpose of evolving a theory. The **ontological** methodology in OBJ1 and OBJ5 reflects the belief that the nature of reality is complex and socially constructed by use of language and culture and there are multiple meanings/ interpretations/realities that could be based on such elements as experience or practice (Saunders *et al*.,2023).

Axiologically speaking, the researcher's values would also have influenced the propositions arising from a review of prior literature. For instance, the researcher is a qualified accountant

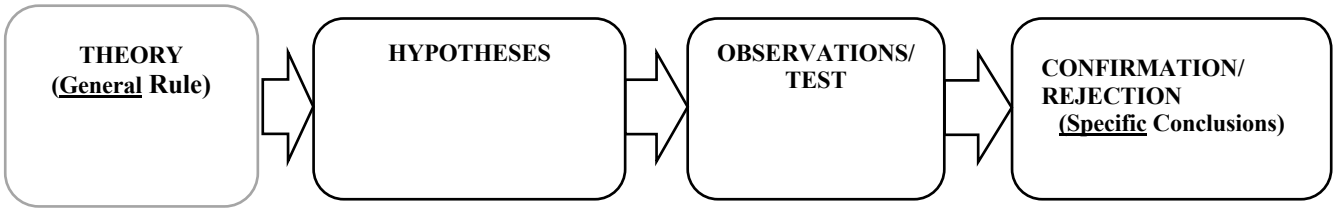
and some opinions offered in OBJ1 and OBJ5 may have been inadvertently influenced by educational background, rather than being value-free.

7.2.4: Research Approaches

Research approaches to theory development include deductive, inductive, and abductive (Saunders *et al.*, 2023). In basic terms, research will usually involve theory testing or theory building (i.e., deductive, or inductive) approaches (or both) and these lead to inferences being drawn about conclusions. The focus is only on **deductive** and **inductive** approaches which have been adopted in this thesis.

7.2.4.1: Deductive Approach

Figure 7.2: A Deductive Approach to Research

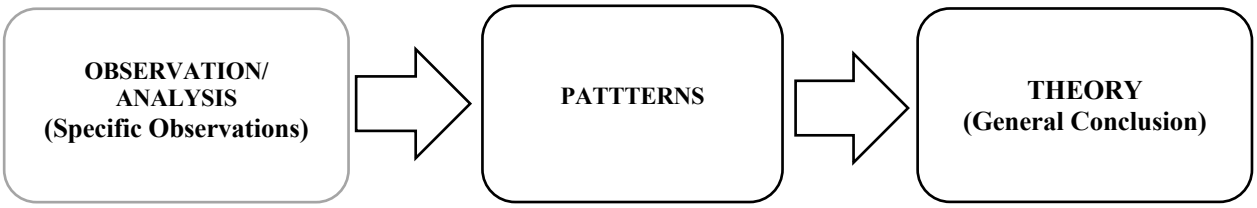


Source: Dudovskiy (2016 p.71) and Ang (2014 p.8) as adapted by author

In this study, **OBJs 2-4** involve a deductive approach due to the generation of hypotheses (mainly from the Agency and Stakeholder theories) which are tested to validate the applicability of the theories to AF modelling in identified FTSE 250 firms through statistical (and hence quantitative) analysis (Saunders *et al,* 2023). Experimental and archival survey strategies are adopted and objectivitism has been sought by manipulation of the independendent variables (e.g. size, risk, complexity, audit quality) while measuring their effect on the dependent variable (AF). On this basis, this approach is appropriate to Objectives 2-4.

7.2.4.2: Inductive Approach

Figure 7.3:An Inductive Approach to Research



Source: Dudovskiy (2016 p.73) and Ang (2014 p.8) as adapted by author

Inductive reasoning is underpinned by interpretivist philosophy and the conclusions are assumed to be supported by the observations made (Saunders *et al.,*2023). In this thesis (i.e., in **OBJs 1 and 5)**, known premises about theories are used to generate conclusions which are un-tested. Data obtained from AF modelling are used to explore possible theoretical associations, identify themes and patterns in the AF models of previous authors (including the AF model of Simunic (1980)). This enabled development of some propositions regarding theories especially AT and ST; qualitatively. Therefore, only propositions are put forward and theories are not tested. This makes this approach appropriate to **OBJ1 & 5**.

7.3:Research Strategy

In this research, the primary strategies are fundamentally archival, documentary (survey) and experimental in respect of **OBJ 2-4**. Research data was extracted from appropriate reports stored within electronic archives. To these three empirically focused objectives, a survey of 83 FTSE 250 firms essentially depended on the availability of required data (proxies of variables to be tested) for three years (timeline of 2014-2016). Hence **OBJs 2-4** were accomplished based on archival research and the relevant data was available publicly and readily accessible in relation to the selected 83 FTSE 250 companies.

However, **OBJ1** has been achieved through a survey of some AF models adopted in prior research. Theoretical linkages are associated with variables included in the AF models based on the researcher's interpretation and in some cases, on subtle (and rarely overt) indications of relevant theories by prior authors. A similar approach was adopted for **OBJ5** using prior literature, theories, and analytical review to interpret AF during MAR in some identified FTSE 250 companies. Hence the strategy of surveying prior studies and thematically assessing links of corporate theories or other literature to AF models or AF movements during MAR is appropriate.

7.4: Research Data Selection and Capture Strategy

The approach that should have given every company in the FTSE 250 population of firms an equal chance of being selected, should have been simple random sampling **(**Dudovskiy, 2018 p.121). This approach was not adopted for a few reasons. Firstly, not all FTSE 250 companies had the required data (proxies) needed to construct the variables being tested, over each of the years within the period of study (2014-2016). Alternatively, systematic sampling (systematic random sampling) could have been applied but that was also inappropriate since that would have caused the first sample to have been selected randomly **(**Dudovskiy, 2018 p.125).

Indeed, the use of probability sampling would not have been driven by the aims and research questions of this research (as stated in Chapter 2). Therefore, a method more aligned with non-probability sampling was adopted. It involves a selection of companies that met several criteria (i.e., essentially having all the relevant data representing selected variables and being within the identified business sectors). Accordingly, the approach adopted in this thesis, (a selection, rather than random sampling) is **close** to purposive (or judgemental) sampling, which allows some form of deliberate data definition and data delineation to answer the research questions

appropriately. This is because Saunders *et al*. (2019 p.321**)** states that purposive sampling '*enables you to* ***use your judgement to*** *select* ***cases that will best enable you to answer*** *research questions* ***and to*** *meet your objectives*' (Saunders *et al*., 2019 p.32; Leavy, 2017 p.79). The implication, therefore, is that appropriate **judgement** can be exercised by researchers to ensure that the data collected is appropriate to answer their research questions.

7.4.1: Some Companies/Factors not considered in this research

Consistent with most previous studies on AF modelling (e.g., Kim *et al.*, 2010, Köhler & Ratzinger-Sakel, 2012; Numan & Willekens, 2012; Kikhia, 2014) which excluded some companies/sectors from their research, this thesis also excludes the FTSE 250 firms within typical banking or insurance sectors. This is due to the heighted variability that exists within them and possibly the '*specific accounting and corporate governance requirement and balance sheet structures'* (Köhler & Ratzinger-Sakel, 2012 p.287). Other relevant decisions were also taken regarding the choice of certain explanatory variables that are of little consequence to this research.

For instance, non-big4 auditors were excluded from testing because they do not relate specifically to any objective in this research and the FTSE 250 companies are virtually all audited by the Big4 firms. Indeed, out of all the 83 companies selected for the research, the non-Big4 firms only consistently audited two cases for the entire 3 years of the research**.** The only other involvement is the partial audit of 3 other cases (for two out of three years),

Hence the importance of the Big4 /Non-Big4 comparison (or dichotomy) appears to be redundant in this research. According to Ang (2014 p.12), '*Research needs to be parsimonious'.* The selected size of 83 was obtained from a population of 250 FTSE companies

Websites, triangulated by information from Companies House and LSE. In very rare instances, some selected companies had to be contacted where information was incomplete. The true sample frame was further limited by the decision to consider only companies which were listed consecutively on the LSE during the three years of the study. Hence, the number of companies was determined by the population of applicable data available. The other criteria and steps are further clarified below to enhance the reliability (replicability) of this research, in terms of its quantitative aspects.

7.4.2: Consideration of Number of Selected Companies and Sub-groups

Different authors have given indications regarding the minimum size of constituents of **samples** used as proxies or variables in quantitative research. For instance, Ang, (2014 ,p. 128) (citing Green 1991) suggests that quantitative studies should have at least 100 observations depending on size effect. The number of expected observations in this research is 249 (83 cases x 3) for unlagged data in addition to 166 (83x2) observations for lagged data regarding each empirical objective. Regarding sample size, Cohen *et al*.(2018 p.203) state that ' *a sample size of thirty is held by many to be the minimum number of cases if researchers plan to use some form of statistical analysis on their data'.*

However, they also state that the assumption of a minimum of 30 in a sample should only apply if '*the population of the construct being tested can enable this to be attained'* **(**Cohen *et a.l*., 2018 p.203). That is, the rule of 30 minimum cases should apply if we could obtain a minimum of 30 cases for each of the four sectors (which is not the case in this research). Furthermore, they state that *'There are no 'hard and fast' rules to be followed unthinkingly; rather, decisions on sampling are deliberative, requiring the exercise of judgement and a reflexive attitude to the assumptions that we might all too easily make.'* (Cohen *et al*., 2018

p.202). The assumption of a minium of 30 cannot be applied in this research since three of the four sectors only have a **population** (not just a sample) of 18,17 and 16 cases.

The conditional approach of an absence of a hard and fast rule in Cohen (2018) as adopted here, appears to have been given some credence by Saunders *et al*.(2019 p.300) who comprise one of the most reputable teams of authors on research methodology. *'Where the **population** in the category is **less than 30**, and you wish to undertake your analysis at this level of detail, you should normally collect data from **all** cases in **that category**.*

Accordingly, the **whole population** of each of the **four** business sectors [36] in this thesis were collected. The total number of business sectors initially identified were 35 sectors with EII being of the highest number **(**32), while the others were R&C REITS (18); T&L (17) and SS (16). While the researcher does not claim absolute statistical validity in relation to the smaller numbers, they enable the provision of indicative (but original) knowledge in an aspect that has not been researched previously and this is the objective that the researcher sets out to achieve. It is also worth noting that although the FTSE 250 contains 250 companies (falling within a variety of business sectors), the consistituent companies are assessed **every quarter** and the constitiuent companies can therefore change every quarter as different companies join and others exit.

7.4.3: Steps Underlying the Frame of Selected Companies

Much of the details involved in defining the data frame are depicted in **Table 7.2** below.

[36] Because some prior studies in AF modelling (Simunic,1980), claim that certain industries such as mining have lower audit fees than other industries and hence it is very worthwhile to also understand the influence of the most populous industry sectors on AF (in the FTSE 250 companies) and to make original contribution to knowledge.

Table 7.2: Data Frame, Number of Cases, Issues Underpinning Selection of Cases

Description of Data Frame	Number of Cases
Initial Population Frame – All companies in FTSE 250	250
Less: Companies not having annual reports for whole of the period of study.	(54)
Sub total	196
Typical Banks & Insurance companies excluded – Attributed to their '*specific accounting and corporate governance requirements and balance sheet structures'*(Köhler & Ratzinger-Sakel, 2012 p.287).	(23)
Sub total	173
Other cases excluded (e.g., due to small number of companies within the business sectors (i.e.,7 companies at the maximum)	(90)
Selection of business sectors. **32** Equity Investment Instruments (EII) **18** Residential & Commercial REITS (Real Estate Investment Trusts) **17** T& L **16** SS **83** *'Where the population in the category is less than 30, and you wish to undertake your analysis at this level of detail, you should normally collect data from all cases in that category'* (Saunders *et al*.,2023 p.300)	**83**

Source: Author (2023)

Therefore, new members just joining in any quarter will not have consecutive data for previous periods and those just leaving the FTSE 250 will not have consecutive data for the period of absence from the index. Since the research is aimed at sectoral sets of the FTSE 250, the most populated sectors were considered subject to factors already explained above. Of the 173 companies in the second subtotal in **Table 7.2** above, the population of the other sectors apart from the selected four business sectors (32 (EII) 18, R&C REITs, 17 T&L and 16 SS companies) were very low. Even the next two highest numbers of cases within each busines

sector (e.g., Industrial engineering and Household Construction) were just 7 cases (each) and hence were not considered.

Moreover, material differences between several small business sectors did not allow for a combination of business sectors to increase the number of cases in any of the four testable business sectors. Based on these factors, the final selection of the overall identified **83** FTSE 250 (comprising the total population of each of the buisness sectors) was reached. For OBJs 2 and 3, the motive is **firstly**, to confirm (or disconfirm) any differences in causual relationships with results of prior authors in terms of the overall identifed 83 FTSE250 companies.

Secondly, to do the same within their **four** sectors. For all the objectives in this research, some additional information (in Tabulated form) is presented in ***Appendix 1*** in terms of Data Form, Source, Collection, Integrity, Analysis of numeric and non-numeric data and a Summary of Research Methodology by Objectives in ***Appendix 2.*** The empirical research variables (for OBJ2-4) are presented in subsequent paragraphs within this chapter[37] .

7.5: Research method or choice

This research is based on **three quantitative** objectives (**OBJs 2-4**) and **two qualitative** objectives (**OBJs 1 and 5**). OBJ1 enables the provision of theoretical insights or *'contextual background ... to better understand the research problem'* (Saunders *et al*. (2019 p.185). Therefore, the choice is mixed method. This combined approach is justifiable, as it first of all, aims to develop a '*detailed view of the meaning of a phenomenon or concept'* (i.e., theoretical linkages in AF modelling in (OBJ1), ***qualitatively)*** before proceeding ***empirically,*** to generalise the findings to the overall population of the 83 identified FTSE 250 cases and their four

[37] Under **section 7.7.2** within this chapter)

business sectors in terms of the facilitating theories which are primarily AT and ST ***quantitatively*** (OBJs 2-4) within the boundaries/ framework set for the research (Creswell and Creswell, 2019).

7.6: Research Time Horizon

The principal methodological designs in survey research (such as, this research) are **cross-sectional** design and **longitudinal** design (Leavy 2017p.101). In this thesis, the research is both cross-sectional and longitudinal because the three-individual year-by-year analyses are conducted at the same points in time (and so are cross-sectional). The analyses across the three years straddle the same research cases over several points in time (and so are longitudinal). The application of cross-sectional design is justified because the variables of the identifiable 83 identified FTSE 250 firms are being investigated '*in different contexts*' (in '*snapshots*') over the same time (Collins & Hussey,2014 p.63). Longitudinal design is justified by the fact that one of the main aims of this research is to measure changes in the variables over the chosen timeline of 2014-2016. Both reasons enhance identification of periodic data, subsequent statistical analyses, and post-research reference.

7.7:Techniques and Procedures: Data Related Issues

7.7.1: Data Sources and Integrity

Some of the relevant information has already been indicated within the thesis and this chapter. These sources were all secondary sources and relate to both qualitative and quantitative data. Regarding this research, qualitative data comprise information, mainly from hard copies, online/kindle copies of journals, professional articles in newspapers and books by prior authors on AF modelling or other related sources in different settings. Most of the journals were

accessed from various online sources through the platform of the LSBU website. These include academic archives such as Science Direct, Business Source Complete, Academic Search Complete, Taylor and Francis, Science Direct, Social Science Research Network (SSRN) and Wiley.

The use of these sources is justified by the fact that they are reputable and peer-reviewed sources containing abundance of past and contemporary literature on AF modelling, corporate governance, and relevant theories. In some circumstances, the researcher's supervisors were also the sources from which relevant material for the research were obtained. The secondary data from company websites may have been initially collected for a different purpose and could have been biased towards complying with requirements of their original purpose (e.g., data in published financial statements) (Saunders *et al.,*2019 p.195; Walliman, 2011, p.279). However, this limitation is substantially minimised by triangulation with some other sources (e.g., FAME, London Stock Exchange, and The Companies House).

According to University of Bath (2019), research data integrity means that research should be conducted in a way which allows others to trust and be confident in the methods adopted as well as the findings that result there from. In this research, issues such as the sources, methods and procedures including the processing and analysis of data and the research findings have been explained on the bases of prior evidence or justified otherwise within this chapter by bases which are relevant to the research. As indicated within this chapter additional information is also provided in tabular form regarding approaches adopted to ensure data integrity in ***Appendix 1.***

7.7.2: Variables (including data development and construction)

Details of the variables (and related proxies) selected for experiment in this thesis (based on review of prior literature) are discussed elaborately, with appropriate justifications, in Chapter 6. A tabular presentation of such variables are presented in **Table 7.4.** below. However, ***Appendix 3*** provides additional information on **'**Further Analyses of Empirical Research Variables'. Fees charged for external audit by auditors represent the Dependent Variable (DV) for all empirical objectives and comprise the audit remuneration shown in the financial statements of the selected companies. The variable had to be transformed prior to regression analysis[38]. In the research leading to this study, this proxy was adopted in most previous studies (e.g., Gonthier-Besacier and Schatt , 2006) although very few authors such as Prawitt *et al*. (2010) used the 'Unexpected Audit Fee'.

7.7.3: Audit Committee Variable (Audit Committee Competence – ACC)

The proxy relates to the proportion of audit committee members that are represented by NEDs/IDs as well as members having CAAA (Smith, 2014 p.67). The principle of derivation is influenced by the requirement of the ARD (2014) as already explained in Chapter 6 and in part by the UKGC (2018) regarding NEDs. ARD (2014) requires at **least one** audit committee member to be Competent in Accounting And/or Auditing (**CAAA)** and for majority of the members to have experience relevant to the sector of the relevant company (KPMG,2016).

The regulation seeks *'to improve confidence in value of audit by enhancing audit quality partly through the rotation of audit firms, and increased independence with prohibition of many non-audit services'* (Fowler, 2015 p.69). To promote independence, audit committee members should be NEDs who put audits to tender on a 'comply or explain' basis (Smith, 2014 p.64).

[38] Chapter 8

Table 7.4: Codebook : (Key to Research Variables)

	Year	SPSS variable name	Data type (measure)	Description of Variable	Variable Definition	Coding
DEPENDENT VARIABLE						
Audit fees	2014 to 2016	AFE4/5/6	Scale	Audit Fees per Audited Financial Statement (AF/S).	Natural Log of Annual Audit fee.	Continuous
INDEPENDENT VARIABLES						
Size	2014 to 2016	TAS4/5/6	Scale	Non-current Assets (NCA) and Current Assets(CA)	Log of Total Assets(TAS).	Continuous
Complexity	N/A	SUB	Scale	No of Client's subsidiaries (SUB).	Square root of Number of Subsidiaries.	Continuous
Risk						
Current Ratio	2014 to 2016	CRA4/5/6	Scale	Current Assets (C/A) compared to Current Liabilities (C/L).	Log of CA/CL	Continuous
Profit Before Tax	2014 to 2016	PBT4/5/6	Scale	Profit after interest(PAT) but before Corporation Tax(CT).	Log of Profit Before Tax (PBT)	Continuous
Auditor firm	2014	AUFY4/5/6	Nominal	Auditor Firm for each case.	**PwC** - Dummy Variable =1 if PwC and 0 otherwise. **Deloitte** - Dummy Variable =1 if Deloitte and 0 otherwise. **EY**- Dummy Variable =1 if EY and 0 otherwise. **KPMG** - Dummy Variable =1 if KPMG and 0 otherwise.	**AUF1**=PwC, **AUF2**= Deloitte, **AUF3**=EY **AUF4**=KPMG
Location	N/A	LOC	Nominal	Location of Clients Registered Office.	**London** - Dummy Variable =1 if London and 0 otherwise. **England outside of London(EOL**) - Dummy Variable =1 if EOL and 0 otherwise. **Outside England** - Dummy Variable =1 if Outside England and 0 otherwise.	**LOC1**=London **LOC2** = England outside of London (EOL) **LOC3** = Outside England

Source: Author (2023) (as adapted from Pallant 2020

Table 7.4: Codebook (Key to Research Variables) - Continued

Variable	Year	SPSS Variable Name	Data Type (measure)	Description of Variable	Variable Definition	Coding
Sector (Business Sector)	N/A	SEC	Nominal	Clients Business Sector.	**Equity Investment Instruments (EII) -** Dummy Variable =1 if EII and 0 otherwise. **Residential & Commercial Real Estate Investment Trusts (R&C REITS)** Dummy Variable =1 if R&C REITS and 0 otherwise. **Travel & Leisure (T&L) -** Dummy Variable =1 if T & L and 0 otherwise. **Support Services (SS) -** Dummy Variable =1 if SS and 0 otherwise.	**SEC1**=EII **SEC2**= R&C REITS **SEC3** = T&L **SEC4**= SS
Audit Committee (AC) Competence	2014	ACC4/5/6	Scale	The competence of each client's AC.	Proportion of Non-Executive Directors **(NEDs)**/and Independent Directors (**IDs**) **plus** those having Competence in Accounting And /or Auditing (**CAAA)** in each client's AC.	Continuous
Audit quality	2014	AUQ4/5/6	Scale	The quality of auditor's work for each case.	Proportion of NAF/AFE	Continuous

Source: Author 2023) (as adapted from Pallant 2020).

Additionally, in its Guidance*: 'Audit Quality: Practice aid for audit committees',* FRC (2019 p.4) states: *'**The 2018 UK Corporate Governance Code** requires that members of an audit committee typically have a range of **recent and relevant business and financial experience,** which provide them with a collective ability to challenge the auditor to demonstrate that they have performed a high-quality audit and evaluate the auditor's responses through a variety of different lenses'.* The requirements of the Code are similar to the CAAA required in accordance with the ARD (2014) rules which expanded the role of A C's. The Code requires AC's to evaluate the auditors for quality on the basis of a review (and a response to) four principal factors by reviewing the '*mindset and culture, skills, character and knowledge,*

quality control and judgement' of the auditors (UKCGC, 2018 n.p.).[39]

Hence the **ACC variable** adopted in this research is expected to be significant variable in assessing audit effort, AF and empirical testing relating to AF modelling. In terms of those with CAAA, only those audit AC members with recognized professional qualification in accounting/auditing (e.g., ICAEW or ACCA) were deemed to be competent in accounting and/or auditing.

Where a director's qualification was not clearly indicated in the annual reports it was objectively deduced from background information following secondary research into the profiles of relevant audit committee members e.g., LinkedIn or Google. Against this backdrop, the audit committee proxy (i.e., ACC) was constructed for each of the 83 FTSE250 companies based on NEDS/IDs and members with relevant CAAA), as indicated above.

Table 7.5 :Derivation of ACC variable

	NUMERICAL DATA			
FTSE 250 Company	**T**otal **N**umber of **D**irectors in Audit Committee	**Proportion** of NEDs/plus IDs **(NEDs +IDs)** **(X)**	**Proportion** of members with **CAAA** **No of members with CAAA** **(X)**	**Audit Committee Competence (ACC) Variable for each firm**
Figures	**X**	**Z**	**Y+Z**	

Source: Author (2023)

[39] UK Corporate governance requires premium listed companies to have at least three NEDs (Non-Executive Directors (or two NEDs for small premium companies); with at least one member having recent and relevant financial experience.

7.7.4: Model Specification and Variable Measurement

According to (Khan 2014 p.445), the general format of a multiple regression model may be expressed as follows:

$$' \; Y_{it} = \alpha + \sum_{j=1}^{n} \beta_j X_{jit} + \varepsilon_{it}$$

Formally, for each observation i, the value of the dependent variable i, $\boldsymbol{Y_i}$ *is related to the sum of the* ***J*** *explanatory variables,* $\boldsymbol{X_{it}}$*, with* $\boldsymbol{j=1,\ldots,n}$*, each multiplied with a regression coefficient,* $\boldsymbol{\beta_j}$*, and the random error term,* $\boldsymbol{\varepsilon_{it}}$*'*

As already indicated, the estimation technique applied in the statistical testing of hypothesized relationships is OLS. To examine the research hypotheses, linear regression models are developed which provide bases for OLS models (Field, 2016), generally represented as follows:

$Y_i = \alpha + \beta_1 X_1 + \beta_2 X_{2+\ldots} e\, i$, where:

Y_1 = Dependent variable 'for the i^{th} observation

X_1 = Independent variable (designated '1')

β = The intercept (β_1 determining the slope of $X_{1)}$

α = Intercept coefficient (constant term representing fixed cost (Pong and Whittington, 1994)

e_i = The error or disturbance term.

OLS regression is used because the dependent variable (AFE) is a continuous variable and the error variances in the variables are tested for normality. A similar model was developed by Simunic (1980) and used by Cameran (2005) and Kohler and Ratzinger-Sakel (2012). They researched the relationship between audit fees and variables such as client's size, risk, complexity, 'Big' audit firms and 'non-Big' audit firms. OLS estimation method was chosen because of its mathematical simplicity, its intuitive appeal to many researchers (Stewart, 2011) and for the fact that it was adopted by Simunic (1980), and several subsequent authors as referenced above.

Moreover, **other** methods (e.g., the **Logistic approach**) were **not** followed since the dependent variable (DV) is a continuous (rather than a dichotomous) variable and error variances were tested for normality (Pallant, 2010 p.168). OLS data was analysed based on unlagged and lagged information. The specific model equations for **each of the empirical objectives (2-4)** have been specified in **Chapter 2**, hence do not deserve repetition here. However, a general regression process is presented below which is run with AF and the independent variables prior to interpretation and further analysis. To test the hypotheses in this research, the nature of the OLS regression models are estimated for unlagged and lagged models as follows:

- **Equation** for **unlagged** version of Baseline OLS model.

(Unlagged Model) $\ln(AFE_{it}) = B0 + B1\ln(TAS_{it}) + B2SUB_{it} + B3\ln(CRA_{it}) + B4\ln(PBT_{it}) + B5AUF2_{it} + B6AUF3_{it} + B7AUF4_{it} + B8LOC2_{it} + B9LOC3_{it} + B10SEC2_{it} + B11SEC3_{it} + B12SEC4_{it} + B13ACC_{it} + B14\ln(AUQ_{it}) + E_{it}$.

- **Equation** for **lagged v**ersion of Baseline OLS model.

(Lagged Model) $\ln(AFE_{it}) = B0 + B1\ln(TAS_{it-1}) + B2SUB_{it-1} + B3\ln(CRA_{it-1}) + B4\ln(PBT_{it-1}) + B5AUF2_{it-1} + B6AUF3_{it-1} + B7AUF4_{it-1} + B8LOC2_{it-1} + B9LOC3_{it-1} + B10SEC2_{it-1} + B11SEC3_{it-1} + B12SEC4_{it-1} + B13ACC_{it-1} + B14\ln(AUQ_{it-1}) + E_{it-1}$

Where:

- *i* stands for the firm and *t* stands for year,
- ln stands for natural logarithm
- AFE_{it} represents the logged DV (Y), being AF paid by the client firm for case i (firm) at time t (year)
- B0 represents the population intercept, i.e., the null prediction.
- B1Xit represents the slope for unstandardised coefficient for the IV for case i at time t, etc.
- The e term stands for the random error term for case i at time t.
- B1 is the coefficient of Total Assets (TAS_{it}) which measures the **Size** of the client firm *i* at time *t*.
- B2 is the coefficient of the Number of Subsidiaries (SUB_{it}) which measures the **Complexity** of the client firm *i* at time *t*.
- B3 the coefficient of Current Ratio (CRA_{it});calculated as current assets divided by current liability) which measures the **Risk** of the firm *i* at time *t.*
- B4 is the coefficient of Profit Before Tax (PBT_{it}) which also measures the **Risk** of the client firm *i* at time *t.*

- B5 is the coefficient of **Auditor** ($AUF2_{it}$ - Deloitte) of the client firm *i* at year *t*.
- B6 is the coefficient of **Auditor** ($AUF3_{it}$ -EY) of the client firm *i* at year *t*.
- B7 is the coefficient of **Auditor** ($AUF4_{it}$ - KPMG) of the client firm *i* at year *t*.
- B8 is the coefficient of **Location** ($LOC2_{it}$) of the client firm *i* at year *t*.
- B9 is the coefficient of **Location** ($LOC3_{it}$) of the client firm *i* at year *t*.
- B10 is the coefficient of the **Business Sector** ($SEC2_{it}$-R&C REITS) of the firm *i* at year *t.*
- B11 is the coefficient of the **Business Sector** ($SEC3_{it}$-T&L) of the firm *i* at year *t.*
- B12 is the coefficient of the **Business Sector** ($SEC4_{it}$-SS) of the firm *i* at year *t*
- B13 is the coefficient of the **Audit Committee Competence** (ACC_{it}) of the client firm measured by proportion of NEDS and proportion of members with competence in accounting and/or auditing.
- B14 is the coefficient of the **Audit Quality** (AUQ_{it}) of the client firm measured by the ratio of Non-Audit Fees to Audit Fees.

7.7.5: Empirical Data Construction, Analysis and Diagnostic Checks.

In terms of **OBJ 2-4,** the DV, and some continuous variables such as TAS, PBT, CRA and AUQ were subjected to logarithm transformation to reduce volatility and improve the degree of normality (Simunic, 1980), before testing for null hypothesis regarding homoscedasticity and normality. This is because some aspects of the raw data were previously not indicative of normal distribution; a condition which is a sine qua non for the use of Ordinary Least Regression (OLS) analysis; via SPSS (version 27) software.

The researcher did not identify any prior author that applied lagged yearly information of IVs. The rationale for introducing lagged data of variables is based on the researcher's actual work-experience. In practice, the fees charged for a particular year are compiled based on knowledge which takes the client's previous/earlier years' financial and non-financial information into consideration. Hence, in this research, some originality is introduced to match the previous years 'data of IVs with current years' DVs to statistically represent and test relevant information in a different manner to how prior AF modelling authors had done.

Thus, professional practice is compared with AF modelling convention. That is, in lagging, the DV in 2016 is regressed on the IVs of the previous year (2015); while the DV in 2015 is regressed on the IVs of the previous year (2014*)*. The datasets were subjected to multivariate analyses. In relation to all the hypotheses tested, the DV (AFE) and the IVs selected are based on relevant approaches from prior studies as explained in Chapters 6 and 8.

Univariate analysis was used to generate Descriptive Statistics which summarised the data in tables, histograms, scatter diagrams or charts to enable initial stage of data analysis. Such analysis includes measures of central tendency (mean, median and mode) and of dispersion (range, standard deviation, and variance). At this stage, data volatility was also assessed by visual observation of scatter, boxplots, and histograms. These measures were triangulated by SPSS tests of normality of the data (e.g., Kolmogorov-Smirnov and Shapiro-Wilks tests), and heteroskedasticity tests using Breusch-Pagan and F-tests. Bivariate relationships were also reviewed, using Pearson product-moment correlation coefficient. The latter was used to consider two variables at a time to uncover whether they are related and if so, the extent of that relationship (Bryman and Bell, 2011 p.346).

Because the extent to which two variables are correlated to each other could cause the regression coefficients to be unstable, (Bryman and Cramer, 2011 p.298), a test of multicollinearity was carried out (Saunders *et al.* 2019 p.621). On SPSS, this was assessed on the bases of two values. Firstly, VIF (Variance Inflation Factor) which measures the variability of the independent variables that are explained by other independent variables and also Tolerance (the inverse of VIF) (Pallant, 2020 p.164). Two variables (Turnover and Non-Audit Fees (NAF) were excluded as a result [40]. Multiple Regression Analysis is used to assess the

[40] Additional information provided in Chapter 8.

predictive power of the independent proxies stated above, in relation to the value of AF, using unlagged and lagged values. In particular, '*the coefficient of determination'* (R) which explains the strength of relationship between AF and each of the IVs was considered; while the '*coefficient of multiple determination'* (R^2) which explains the strength of relationship between AF and all the IVs was of key interest (Bryman and Cramer 2011 p.300; Saunders *et al*., 2023).

7.8:Viability of the Research

The use of unlagged and lagged data and sectoral testing adds some further layers of relevance and originality to the research. Considering the current debate about the pervasiveness of audit scandals and poor audit quality of the Big4, AF (being a financial expense on company funds) must be regularly modelled for all categories of business including the FTSE 250. Hence this research provides a much overdue academic attention to close some gaps relating to the AF determinants within the FTSE 250 using the sectoral sets.

This will be of benefit to several information users including auditors, audit committees and other company directors and regulators. This was made possible due to availability of required data as well as the determination and interest of the researcher who has an accounting background. Arguments and justifications regarding data collection methods, including different bases for selection of the 83 FTSE250 companies and size of subgroups (e.g., industry sectors) have already been offered within this chapter.

7.9: Reliability of the study

Reliability is the '*degree to which measures are free from errors and therefore yield consistent results'* (Ang, 2014 p.176) This includes the extent to which several aspects (such as data collection and analyses) are consistent, precise, repeatable, trustworthy and without bias (or

are error free). This research is based on secondary research underpinned by peer-reviewed journals, FTSE250 firm-information and other sources of evidence which are appropriately regulated (e.g., by CA, 2006, UKCGC, 2018 and LSE) and enforced by Companies House. Additionally, all proxy-data subjected to empirical investigation were obtained from FAME, triangulated by the annual accounts of the identified firms which have been approved by registered auditors who are also regulated by their professional bodies and IFAC. These data are therefore not vulnerable to observer bias which leads to inconsistency. They also comprise publicly obtainable information.

The approach adopted as well as the data collection is therefore value-free (Saunders *et al*., 2023) and the outcomes of this research are not exposed to valid threats since methods or procedures and statistical approach adopted are those which have been used extensively, by several authors in AF modelling (Simunic,1980; Ganesan *et al.,*2019). Therefore, the conduct of the study seeks to ensure consistent measurement across time and across individual researchers in relation to subsequent research conducted with the use of identical measures. Procedures used are elaborately explained (including the underlying bases and assumptions) to enable subsequent researchers to replicate them.

7.10: Ethical issues

The access of the relevant information from websites and other sources was without a fee. Hence no research participants were used. In consideration of an ethical assertion made by Stokes (2011), access to data was planned at the research design stage so that ethical issues were adhered to at the data collection stage. Additionally, the researcher did not quote (or rely otherwise) on the work of any author who attached any restriction to third party use of their work. Moreover, the researcher as a professionally qualified accountant (FCCA) and a student

(of LSBU) also ensured that the main thrust of the ethical codes of both institutions on the use of third-party information (especially the need to cite authors of vital information in this thesis) were complied with.

7.11: Chapter Summary

The chapter focused on research design and methodology adopted in this study and shares significant similarities with that of the 'research onion' formulated by Saunders *et al*. (2023) which reflects the different stages (layers) of research and applicable assumptions. Accordingly, it presented two primary research philosophies; as well as the deductive and inductive approaches adopted in this research with justifications. It specified the sources of research data, the time-horizon, the chosen timeline, the variables, the primary analytical techniques, the estimation method including specification of general format of variable measurement. Having discussed the research design and methodology in this chapter, the next appropriate step is to discuss the empirical analyses conducted regarding OBJ2, OBJ3 and OBJ4 as hinted in Chapter 2. In so doing, the next chapter exposes the empirical results, analysis, and conclusions. This includes the explanation of some theoretical underpinnings of the results and also how they compare/contrast with prior literature.

CHAPTER 8

Empirical Results, Analysis and Conclusions (OBJ2 AND OBJ3)

8.1:Introduction

The previous chapter devoted itself to issues relating to the design of the research and the methodology through which it had been conducted. It focused on the sets of data which enable the research questions indicated in Chapter 2 to be appropriately answered. While doing so, it indicated the issues (e.g., the philosophies, approaches, and methods) appropriate to the thesis. Hence much emphasis was placed on the Research Onion (Saunders *et al.*,2019) in connection with the requirement to outline some possible research paradigms and the associated epistemological and ontological positions when choosing appropriate research strategies and approach(es). It then proceeded to highlight the research strategies and some other data-related issues such as data selection/construction/analysis, diagnostic checks, validity, integrity, reliability, and key ethical considerations of the research.

The purpose of this chapter is mainly to discuss the **empirical** analyses **(**regarding **OBJs 2 and 3)** and conclusions regarding the thesis' aims and objectives relating to OBJs 2 and 3 (as shown in **Chapter 2 -Tables 2.2-2.3 and Tables 2.7 and 2.8).** Accordingly, the key sections of this chapter fall into **three** main sections which are as follows:

Section 8.2: Preliminary assessment of Research data and the Baseline model. - This involves the validation of estimation techniques (e.g., OLS and multiple regression).This is duly conducted based on the **Baseline model.** The latter section involves descriptive statistics, univariate, bivariate analysis, and robustness tests to assess assumptions including normality

and other characteristics of the data to satisfy certain criteria for use of the chosen statistical methods.

Section 8.3: **Objective (OBJ)2: SET 2** - Linked to **Tables 2.2 and 2.7 (Chapter 2).** (Empirical Analysis of Audit Fees and Auditees' Characteristics (NCGV's) .

Section 8.4.: **OBJ3: SET 3** - Linked to **Tables 2.3 and 2.8 (Chapter 2)**
(Empirical Analysis of Audit Fees and Auditees' Characteristics: Possible Enhancement of NCGVs with addition of CGVs).

For sections 8.3 and 8.4, the chapter seeks to address two **key** issues. Firstly, it offers statistical models showing results based on the relevant objective in relation to the identified 83 FTSE 250 companies and their four sectoral sets. For each of the latter objectives, the results are analyzed based on theory and prior AF modelling studies.

8.2:Empirical Analyses of the BASELINE MODEL

8.2.1 Preamble

The baseline model enables the necessary checks to be conducted on the underlying data to be used for regressions since it contains **all DVs, and IVs** tested in **the empirical objectives**. Hence it is a gateway model to be assessed prior to conducting the regressions relating to OBJ2-4.

8.2.2:Data and Analysis relating to the Baseline Model

Consequently, assessment of the latter model for relevant research/statistical assumptions or conventions also apply to **all** the empirical objectives. In OLS, there is a principal assumption that data is normally distributed, and this requires to be tested for statistical significance prior

to further analyses. This is because an issue such as heteroscedasticity reduces the statistical power of the beta coefficients and could render the use of the regression questionable (Bryman and Cramer, 2011 p.235).

Certain challenges were associated with analysis of the data. The raw data was not indicative of normal distribution (a key assumption of OLS). For instance, the initial results of robustness test for multicollinearity between some variables and skewness exhibited by some variables[41]. were non-compliant .Huntington-Klein (2019 n.p.) asserts that robustness tests are about the checking of assumptions. For instance, the histograms of some variables (e.g., Turnover variable (TOV) which was previously included) did not reflect the assumption of normality and it also exhibited bimodal characteristics. Some other challenges also relate to access to the software (SPSS 27) used for implementation since different aspects of training were necessary for its use. Although it was accessible through the LSBU website, students were also required to re-enrol every academic year to be able to access the software, but the electronic reenrolment process was at times problematic.

Consistent with the approach of some prior authors, data of some continuous variables (e.g., the DV, size (TOV & TAS), risk (current ratio (CRA) and PBT were therefore transformed by natural logarithm to improve degree of normality before re-running the test for normality and the null hypothesis about homoscedasticity (Griffin and Lont, 2007; Kwon et al., 2014; Audousset-Coulier, 2015; Pallant, 2020).

Despite the transformation, there was still the challenge of high collinearity between NAF and TOV. TOV was then excluded. Additional tests (once again) showed the NAF variable as

[41] Elaborated within subsequent paragraphs in this chapter.

having a Tolerance value which was still not complaint with multicollinearity, and it also had to be excluded. PBT relating to 2014 (the first year of evaluation) for a company (SERCO) was identified as an outlier. This was traced to the significant loss of £1354000 for that year. The transformed value amounted to nil, and it was eliminated by taking only values above zero for that year. All variables tested have already been stated in the previous chapter.

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8.2.3:Univariate Analysis

The variables are separately analysed for distributional characteristics including the categorical variables which are considered on a group basis depending on the number of dummies.

8.2.3.1:Descriptive Statistics Applicable to all Objectives (OBJ 2-4)

In this thesis, regressions were statistically implemented by use of SPSS (27). Hence the first SPSS output is the Descriptive Statistics. These were calculated for the variables used in the models.

8.2.3.2: Descriptive Statistics - Continuous Variables

Table 8.1: Descriptive Statistics - UNLAGGED Continuous Variables

	N	Minimum	Maximum	Mean	Std. Dev.	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
lnAFE	249	2.83	8.29	5.191	1.532	-0.038	0.154	-1.294	0.307
lnTAS	249	11.69	17.91	14.161	0.835	0.435	0.154	1.308	0.307
SUB	249	1.00	22.56	9.712	4.512	0.779	0.154	0.135	0.307
lnCRA	249	-3.22	4.18	0.188	1.201	0.432	0.154	1.078	0.307
lnPBT	248	13.92	14.57	14.187	0.090	1.873	0.155	4.851	0.308
ACC	249	0.40	2.00	1.285	0.223	-0.099	0.154	2.062	0.307
lnAUQ	222	-3.65	2.54	-1.1878	1.144	0.023	0.163	0.087	0.325

Source: Author (2023)

The unlagged continuous variables (in **Table 8.1. above**) are described, beginning with LnAFE (log Audit Fee) (stated in thousands). It exhibits a range between log-transformed values of 2.83 (actual value of £17000 for Personal Assets Trust Plc in 2014) and 8.29 (actual value of £4000,000) for Thomas Cook in 2014) with a mean of log 5.191(£150,000). In general, the mean as a value could be vulnerable to extreme values (Bryman and Cramer, 2011). Broadly, similar ranges apply for TAS, CRA and AUQ but there is a wider range in the number of subsidiaries (SUB). PBT values appear to have less dispersion with minimum of 13.92 (£1110143) and maximum of log 14.57 (£2126525) with 248 observations due to 2014 outlier that was removed as explained above. Observations in AUQ are reduced since the variable was constructed by the researcher based on the NAF/AFE relationship.

Some firms did not request NAS from their auditors in some accounting periods. Hence NAF was nil in the clients' financial statements for some years and thus causing AUQ (based on NAF/AFE) also to be nil for those years. Therefore, this is not a missing value. It is an actual value of Nil.

Table 8.2: Descriptive Statistics on LAGGED Continuous (Independent) Variables

	N	Minimum	Maximum	Mean	Std. Dev.	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
lnTASlag	166	12.01	17.91	14.126	0.8422	0.655	0.188	1.864	0.375
SUBlag	166	1.00	22.56	9.712	4.5168	0.781	0.188	0.149	0.375
lnCRAlag	166	-3.00	3.64	0.121	1.1285	0.183	0.188	0.709	0.375
lnPBTlag	165	14.03	14.57	14.192	0.0975	1.961	0.189	4.060	0.376
ACClag	166	0.40	2.00	1.280	0.2242	-0.121	0.188	2.130	0.375
lnAUQlag	149	-3.55	2.54	-1.119	1.1723	0.096	0.199	0.181	0.395

Source: Author (2023)

Regarding the lagged continuous variables (in **Table 8.2 above**), the means and ranges are virtually similar with PBT having the smallest range. In this thesis, lagging was implemented

for **two** of the three years (2015 and 2016) and hence the numbers of cases vary from those of unlagged values. **Table 8.3 below** shows the means of lnAFE and other continuous variables to be relatively stable throughout the years under observation. This pattern is likely to minimise significant differences between the coefficients of the variables in the lagged and unlagged regression models.

Table 8.3 Descriptive Statistics of Continuous Variables by Year

	Full sample			2014			2015			2016		
Variable	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.
lnAFE	249	5.191	1.532	83	5.145	1.538	83	5.190	1.523	83	5.239	1.550
lnTAS	249	14.161	0.835	83	14.091	0.892	83	14.160	0.793	83	14.230	0.821
SUB	249	9.712	4.512	83	9.712	4.531	83	9.712	4.531	83	9.712	4.531
LnCRA	249	0.188	1.201	83	0.110	1.177	83	0.132	1.085	83	0.322	1.331
lnPBT	248	14.187	0.090	82	14.187	0.097	83	14.197	0.099	83	14.175	0.071
ACC	249	1.285	0.223	83	1.268	0.231	83	1.291	0.218	83	1.295	0.221
lnAUQ	222	-1.1878	1.144	76	-1.123	1.078	73	-1.114	1.271	73	-1.329	1.078

Source: Author (2023)

8.2.3.3:Descriptive Statistics - Categorical Variables

Unlike the continuous variables, only the frequency and percentage of categorical variables are relevant. The **reference category** is the first category in each of the three tables according to the descriptive statistics. This is the category that has majority of cases.

8.2.3.4:AUF: Client's Auditor

Considering **Tables 8.4** and **8.5** below, AUF1 (PwC) has the most observations followed by AUF2 (Deloitte), then AUF3 (EY) with AUF4 (KPMG) being the least. **Table 8.5 below** reflects the same trend in number of clients in each of the years of observation. However, **Figure 8.1 far below** indicates that the mean **of lnAFE** for each auditor for each year appears

to follow a different order. The order in terms of the higher mean of lnAFE is KPMG, (AUF4), Deloitte (AUF2), PwC (AUF1) with the least mean being that of AUF3 (EY).

Table 8.4: Descriptive Statistics on Categorical Variable AUF (Only Big4)

		Frequency	Percent
AUF	AUF1	84	33.7
	AUF2	70	28.1
	AUF3	43	17.3
	AUF4	39	15.7
Total Big 4		236	94.8
Non-Big 4 (AUF5) Excluded (See Chapter 7)		13	5.2
Grand Total (83 companies x3)		249	100

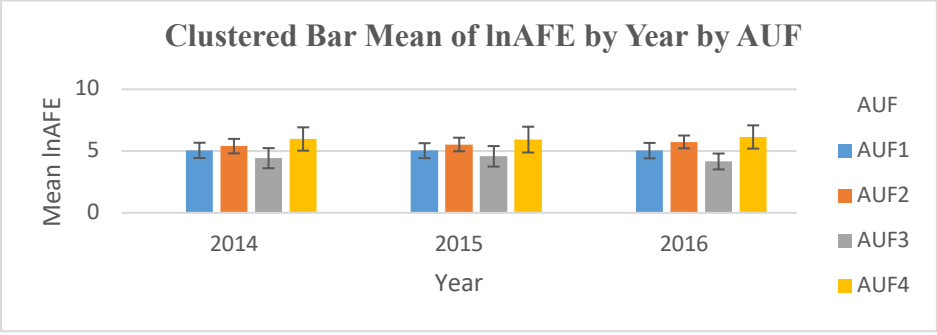
Source: Author (2023)

Table 8.5:Frequency and Percentage of AUF categories by Year(Only Big4)

	Full sample		2014		2015		2016	
Category	N	%	N	%	N	%	N	%
AUF1	84	35.6	27	34.6	29	37.2	28	35.0
AUF2	70	29.7	24	30.8	24	30.8	22	27.5
AUF3	43	18.2	14	17.9	13	16.7	16	20.0
AUF4	39	16.5	13	16.7	12	15.4	14	17.5

Source :Author (2023)

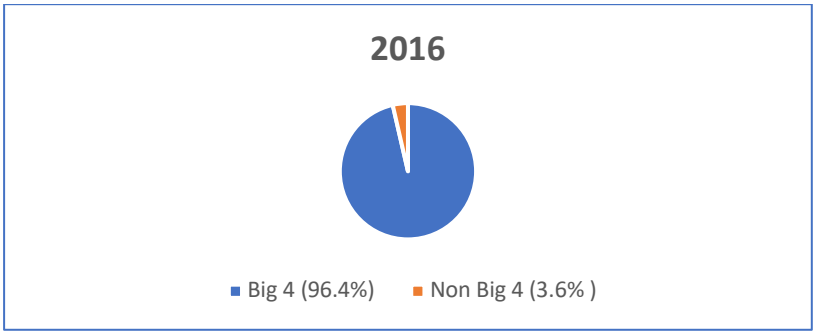
Figure 8.1: Clustered Bar Mean of lnAFE by Year by AUF



Source: Author: Based on Pallant (2020)

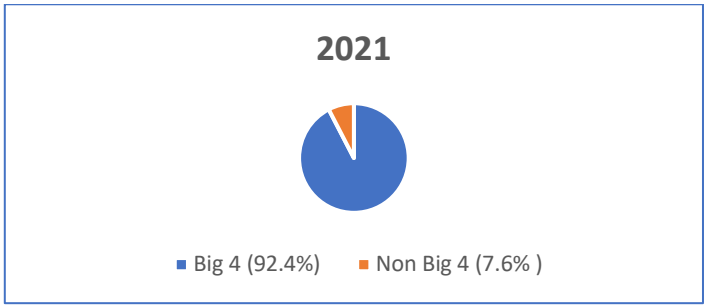
This is a possible indication (but not conclusive evidence) of differential pricing in the Big4 with KPMG having the highest average mean. This is different from identifying the audit firm that has the highest impact on lnAFE in a regression analysis when controlling for other factors.

Figure 8.2 – Big 4 and Non-Big 4 share of Audit Market in 2016



(Smith, 2018)

Figure 8.3 – Big 4 and Non-Big 4 share of Audit Market in 2021



(FRC, 2021)

AUF5 (non-Big4 firms) with 5.2% (13/249) of the observations were excluded from statistical testing due to the principle of de minimis, parsimony and being not critical to this thesis[42]. The number of non-Big4 companies is very small and negligible due to the domination of the FTSE 250 audit market as shown in the charts below in **Figures 8.2 and 8.3** above**.**

[42] Chapter 7

8.2.3.5:LOC: Client's Location

Table 8.6 above indicates very high frequency for LOC1 (London) compared to the other two locations, as the FTSE 250 companies are more focused on UK in terms of trading (and hence on its capital) and they act as a barometer of health of the UK economy (Cunningham,2017). Hence a majority (55.4%) reside in London, the largest city, and the capital of the UK. There is a '*city effect'* on fees (Hay *et al.,*2010 p.15).

Table 8.6: Descriptive Statistics on Categorical Variable - LOC

		Frequency	Percent
LOC	LOC1	138	55.4
	LOC2	72	28.9
	LOC3	39	15.7
Total (83 companies x 3)		249	100

Source: Author (2023)

8.2.3.6: SEC: Client's Business Sector

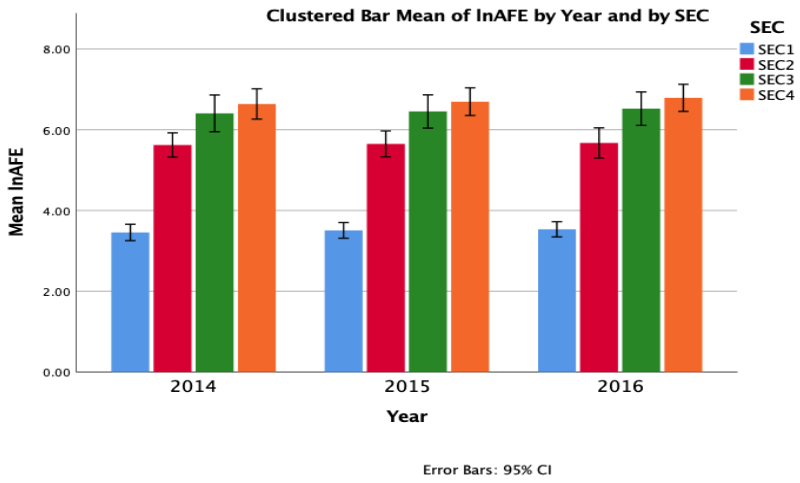
Table 8.7: Descriptive Statistics on Categorical Variables – SEC

		Frequency	Percent
SEC	SEC1	96	38.6
	SEC2	54	21.7
	SEC3	51	20.5
	SEC4	48	19.2
Total (83 companies x 3)		249	100

Source: Author (2023)

Table 8.7 above indicates that SEC1 companies (EII) are the majority with 32 companies (x 3 years = 96 observations). The **population (rather than a sample)** of companies within each of the other 3 business sectors are 18 (SEC 2),17 (SEC3) and 16 (SEC4), respectively. However, in terms of AF, the mean of lnAFE (in **Figure 8.4** below) indicates a different order that is also relatively stable across the three of study.

Figure 8.4: Clustered Bar Mean of InAFE by Year by SEC



Source: Author : Based on Pallant (2020)

Beginning with the highest mean, the order is SEC4, SEC3, SEC2 and SEC1. SEC4 (supply services) tend to have several chains of operations and several international partners (e.g., Homeserve Plc in SEC4 sector) and hence likely to demand more audit work. SEC3 is travel and leisure which has been found to have lower AFE in Canada (Ahmed and Abdullah,2016) although this appears not to be the case with FSTE 250 firms in UK. Disparities could exist in sector-wise complexities and related accounting and auditing requirements in different countries including the type of technology used.

Such companies also have vast networks in different countries, globally. An illustration is National Express Plc (in this research) which operated in 11 countries and Merlin Entertainments Plc which operated in 24 countries with 140 attractions (National Express Plc, 2022; Merlin Entertainments Plc, 2022). Regarding SEC1 and SEC2 with smaller means of lnAFE, they comprise of Investments Instruments and Trusts (respectively) which are usually highly automated and digitised. Hence, they should offer better audit trails and integration of transactions with lesser audit work because of amenability to electronic processing.

8.2.4: Dummy Coding applied to Categorical Variables

This subsection addresses **dummy coding** applied to the three categorical variables represented by dummies. That is, AUF (**4 dummy categories), SEC** (**4 dummy categories**) and **LOC** (**3 dummy categories**). Multiple linear regression can be run with categorical variables that have no more than two categories. This challenge was addressed by coding each categorical variable using dummy coding. The reference category (that has majority of the cases) was the first category, based on the descriptive statistics above (Field, 2017).

Table 8.8 Strategy for Choosing Reference Category

Categorical Variable	Dummy 1	Dummy 2	Dummy 3	Dummy 4	Reference category basis	Reference Category	Dummies to be shown in equation
AUF-Four Dummies (Also see Table H1.4 above)	AUF**1** (PWC) **84** of 249 observations (83 cases x 3years = 249)	AUF**2** (Deloitte) **70** of 249	AUF**3** (EY) **43** of 249	AUF**4** (KPMG) **39** of 249	The AUF with **highest** frequency of cases	**AUF1 (PWC)**	**AUF2, AUF3 and AUF4**
SEC – **Four** Dummies (Also see Table H1.7 above)	**32 -SEC1** (EII)	**18 – SEC2** (R&C REITS)	**17 –** SEC**3** (T&L)	**16** – SEC**4** (SS)	The SEC with **highest frequency** of cases	**SEC1 (EII)**	**SEC2, SEC3 and SEC4**
LOC - Three Dummies (Also see Table H1.6) above	LOC**1** (London)	LOC**2** (England – outside of London)	LOC**3** (Outside England)	None	The LOC with **highest frequency** of cases	**LOC1 (London)**	**LOC2 and LOC3**

(Source : Author: Based on Field,2017 p.509, Grace-Martin, 2022)

In the practice of dummy coding, one of the dummy categories is not overtly shown in the equation (or in the regression models) because it is used as baseline reference against which all other categories are compared (Field,2017, p.509; Grace-Martin, 2022). Accordingly, the dummy coding of the three latter categorical variables is conducted without overtly indicating the reference category variable in the equations leading to the regression analysis. **Table 8.8** above applies to the dummy coding of AUF, SEC and LOC variables.

Based on the latter table, the equations in the baseline model as well as other statistical models **only show** AUF2, AUF3, AUF4; SEC2, SEC3, SEC4, LOC2 and LOC3[43].

8.2.5: Checking Assumptions of OLS including Some Robustness tests.

There are several **assumptions** that must be met prior to utilizing OLS, such as normally distributed data, no multicollinearity between the predictor variables, no critical residual outliers, normality of the standardised residuals and homoscedasticity (Hair *et al.,* 2010; Kikhia, 2014). According to Huntington-Klein (2019 n.p.) *'Robustness tests are all about assumptions'.* '*Any analysis that checks an assumption can be a robustness test, it doesn't have to have a big red "robustness test" sticker on ... you might even do them before doing your analysis.*

The author mentions some tests such as White Test and Breusch-Pagan test *'or just running your model again with an additional control variable (.n.p.)*. It states that **'***There are lots of robustness tests out there to apply to any given analysis. You can test for heteroskedasticity, serial correlation, linearity, multicollinearity, any number of additional controls ...'.* Thus, it describes a robustness test as '*anything that lets you evaluate the importance of one of your assumptions for your analysis'* (Huntington-Klein (2019 n.p.).

It argues that robustness tests are **not only** tests such as '*White, Hausman, Breusch-Pagan, overidentification...*' (Huntington-Klein (2019 n.p.). Therefore, several robustness tests were conducted to assess compliance with key assumptions as indicated within the subsequent paragraphs.

[43] As shown in equations for each empirical objective in Chapter 2.

8.2.5.1:Univariate Normality

The data must be assessed for its degree of normality since the inferential statistics to be applied to the testing is primarily parametric (Collis and Hussey (2009 p.259). According to Kim (2013, p.52), several statistical methods have been offered to test normality of data in various ways but '*there is no current gold standard method'*. The study states that '*The eyeball test'* may suit samples of medium to large size (e.g., $n > 50$), but not useful for small samples. *The formal normality tests* including Shapiro-Wilk test and Kolmogorov-Smirnov test may be used from small to medium sized samples (e.g., $n < 300$), but may not be reliable for large samples.

The study also asserts using them to test normality may be confusing as the '*eyeball test'* and '*formal normality test'* may *show incompatible results* for the same data as indicated in this thesis (Kim, 2013, p.52). Hence the author suggests that a combination of visual inspection and formal normality tests e.g. as performed by Kimeli (2016). Normality was therefore tested using Kolmogorov-Smirnov (Kohler and Ratzinger-Sakel, 2012) and Shapiro-Wilk tests and via *visual inspection* of the histograms that present the frequency distribution of each variable.

According to the results presented in **Table 8.9** below, the variables do not indicate a normal distribution which initially posed a challenge. in terms of an acceptable normality check. Field (2013 p.185) also warns against full reliance on these two tests (Kolmogorov and Shapiro tests) and states '*if you insist on using them, bear ... in mind and plot your data as well as try to make informed decision about the extent of non-normality based on converging evidence.* Considering the above caveat and the absence of a gold standard method (Kim, 2013, p.52), further steps were taken to inspect the histograms and Q-Q plots and it was observed that InTAS, InCRA, InACC, InAUQ variables did have a distribution that is appropriately normal, with lnAFE, SUB, InPBT showing a positive skew.

Table 8.9: Normality Tests Continuous Variables

Normality Test results for All Unlagged Continuous Variables						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	p	Statistic	df	p
lnAFE	0.150	249	<.001	0.924	249	<.001
InTAS	0.067	249	.009	0.977	249	<.001
SUB	0.141	249	<.001	0.943	249	<.001
InCRA	0.093	249	<.001	0.968	249	<.001
InPBT	0.188	248	<.001	0.807	248	<.001
ACC	0.133	249	<.001	0.944	249	<.001
InAUQ	0.067	222	.017	0.984	222	.012

a. Lilliefors Significance Correction

Source: Author (2023)

Table 8.1, far above under Descriptive Statistics - Continuous Variables**)** also measures the asymmetry of the distribution of variables while kurtosis measures the peaked-ness of the distribution (Kim, 2013). The latter author cites West *et al*. (1996) in recommending a skew value > 2 and as a kurtosis value > 7 as substantial departure from normality. **Table 8.1** shows all values for skewness under 2 and kurtosis values much under 7. It is not unusual to find an outlier hence it may not be necessary to take any action (Pallant, 2020). Further remedial action was unnecessary since the key consideration is the normality of the standardised residuals (Field, 2013).

8.2.5.2: Standardised residual analyses

In terms of screening for standardised residual outliers regarding the Baseline model, (where lnAFE is predicted by lnTAS, SUB, lnCRA, lnPBT, ACC and lnAUQ variables), the **Casewise diagnostics** result (-3.011) in **Table 8.10** is close to the acceptable range of -3 to +3 indicating only one outlier **(Figure 8.6** below**)**. In addition to univariate normality, it is important to explore normality of standardised residuals for the regression model.

Table 8.10:Casewise Diagnostics[a]

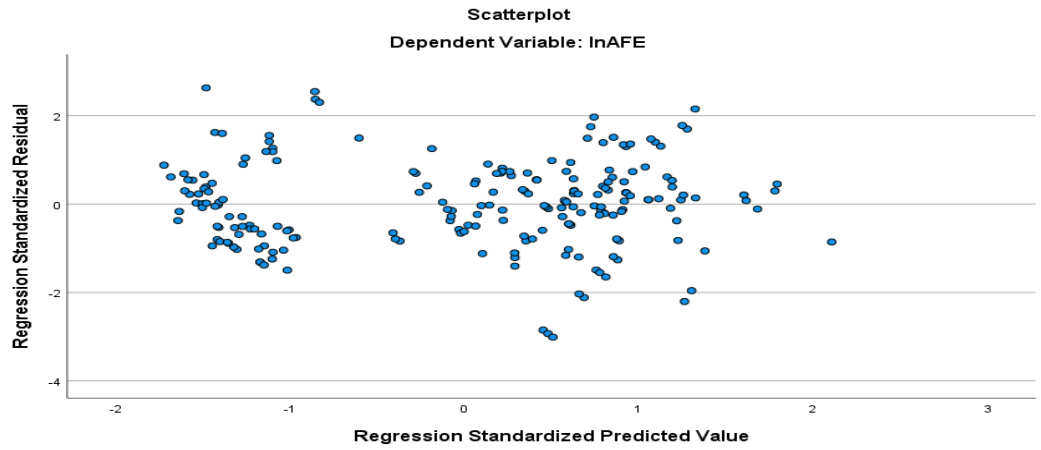
Case Number	Std. Residual	lnAFE	Predicted Value	Residual
87	-3.011	4.61	6.0785	-1.47336

a. Dependent Variable: lnAFE

Source: Author: Based on Pallant (2020)

8.2.5.3: Scatter Plot of Standardised Residuals with LnAFE as DV

Figure 8.5: Scatter Plot



Source: Author (2023)

The **histogram** in **Figure 8.6** below shows that standardised residuals for the baseline model are approximately normally distributed (Cantoni *et al.*, 2011;Tabachnick and Fidell,2013; Pallant, 2020) It is necessary to check for a potential problem with such an outlier Pallant (2020). That is, *'whether this strange case is having any undue influence on the results for our model as a whole'*, by checking that the value for Cook's Distance in the **Residual Statistics** (**Table 8.11)** does not exceed the value of 1 (Pallant, 2020, p.166) as also performed by Kimeli (2016). As the Cook's distances are below the critical value of 1, there appears to be no potential problem in the dataset. According to Field (2013), this also confirms that this Baseline model is stable across the cases, and it is not biased by a few cases that exert undue influence over the model's influential cases.

Table 8.11 Residuals Statistics

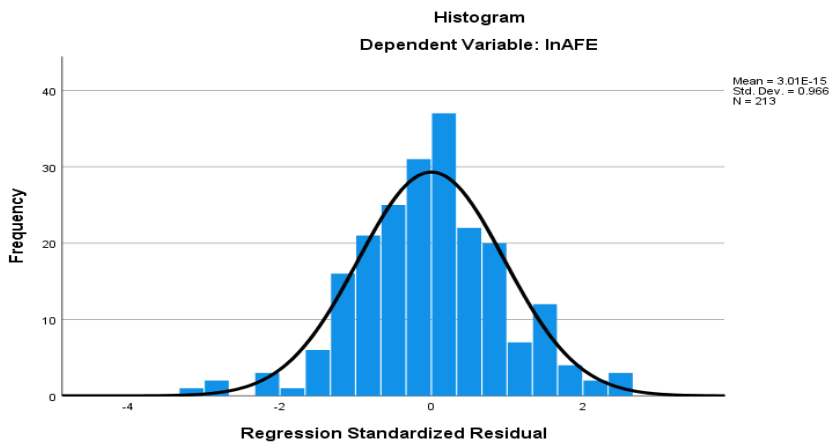
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.9017	8.3569	5.3568	1.42480	213
Std. Predicted Value	-1.723	2.106	.000	1.000	213
Standard Error of Predicted Value	.086	.233	.128	.022	213
Adjusted Predicted Value	2.8667	8.4312	5.3574	1.42492	213
Residual	-1.47336	1.28694	.00000	.47284	213
Std. Residual	-3.011	2.630	.000	.966	213
Stud. Residual	-3.115	2.683	-.001	1.001	213
Deleted Residual	-1.57670	1.33903	-.00059	.50743	213
Stud. Deleted Residual	-3.186	2.726	-.001	1.008	213
Mahal. Distance	5.547	47.073	13.934	5.358	213
Cook's Distance	.000	.055	.005	.008	213
Centered Leverage Value	.026	.222	.066	.025	213

a. Dependent Variable: lnAFE

Source: Author (2023)

8.2.5.4: Frequency Distribution of Standardised Residuals for Baseline Model

Figure 8.6: Histogram under Normality Check : lnAFE as Dependent Variable



Source: Author (2023) : Based on Field (2013)

Descriptive statistics discussed far above may also be used to assess how problematic an outlying case may be. However, instead of the mean scores, the 5% Trimmed Mean is calculated comparing the **mean** and 5% **trimmed mean** of the continuous variables enables

'you to see whether your extreme scores are having a strong influence on the mean (Pallant,2020, p.64). If the trimmed mean and the mean *'values are very different, you may need to investigate these data points further* (p.64). The absence of large differences indicated that there was no need for further investigation of its characteristics (Pallant, 2020). Additional information regarding the *5% Trimmed mean* is provided in ***Appendix 4.***

8.2.5.5: Multicollinearity

Multicollinearity test relates to *'the extent to which two or more independent variables are correlated to. each other'* (Saunders *et al.,* 2019, p.621). The author states that the simplest diagnostic is the correlation coefficients and extreme collinearity being indicated by a value of

Table 8.12: Multicollinearity Statistics

Model	Collinearity Statistics	
	Tolerance	**VIF**
(Constant)		
TAS (ln)	.514	1.945
SUB	.603	1.658
CRA (ln)	.819	1.222
PBT (ln)	.567	1.764
AUF2	.682	1.466
AUF3	.644	1.553
AUF4	.649	1.541
LOC2	.603	1.658
LOC3	.741	1.350
SEC2	.460	2.175
SEC3	.466	2.148
SEC4	.495	2.021
ACC	.812	1.232
AUQ (ln)	.764	1.308

Source: Author: Based on Pallant (2020).

1, while correlations of 0.90 (or above) suggest a substantial collinearity. Existence of multicollinearity may cause regression coefficients to be unstable or to vary from sample to

sample (Bryman and Cramer, 2011) and there will be difficulty in separating the unique contribution of each variable. Two values that measure multicollinearity are presented as Collinearity Statistics in **Table 8.12** above in the form of **Tolerance** and **Variance Inflation Factor (VIF).** VIF is a measure of the variability of a particular independent variable that is explained by the other independent variables, while Tolerance is the inverse of VIF (Pallant 2020 p.163).

H_0 = *No multicollinearity*
H_1 = *Multicollinearity*

Pallant (2020 p.158) states that VIF above 10 or Tolerance below 0.10 indicates multicollinearity as also applied by prior authors (e.g. Pong & Whittington,1994,Castro *et al,* 2015). NAF and TOV posed a challenge and had to be excluded, as explained . Subsequently, **m**ulticollinearity indicators for the predictor variables in the Baseline model in **Table 8.12** did not indicate multicollinearity. This led to acceptance of the null hypothesis that the multicollinearity assumptions have not been violated.

8.2.5.6:Autocorrelation

Table 8.13 : Model Summary for Baseline model using Unlagged values

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	**Durbin-Watson**
1	.949[a]	.901	.894	.48927	**1.722**

a. Predictors: (Constant), lnAUQ, lnTAS, AUF2, LOC3, SEC4, ACC, SEC3, lnCRA, AUF4, lnPBT, AUF3, LOC2, SUB, SEC2

b. Dependent Variable: lnAFE

Source: Author: Based on Pallant (2020)

Table 8.13 (Model Summary**)** above assesses the model for autocorrelation by values indicated under **Durbin-Watson (DW)** (Saunders *et al.*2019). This assumes that between any two observations, the residual terms should be uncorrelated/independent (i.e., lack of

autocorrelation). With time-series analysis, the DW statistic tests whether the value of the DV (i.e., lnAFE) at time (t) is related to its value at the previous period (t –1). Violation of this assumption would invalidate the model standard errors, the confidence intervals, and the resultant significance tests (Field, 2018). The test statistic has a range of scores between 0 and 4 (statistical heuristic).

Ho *= No autocorrelation*
H_1 *= Autocorrelation*

Based on statistical heuristic*,* scores between 1.5 and 2.5 indicate no correlation while a score of less than 1 or greater than 3 is considered a cause for concern (Khan, 2014). **Table 8.13** above shows DW value of 1.722, which falls within the acceptable range of 1.5 to 2.5. Hence no further remedial action is taken on data treatment with regard to this statistic..

8.2.5.7: Heteroskedasticity

Additionally, robustness test was performed regarding the assumptions of linear regression for homoscedasticity. This term refers to the distribution of the residuals (i.e., the error term), specifically that they remain the same across all values of the independent variables (Field, 2013). Hence the variance in relation to the DV should remain stable at all levels of the IV. Otherwise, the error terms are inconsistent (i.e., random, across variables), then we have evidence for an issue termed heteroskedasticity. There are several tests that can be utilized to test for homoscedasticity, including some graphical and numerical tests. Utilizing SPSS, both Modified Breusch-Pagan and F-Test were conducted such as in prior AF modelling study by Chan *et al.,*1993).

Ho *= Homoscedasticity*

H_1 *= Heteroscedasticity*

These tests are applied to the null hypothesis that the variance of the errors does not depend on the values of the independent variables. That is, the null hypothesis is that homoscedasticity is present in the data. The outcomes for both tests are shown as $X^2(1) = 0.176$, $p = 0.675$ (in **Table 8.14** above) and $F(1, 211) = 0.174$, $p = 0.677$) (in **Table 8.15** above) which are not significant. Thus, we can accept the null hypothesis that the residuals illustrate homoscedasticity. Visually, the scatter plot referred to in **Figure 8.5** far above**,** shows that standardised residuals are scattered across the graph at all levels which supports the latter assertion.

Table 8.14: Test for Heteroskedasticity - Modified Breusch-Pagan

Modified Breusch-Pagan Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
.176	1	.675

a. Dependent variable: lnAFE

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Predicted values from design: Intercept + lnTAS + SUB + lnCRA + lnPBT + AUF2 + AUF3 + AUF4 + LOC2 + LOC3 + SEC2 + SEC3 + SEC4 + ACC + lnAUQ

Source: Author : Based on Pallant (2020)

Table 8.15:Test for Heteroskedasticity - F Test

F Test for Heteroskedasticity[a,b,c]

F	df1	df2	Sig.
.174	1	211	.677

a. Dependent variable: lnAFE

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Predicted values from design: Intercept + lnTAS + SUB + lnCRA + lnPBT + AUF2 + AUF3 + AUF4 + LOC2 + LOC3 + SEC2 + SEC3 + SEC4 + ACC + lnAUQ

Source: Author: Based on Pallant (2020)

8.2.5.8: Summary of Test of Assumptions Relevant to Baseline Model

The baseline model contains all the variables used for the statistical testing in this thesis, including those for OBJ2, OBJ3 and OBJ4. As stated above, the first output was the Descriptive

Statistics and SPSS was employed in implementing the regression and analysing the quantitative data. In so doing, checks were conducted to ensure that prerequisite conditions for linear and multiple regression were not violated.

8.2.6: Methods of Estimation relevant to Baseline and all Models

As indicated in Chapter 7 (and this chapter), these methods are essentially OLS and Multiple Regression Analysis .

8.2.6.1: Multiple Regression Analysis (MRA)

In this research, MRA was employed as the method of estimation. Khan (2014 p.457) cites Hair *et al*. (1995) in asserting that MRA '*is a robust method for analysis of causality and allows the researcher to determine the impact of a set of independent variables on a dependent variable*. Moreover, this research adopts a single DV and MRA is a multivariate modeling technique that is suitable for examining the relationship between a single DV and a set of IVs (Stewart, 2011p.136) as applies in this research.

The latter author emphasizes that '*OLS is the most popular technique for estimating the parameters in a multiple regression model and are derived by minimising the sum of squared residuals.'* [44] It is the method adopted in estimating parameters of all regression models in this thesis at 5%, 1% and 0.1% significance levels. ***Appendix 5*** provides additional information regarding considerations given to statistical significance including thresholds set for determining significance levels and interpreting these levels in relation to this study. It enables appropriate analyses that controls for the selected factors and their proxies (variables) that affect the AF.

[44] Justification for using OLS are already provided in Chapter 7.

8.2.6.2:Correlation Analysis Applicable to all Selected Determinants.

The Pearson's Correlation matrix is presented in Table **8.16 below** (e.g., Gonthier-Besacier & Schatt, 2006). The correlation matrixes in the table do not show evidence of multicollinearity.

Table 8.16: Pearson's Correlation Matrix of AF and Selected Determinants

Variable		*lnAFE*	*lnTAS*	*SUB*	*lnCRA*	*lnPBT*	*AUF2*	*AUF3*	*AUF4*	*LOC2*	*LOC3*	*SEC2*	*SEC3*	*SEC4*	*ACC*	*lnAUQ*
LnAFE	*r*	1.00														
	p															
lnTAS	*r*	.45	1.00													
	p	<.001														
SUB	*r*	.47	.49	1.00												
	p	<.001	<.001													
lnCRA	*r*	-.14	-.21	-.09	1.00											
	p	.03	.001	.15												
lnPBT	*r*	.34	.48	.19	-.11	1.00										
	p	<.001	<.001	.002	.10											
AUF2	*r*	.14	.08	.06	-.06	.16	1.00									
	p	.04	.22	.34	.37	.01										
AUF3	*r*	-.27	-.33	-.17	-.05	-.18	-.31	1.00								
	p	<.001	<.001	.01	.45	.01	<.001									
AUF4	*r*	.23	.16	.23	.06	.02	-.29	-.21	1.00							
	p	<.01	.02	<.001	.36	.72	<.001	.001								
LOC2	*r*	.29	-.03	.01	-.15	-.05	.14	.04	.10	1.00						
	p	<.001	.66	.83	.02	47	.03	.55	.15							
LOC3	*r*	-.03	-.04	.04	.24	-.06	.03	.08	.10	-.28	1.00					
	p	.66	.58	.56	<.001	.32	.60	.25	.14	<.001						
SEC2	*r*	.16	.23	.05	-.02	.48	.11	-.22	.10	-.08	-.15	1.00				
	p	.01	<.001	.41	.72	<.001	.09	.001	.13	.22	.02					
SEC3	*r*	.42	.16	.07	-.18	.02	-.03	.14	.03	.27	.11	-.27	1.00			
	p	<.001	.01	.28	.01	.73	.66	.03	.64	<.001	.08					
SEC4	*r*	.49	-.02	.17	07	.00	.13	-.18	.12	.23	-.04	-.26	-.25	1.00		
	p	<.001	.79	.01	.30	.96	.04	.01	.08	<.001	.50	<.001	<.001			
ACC	*r*	.14	.01	.01	.10	.00	.04	-.18	.25	.02	.22	.03	.09	.04	1.00	
	p	.03	.92	.85	.13	.97	.54	.01	<.001	.72	.001	.63	.15	.57		
lnAUQ	*r*	.19	.03	-.15	-.11	.14	.04	.09	.17	.10	.12	.15	.14	.05	.20	1.00
	p	.01	.63	.02	.11	.045	.54	.20	.02	.14	.08	.02	.04	.45	.003	

Source :Author (2023)

This is because Pallant (2020) asserts that bivariate correlations should be below 0.7, although Hair (2014) considers substantial correlation to be 0.9 and above. Alternative assessment was also made in **Table 8.13** far above (Collinearity Statistics with Tolerance and VIF)**. Table 8.16**

below, reveals several significant correlations among the dependent and independent variables. The analysis shows a positive and significant association between lnAFE and company size (lnTAS, r = 0.45), complexity (SUB, r = 0.47) (SEC3, r = 0.42) and SS sector (SEC4, r=0.49). Others include risk (lnPBT, r = 0.34), KPMG (AUF4, r = 0.23), England outside of London (LOC2, r = 0.29). T& L and SS business sector, size, and complexity have the highest correlated variables with lnAFE.

This implies that SS sector (SEC4) makes the highest positive contribution to the prediction of AFE as it **explains 24% (0.49^2)** of lnAFE (Pallant p.134). The latter percentage is the '*coefficient of determination'* or the amount of *shared variance* between the **two variables** (i.e., lnAFE and SEC4) (p.134). The shared variance between the other independent variables and lnAFE (as well as between those variables themselves) can easily be inferred from the same calculation (e.g., shared variance (coefficient of determination) between complexity and AFE is 22% (0.47^2).

The strong and significant positive relationship between size, complexity and lnAFE indicate that larger sized or more complex companies (with more subsidiaries) incur higher agency costs in form of audit fees (Simunic 1980; Kikhia, 2014; Musah, 2017). That is, they involve more nexus of relationships and transactions, such as increased verification procedures (Hay 2010, Owusu and Bekoe, 2019). As audit is a risk-based exercise, the higher the risk (i.e., the lower the current ratio – CRA), the more substantive procedures are likely to carried out by the auditor, hence negative correlation with AF (Huang *et al*., 2010; André *et al*., 2016).

Additionally, some prior studies also find that profitability (e.g., PBT) might be perceived by the auditor as increased ability to pay audit fees; and hence lead to increased verification

procedures to confirm the existence of genuine transactions that support such an increase in profitability (Pong & Whittington,1994). Regarding auditors, **Table 8.16** figures imply that fees charged by KPMG appear to be more associated with an increase in AF. This is consistent with finding in Italy (Cameran, 2005) which investigates intra-Big4 fee differences and finds AF premium associated with only KPMG rather than the Big4 as a whole.

This is unlike (EY), AUF3 which is negative and very significant ($p<0.001$) and appears to be discounting its fee probably transferring the benefits of economy of scale to clients (Simunic,1980). The relationship of LOC2 (England outside London) with AFE is more positive than LOC3 (outside of England) in relation to the reference category (LOC1) which is not overtly stated due to dummy coding rules already explained. LOC2 is nearer to the capital city London (LOC1) which has a '*city effect'* on fees (Hay *et al.,*2010 p.15). Deloitte (AUF2) and R&C REITs (SEC2) are positively correlated with reduced strength in relationship and non-significant.

ACC and lnAUQ are positive and significant but at a relatively lesser strength and level of significance ($p<0.05$). Hence, it is likely that more competent AC's (in terms of financial competence and number of NEDs/IDs), interact more with the auditor and demand higher quality work leading to increased AF (Boo & Sharma, 2008; Ghafran & O'Sullivan; 2017). A positive relationship between AF and AUQ can arise as audit firms that charge higher AF will tend to be pressurised to perform good quality audit so as not to lose the client (Ghafran & O'Sullivan (2017; Ganesan *et al.*, 2019).

With regard to the degree of correlation between independent variables in general, the values are far much lower than the critical value of 0.7 (Pallant, 2020) or 0.9 (Hair, 2014) although a

figure less than that may well have to be checked against other relevant factors such as VIF and Tolerance as already done within this chapter in **Table 8.12** (Hassan & Nasser, 2013). Hence there appears to be no indication of multicollinearity in the data set. Having conducted the required assessments/tests above, the assessment of **the Baseline regression model** is briefly considered in subsequent paragraphs within this chapter. It is worth restating that the Baseline model (with the related assessments made) contains **all the variables** adopted in this thesis.

Hence the model and relevant tests apply to data in **all objectives**. Consequently, there is no further requirement to recalculate another Baseline model for each specific objective. Secondly, the Baseline model is deliberately not subject to detailed analyses to fulfil OBJ2, OBJ3 or OBJ4 as it is not specific to any objective in terms of determination of AF. Therefore, it is used only for preliminary analyses to check for possible violations and to highlight certain indications rather than to make conclusions.

8.2.6.3: Brief Evaluation & Analysis of the Baseline Model.

In the equations[45] already indicated in Chapter 7 which underpin models **Model 8.2.1** and **Model 8.2.2** below, the **category reference dummies** are coded as **0** and **not** overtly shown in the model equations (Field, 2017 p.509, Grace-Martin, 2022) as earlier explained

That is :

- SEC1 (EII) – not shown in equation under the business sector (of the firm *i* at year *t*).
- LOC1(London)) – not shown in equation under Location (of the firm *i* at year *t*).

[45] Also see Chapter 2 and Dummy coding within this chapter

- AUF1(PwC) – not shown in equation under Auditor (of the firm *i* at year *t*).

Table 8.17 OLS regression results for the Baseline model.

	Model 8.2.1 (UNLAGGED)		Model 8.2.2 (LAGGED)	
	Coefficient	Std. Error	Coefficient	Std. Error
lnTAS	0.231***	0.054	0.194**	0.063
SUB	0.080***	0.009	0.082***	0.011
lnCRA	-0.030	0.033	-0.062	0.042
lnPBT	-0.862	0.520	-0.056	0.035
AUF2	-0.127	0.088	-0.122	0.105
AUF3	-0.094	0.114	-0.017	0.143
AUF4	-0.105	0.108	-0.092	0.130
LOC2	-0.121	0.095	-0.084	0.113
LOC3	-0.116	0.105	-0.116	0.128
SEC2	1.924***	0.120	1.827***	0.129
SEC3	2.675***	0.118	2.590***	0.137
SEC4	2.927***	0.115	2.876***	0.136
ACC	0.239	0.158	0.254	0.191
lnAUQ	0.008	0.034	0.003	0.040
Constant	11.693	6.612	0.805	1.063
R-squared	0.901		0.906	
Adjusted R-Sq.	0.894		0.896	
F-statistic	128.416***		88.552***	

** $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Source: Author : Based on Pallant (2020)

Having evaluated the data for applicable assumptions , models were run with both unlagged and lagged values for initial evaluation of general model properties/significance and the relationships or influence of IVs on AF. By so doing, **Model 8.2.1 above** (with **unlagged** values) is compared with **Model 8.2.2** (with **lagged** values) with the aim of contributing to original knowledge in AF modelling of identified sectoral sets in the FTSE250 companies. A few points of interest are highlighted prior to looking at the variables themselves in detail under objective-by-objective analyses/assessment under OBJs 2,3 and 4. **Model 8.2.1** offers respectable figures for both the R-Squared and Adjusted R-Squared as 0.901 and 0.894, respectively. This implies that approximately 90% of the variation of the dependent variable (logged version of AFE) is accounted for by the independent variables. This explanatory power

is high compared with the those of some previous AF modelling studies such as 0.758 for Kanakriyah (2020).

Table 8.13 (repeated here only to enhance clarity).

Model Summary for Baseline model with (UNLAGGED values)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	**Durbin-Watson**
1	.949[a]	.901	.894	.48927	**1.722**

a. Predictors: (Constant), lnAUQ, lnTAS, AUF2, LOC3, SEC4, ACC, SEC3, lnCRA, AUF4, lnPBT, AUF3, LOC2, SUB, SEC2

b. Dependent Variable: lnAFE

Source: Author : Based on Pallant (2020)

Table 8.18:Model Summary for Baseline Model LAGGED values)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.952[a]	.906	.896	.48527

a. Predictors: (Constant), lnAUQlag, lnPBTlag, SUBlag, AUF2lag, LOC3lag, SEC3lag, ACClag, lnCRAlag, SEC2lag, AUF4lag, LOC2lag, AUF3lag, lnTASlag, SEC4lag

Source: Author : Based on Pallant (2020)

This is somewhat like the F-value, which is significant at the .001 level. Like the previous measures, it indicates that the independent variables reliably predict the dependent variable. All three of these measures concern model fit, with all of them implying a high level of influence between the predictors and the dependent variable. Turning to the coefficients in **Model 8.2.1**, there are several variables which are significant, including lnTAS, SUB, SEC2, SEC3, SEC4. Most of the interpretations for **Model 8.2.1** apply to **Model 8.2.2**. For instance, AFE represents the logged DV (Y) for case i (firm) at time t (year), B1Xit represents the slope

coefficient for the logged version of TAS for case i at time t, etc[46]. The difference is that the value of the predictors is no longer focused on case i at time t, but instead focused on the previous time (t-1) for case i.

This **lagged** approach is adopted for all the predictor variables in the **Model 8.2.2**. The R-squared (0.952) and adjusted R-squared (0.906) are nearly identical (slightly higher for **Model 8.2.2**) while the F-statistic is still significant (at $p<0.001$) at the same level (though this value is less than the F-statistic for **Model 8.2.1)**. The same sets of variables are significant at 0.001 level except, for (ln)TAS in **Model 8.2.2** which is a significant predictor at 1% level. As explained detailed analysis of the relationships was not conducted at this stage because the baseline model is essentially to conduct robustness and other tests regarding the required assumptions including the descriptive and general issues relating to the regression.

8.2.6.4:Evaluating the statistical significance of the Baseline Model

Table 8.19: ANOVA: Baseline Model Regression (UNLAGGED values)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	430.370	14	30.741	128.416	.000[b]
	Residual	47.398	198	.239		
	Total	477.768	212			

a. Dependent Variable: lnAFE

b. Predictors: (Constant), lnAUQ, lnTAS, AUF2, LOC3, SEC4, ACC, SEC3, lnCRA, AUF4, lnPBT, AUF3, LOC2, SUB, SEC

Source: Author : Based on Pallant (2020)

[46] Also see Chapter 7

Table 8.20: ANOVA: Baseline Model Regression (LAGGED values)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	291.942	14	20.853	88.552	.000[b]
	Residual	30.378	129	.235		
	Total	322.320	143			

a. Dependent Variable: lnAFE

b. Predictors: (Constant), lnAUQlag, lnPBTlag, SUBlag, AUF2lag, LOC3lag, SEC3lag, ACClag, lnCRAlag, SEC2lag, AUF4lag, LOC2lag, AUF3lag, lnTASlag, SEC4lag

Source: Author : Based on Pallant (2020)

Tables 8.19 and 8.20 (ANOVA) for unlagged and lagged values (respectfully) **above** indicate that the models are statistically significant (at $p<0.001$ level). $F = 128.416$ $p < 0.001$ (for unlagged values) and $F=88.552$ $p<0.001$ (for lagged values). The F ratio tests the null hypothesis that R (i.e., the multiple correlations) is zero within the population from which the data was taken (Bryman & Cramer, 2011). Hence $p< 0.001$ indicates that it is not probable that the multiple R in the population is nil, and the null hypothesis is therefore rejected and requires no further investigation. Same considerations apply to the Anova for both unlagged and lagged values below.

8.2.6.5: Summary of the Evaluation of the Baseline Regression Models.

Both versions of the model exhibit respectable adjusted R squares of 90% and 91% respectively for **unlagged** (**Model 8.2.1**) and **lagged** (**Model 8.2.2**) far above, respectively. They also both exhibit a good fit which is demonstrated by the significance of the F-statistic ($p < 0.001$). This implies that the model has been improved by the coefficients included in the regression. It also highlights some variables which exhibit significant relationships with AF

(e.g., lnTAS SUB, SEC2, SEC3, SEC4. With focus on significant variables, a preliminary assessment indicates that **Model 8.2.1** (**un**lagged basis) reflects a higher contribution by the variables in terms of explaining the variation in lnAFE as indicated by a higher F-statistic and higher level of significance for TAS. Therefore, the advice to the Board, auditors and other relevant stakeholders of the identified FTSE 250 sectors is that if a decision must be made between the two regression models, the **un**lagged model could be preferred.

Having assessed the data and the Baseline model that contains all the variables applicable to all the objectives, individual relationships are to be discussed in appropriate detail under each objective (i.e., OBJ2, OBJ3 in subsequent paragraphs within this chapter and then OBJ4 within the next chapter). Hence the Baseline model is not the appropriate / critical point for detailed analysis of the variables because such analysis should be based on the aim of each objective and the applicable variables. For instance, only NCGVs in OBJ2 and NCGVs plus CGVs (in OBJ3), using of main and sector-wise models. Then, auditor-wise models are used in OBJ4 with NCGVs plus CGVs (within the next chapter).

8.3:OBJ2:Empirical Results,Analysis and Conclusions (AF and NCGVs)

8.3.1:Preamble

The arguments emanating from prior studies which support the bases on which variables were identified and selected were exposed in the Chapters 4 and 6. Prior studies on AF modelling (e.g., Simunic, 1980; Ratzinger-Sakel *et al.,*2012; Suryanto,2014) focused on NCGVs (e.g., Total Assets (for size), current ratio (for risk). The purpose of OBJ2 is therefore to understand whether the variables classified as NGCVs in this research are also primary (positive and significant) determinants of AF in the identified 83 FTSE 250 and their four sectors, using

U&L information. This problem is resolved by consideration of the relevant research objectives and the empirical testing of the relevant hypotheses.

8.3.2:Research Objectives and Hypotheses (OBJ2)

The **main** objective and its **sets** of objectives including related hypotheses are already stated in **Table 2.2** and **Tables 2.7** in **Chapter 2 (SET 2)** within identified set of 83 FTSE250 companies and their four sectors.; hence only the main objective is restated here as:

Main Objective (within OBJ2)

To determine specific NCGVs that primarily influence the AF of FTSE 250 companies (within the 83 identified companies overall) and in terms of specific business sectors using unlagged and lagged information

Essentially, in **Chapter 2,** the above is formed of a set of **five sub-objectives** (OBJs 2.1, 2.2, 2.3, 2.4 and 2.5) and related hypotheses which relate to:

i) **Main** models (U&L): The 83 identifiable FTSE 250 firms**(overall**), in **OBJ 2.1 (H2.1a)** and

ii) **Sector-wise** models (U&L) - **four** separate business sectors in **OBJs 2.2-2.5 (H2.2a-2.5a**).

8.3.3: Brief Commentary on Data and Analysis Critical to OBJ2

These relate to the sources of the data, the variables and type of analysis employed in OBJ2 as explained in **Chapter 7** and the **Baseline model** within this chapter, which are both relevant to all models/objectives of the thesis. The variables in OBJ2 are only the NCVGs. Categorical variables (SEC, AUF and LOC) are presented using appropriate dummy coding rules (Field,2017 p.509, Grace-Martin, 2022).

8.3.4: Brief Commentary on Methodological Issues Critical to OBJ2

Since the DV is a continuous variable and appropriate checks had been conducted in Section 8.2. above (e.g., multicollinearity and heteroscedasticity tests), the same OLS method has been adopted as the estimation technique for the parameters of the regression models at 5%,1% and 0.1% significance for regression in OBJ2. Consistent with most previous authors including the seminal author (Simunic,1980; Kikhia, 2014; Kanakriyah (2020), some continuous variables (the DV, size (TAS), risk (current ratio - CRA and Profit Before Tax - PBT)) were transformed by natural logarithm to reduce skewedness, improve degree of normality before further testing for normality and subsequently, the null hypothesis about homoscedasticity.

8.3.5:Equations (for Unlagged and Lagged (U&L) Models)-OBJ2

The relevant equations to OBJ2 models are as stated in **Chapter 2 (Table 2.7)** are restated follows:

- **Using Unlagged information**

$$\ln(AFE_{it}) = B0 + B1\ln(TAS_{it}) + B2SUB_{it} + B3\ln(CRA_{it}) + B4\ln(PBT_{it}) + B5AUF2_{it} + B6AUF3_{it} + B7AUF4_{it} + B8LOC2_{it} + B9LOC3_{it} + B10SEC2_{it} + B11SEC3_{t} + B12SEC4_{it} + E_i$$

- **Using Lagged information**

$$\ln(AFE_{it}) = B0 + B1\ln(TAS_{it-1}) + B2SUB_{it-1} + B3\ln(CRA_{it-1}) + B4\ln(PBT_{it-1}) + B5AUF2_{it-1} + B6AUF3_{it-1} + B7AUF4_{it-1} + B8LOC2_{it-1} + B9LOC3_{it-1} + B10SEC2_{it-1} + B11SEC3_{it-1} + B12SEC4_{it-1} + E_{it-1}$$

These specifications are applied to coefficients for both U&L versions of the main **model** and sector-wise **models**. The models show that OBJ2 relates only to NCGVs, using dummy coding rules on the categorical variables. (Field,2017 p.509, Grace-Martin, 2022).

8.3.6:Results and Discussion of Data Analysis Relevant to OBJ2 (Hypothesis 2.1a)

Table 8.3.1 below presents regression results for the relationship between NCGVs and AF

which includes variables already discussed in Chapters 6 and 7. Specifically, they include size (TAS), Complexity(SUB), Risk (CRA and PBT), Deloitte (AUF2), EY(AUF3), KPMG (AUF4), LOC2 (England, outside of London), LOC3 (Outside of England), SEC2 (R&C REITS), SEC3 (T&L), SEC4 (SS).

Table 8.3.1*: OLS Regression MAIN (U&L) Models for NCGVs.*

	Model 8.3.1 (UNLAGGED)		**Model 8.3.2 (LAGGED)**	
	Coefficient	Std. Error	Coefficient	Std. Error
(ln)TAS	0.244***	0.052	0.209**	0.060
SUB	0.068***	0.008	0.070***	0.010
(ln)CRA	-0.015	0.029	-0.045	0.038
(ln)PBT	-0.796	0.467	-0.056	0.035
AUF2	-0.143	0.084	-0.138	0.102
AUF3	-0.209	0.101	-0.143	0.126
AUF4	-0.076	0.102	-0.070	0.125
LOC2	-0.135	0.087	-0.106	0.108
LOC3	-0.067	0.099	-0.054	0.120
SEC2	1.957***	0.110	1.869***	0.117
SEC3	2.754***	0.104	2.688***	0.127
SEC4	2.978***	0.105	2.948***	0.124
Constant	10.952	6.361	0.987	0.966
R-squared	0.904		0.911	
Adjusted R-Sq.	0.899		0.902	
F-statistic	174.588***		102.347***	
** p < 0.05, ** p < 0.01, *** p < 0.001*				

Source : Author (2023)

Both r-squared and adjusted r-squared estimates of both versions of the main model above, are very high (and similar) but are slightly higher for the **lagged** (**Model 8.3.2)** version (0.911 and 0.902), than for **unlagged** (**Model 8.3.1**) model (0.904 and 0.899)**.** Both models are significant at .001 level with a higher estimate for unlagged Model **8.3.1** (F = 174.588 p 0.001) than the lagged **Model 8.3.2** (F=102.347 p<0.00)1.This demonstrates that the variables included in the model have made significant contribution towards the determination of AF, especially with unlagged values. Both models also show similar results in terms of significant predictors (lnTAS, SUB, SEC2, SEC3 and SEC4).

8.3.6.1: Client's Size (TAS) and Audit Fees - H2.1a (i)

Both models show TAS as significant. The key difference between the above models is that TAS is of lesser significance level (at $p < 0.01$) for the lagged model. Thus, this relates to the (ln)AFE of the two lagged years (2015 and 2016) regressed on (ln)TAS (of 2014 and 2015), respectively. Developments such as additions to assets or a change in relevant accounting standard between relevant years could cause an increase in valuation of assets without net disposals during the current year. Hence this could lead to an increased value of current year's TAS which could cause prior years' TAS figures to be less impactful on AF.

The differences between TAS in both models could also be ascribed to factors such as time-related factors that affect AFE and the IVs, such as changes in monetary terms arising from general inflation over time (Pong and Whittington,1994). A different level of physical verification/checks for appropriate classifications, original cost, valuations, or compliance with new regulation may also impact AFE differently within different years.

Consistent with the researcher's expectations which are based on several previous studies, (Simunic,1980; Gonthier-Besacier and Schatt, 2006; Musah, 2017; Abdullah *et al*., 2017; Wu, 2018; Januarti & Wiryaningrum, 2018; Ghadhab *et al.,* 2019), TAS is a positive and significant determinant of AF in both models. However, the degree of the relationship (unit change of 24.4% increase in AFE for each unit of TAS (and 20.9% for lagged values) is small compared to results found in some previous studies such as 50% for Simunic (1980) in U.S; 82% for Gonthier-Besacier and Schatt (2006) in France; or 50.8% for Owusu & Bekoe (2019) in Ghana.

- Therefore, **Hypothesis 2.1a(i)** regarding **size** variable is **accepted** within the overall identified 83 FTSE 250 (if proxied by TAS).

8.3.6.2: Client's Complexity (SUB) and Audit Fees - H2.1a(ii)

In similarity with most previous studies (e.g., Simunic,1980; Hay *et al*., 2006; Hay, 2010; Owusu and Bekoe; 2019; Widmann, 2020) both models show complexity (SUB) as very positive and significant. Therefore, higher AF will be incurred by clients with more complex systems (e.g., due to highly diversified companies with several branches/subsidiaries) or those with more complex operations which necessitate more comprehensive auditing ((Hay *et al*., 2006; Hay (2012).

- Therefore, **Hypothesis 2.1a(ii)** regarding **complexity** variable is **accepted** within the overall 83 FTSE 250 (if proxied by number of subsidiaries).

8.3.6.3: Client's Risk (CRA, PBT) and Audit Fees - H2.1a (iii)

Contrary to expectations of the researcher and those of some prior authors, (e.g., Gonthier-Besacier & Schatt, 2006; Kikhia, 2014), the two proxies for the risk factor **in Table 8.3.1** (CRA and PBT) show negative and non-significant AF determinants for both unlagged (-0.015 and -0.796) and lagged models (-0.045 and -0.056) with main variations occurring between PBT proxies. The difference between the unlagged and lagged values could be due to more contemporary information and adjustments being reflected in current year's PBT, current assets or AFE.

A possible explanation for the non-significance of the risk factor could be that the auditor's perception of risk may not have coincided with the clients (unsystematic) risk (e.g., risk of financial distress) (Chan *et al.*, 1993). The negative influence may imply auditors associating lesser PBT or CRA with higher level of risk which leads to higher AF - and vice versa (e.g., Silva *et al.* (2020). Despite the absence of confirmation of H2.1a (iii) in relation to risk,

research by a UK study of large, listed companies (Pong & Whittington 1994) accepts its reasoning. The argument is that as profits increase, the auditor could increase audit work to confirm/disconfirm that the increased profits are duly underpinned by relevant/genuine transactions and appropriate accounting and other compliance procedures to prevent situations such as Enron, WorldCom, Lehman Brothers, BHS and Carilion (Sikka *et al*.,2018).

- Therefore, **Hypothesis 2.1a(iii)** regarding **risk** variable is **rejected** within the overall 83 FTSE 250 (if proxied by CRA and PBT).

8.3.6.4: Client's Auditor (AUF) and Audit Fees - H2.1a (iv)

According to dummy coding rules explained within this chapter , the dummy variables AUF2, AUF3 and AUF4 are interpreted relative to AUF1 (reference variable) which is considered as 0 and not overtly expressed in the equations or the regression table. The results show that in terms of NCGVs, AUF2 (Deloitte), AUF3 (EY) and AUF4 (KPMG) show a decrease in the mean of AFE in relation to AUF1 (PwC). Hence AUF1 has the highest mean of AFE amongst the auditors since the other dummy categories (AUF2,AUF3 and AUF4) show a negative sign in relation to AUF1. For instance, the results show for AUF2 is -0.143 with unlagged values and -0.138 with lagged values. Since AFE is converted to natural logarithm (lnAFE) exponential values must be applied in illustrating the effect of the coefficients.

Using exponential values, this implies that the expected decrease in mean of AFE from AUF1 to AUF2 is about 13.3 % (i.e., exp (-0.143) -1) *100 =13.325%) for unlagged values and 12.89% (exp(-0.138) -1) *100 for lagged values. The negative coefficients are consistently larger for unlagged values than for lagged values. Although they are all non-significant and hence do not merit detailed analysis, auditors' influence deserve some analysis. All the AUF

categories indicate a decrease (negative coefficient) in relation to AUF1(PwC) and hence it appears that an inference may be drawn that PwC could be earning AF premia in relation to the other Big4 firms in the identified FTSE 250 companies.

The above is consistent with Simunic (1980) which attributes a form of premium to PwC amongst listed companies in the US. This premium may not necessarily be due to the audit quality rendered but may relate to reputational factors or industry specialisation (Cameran,2005; Campa, 2013; House of Lords,2010a;2010b;2010c). The negative relationship may also have arisen because Big4 auditors within the FTSE 250, do engage in multi-period pricing policies which averages the expected cost reduction arising from learning over time (Simunic,1980).

- *Therefore,* ***Hypothesis 2.1a(iv)*** *regarding* **auditor** *variable is* **rejected** *within the overall 83 FTSE 250 (if AUF1 is applied as categorical reference variable based on dummy coding principles (Field,2017 p.509, Grace-Martin, 2022)*

8.3.6.5: Client's Location (LOC) and Audit Fees - H2.1a (v)

LOC1(London) is the reference category as the major city and hence not expressly indicated in the equation or the model (Field ,2017). **Table 8.3.1 (Models 8.3.1 and 8.3.2)** show a non-significant decrease from LOC1 to both LOC2 (England outside of London) and LOC3 (Outside England). That implies that there is an expected decrease of 12.628% (exp(-0.178) -1)*100) for unlagged values (**Model 8.3..1)** and 10.06% (exp(-0.106) -1)*100 for lagged values (**Model 8.3.2.2)** in mean of AFE from LOC1(London) to LOC2 (England outside of London). Although the coefficients are non-significant, these results align with those of an

investigation into large private firms by Brinn *et al.*(1994) in UK companies which conclude that auditors charged a premium for clients located in London.

The above is supported by Hay (2010 p.15) which argues that UK studies do include some measure of '*city effect'*) and that different local and international locations often exhibit different levels of commercial vibrancy, including the '*location in a large expensive city'* (Hay, 2010 p.3). Hence *'it is expected that companies audited in the most expensive city (e.g., London) will cost more'*(p.15). However, the finding is contrary to Chan *et al*.(1993) that research UK listed companies and find location as a positive and significant AF determinant. This may well be due to the latter study focusing on a population of all listed companies in the UK, rather than exclusively on the FTSE 250 or its main sectors (2014 - 2016).

- *Therefore, **Hypothesis 2.1a(v)** regarding **LOCATION** variable is **REJECTED** within the overall 83 FTSE 250 (if LOC1 is applied as categorical reference variable based on dummy coding principles* (Field,2017 p.509, Grace-Martin, 2022))

8.3.6.6: Client's Sector (SEC) and Audit Fees - H2.1a (vi)

Models 8.3.1 and **8.3.2** show SEC2, SEC3 and SEC4 as positive and highly significant in relation to the reference categorical variable SEC1 for lagged and unlagged variables. This is consistent with some other studies that found business sector as a positive and significant AF determinant, such as Gonthier-Besacier & Schatt (2006) in France which indicates that information technology companies incur higher AF relative to other sectors. **Model 8.3.1** for unlagged values, indicates that SEC4 (Support Services) has the highest coefficient and higher positive values than lagged models. The values make a higher contribution (F statistic 174.588) to the model although lagged models (**Model 8.3.2**) indicate a slightly higher adjusted R^2.

SEC4 is supply services sector with more variety of product /business lines through which they several third parties deliver their services. For instance, HomeServe Plc has several partners such as eBay and Amazon (amongst others) that help deliver though several business lines (HomeServe Plc, 2016). The Table implies that SEC1 has the least means score and hence least expensive to audit. For instance, SEC2 has a positive and significant coefficient of 1.957 in relation to reference category (SEC1). This indicates that there is an expected increase in mean score of AFE from SEC1 to SEC2 of 607.80% ((exp (1.957) -1) *100), based on exponential values.

- *Therefore, **Hypothesis 2.1a(vi)** regarding **sector** variable is **accepted** within the overall 83 FTSE 250 (if SEC1 is applied as categorical reference variable based on dummy coding principles (Field,2017 p.509, Grace-Martin, 2022)*

8.3.7: Sector-wise (SEC) Models: Unlagged and Lagged: H2.2a-2.5a

In order to enhance the contribution of this research to original knowledge, more informative presentation of the influence of individual business sectors on AF is considered in **sector-wise** presentation. The equations are already offered above within this chapter. This presentation leads to consideration of hypotheses **H2.2a** to **H2.5a** as stated in Chapter 2 (Table 2.7). Detailed analysis of the results of the relationships of the AF determinants with AFE on sector-by-sector basis would be very repetitive considering that some outcomes/ implications relating to the same AF determinants have already been provided above under the **main** models **(Model 8.3.1 and Model 8.3.2**) for the overall 83 FTSE250 companies, which may coincide with findings in this subsection.

Thus, a more synthesised analysis of the models is made for the **four sector-wise** models below since this enables integrated consideration of the relevant issues with less duplication.

Consequently, confirmation (or otherwise) of the hypotheses **2.2a - H2.5a** is offered **far below** after an overall overview/analysis of **all four** models, rather than after each relevant variable.

8.3.7.1: Unlagged Sector-wise Models (Table 8.3.2 below) : H2.2a-2.5a

Table 8.3.2:OBJ2:(Models 8.3.3 – 8.3.6): UNLAGGED

Table 8.3.2: OLS Regression Results for **UNLAGGED** Models Delineated by **CLIENT- SECTOR (SEC)**

	Model 8.3.3 (SEC1)		**Model 8.3.4 (SEC 2)**		**Model 8.3.5 (SEC3)**		**Model 8.3.6 (SEC4)**	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
(ln)TAS	0.681***	0.111	-0.033	0.097	0.210*	0.086	0.038	0.131
SUB	0.011	0.013	0.104***	0.014	0.148***	0.020	0.086***	0.018
(ln)CRA	-0.008	0.030	-0.173	0.089	0.022	0.187	-0.108	0.242
(ln)PBT	-4.633	2.942	-0.342	0.535	-4.370**	1.410	-0.182	1.095
AUF2	-0.225	0.155	-0.324*	0.141	0.009	0.171	-0.207	0.161
AUF3	-0.126	0.120	-0.753	0.441	0.172	0.201	-0.135	0.342
AUF4	-0.481*	0.216	-0.848***	0.190	0.652**	0.232	0.170	0.170
LOC2	-0.110	0.217	-0.008	0.160	-0.273	0.138	-0.013	0.132
LOC3	0.007	0.151	1.041**	0.286	-0.307	0.194	0.059	0.212
Constant	59.603	40.915	10.264	7.096	63.917**	19.892	7.844	14.490
R-squared	.468		.683		.833		.720	
Adj. R-Sq.	.408		.613		.794		.652	
F-Statistic	7.731***		9.797***		21.123***		10.573***	

** p < 0.05, ** p < 0.01, *** p < 0.001*

Source :Author (2023)

Overall, **Table 8.3.2** above shows that **Models 8.3.3 – 8.3.6** are significant (p< 0.001) which demonstrates a good fit, and they offer several interesting results at first glance. The intercepts show positive figures which appear to indicate audit premia being charged within the sectors. The general direction of influence of the variables remain generally similar although the significance of various variables differ. **Model 8.3.5** (SEC3) has the highest intercept which

is also singularly significant (63,917,p< 0.01) with highest adjusted R^2 of 0.794. The model also offers the highest F-value, with four significant predictors. This appears to be consistent with Numan & Willekens (2012) who investigate the effect of the presence of competitors on AF while considering thatnBig4 auditors do use product differentiation (i.e., industry specialization) to soften price competition by specializing into industries' auditors. The authors also claim that auditees differentiate between audit firms, hence are also willing to pay a premium in AF for audits performed by Big 4 audit firms (Craswell *et al.,* 1995, Francis *et al*. 2005). Consistent with previous studies already referenced above, **Table 8.3.2** also shows size (measured by TAS) is positive and significant (0.681) (p < 0.001) in **Model 8.3.3** (SEC1) and (0.210) (p< 0.05) in **Model 8.3.5** (SEC3)).

However, TAS offers a **negative** and non-significant coefficient (-0.033) in **Model 8.3.4** (SEC2) which is very rare for this size proxy in AF modelling. Despite the rarity, it is supported by some prior studies. For instance, Acar and Acar (2020 p.232) assert that large firms may have substantial internal control systems which could incredibly reduce audit related costs**.** Citing Vu (2012) they claim that some auditors would '*loosen the audit processes or design a less detailed audit procedure and limit the audit sample size for firms...*' leading to substantially lower audit fees (Acar and Acar, 2020 p.232).)

The positively significant factors include size (TAS) (in SEC1 and SEC3); complexity (SUB) (in SEC2, SEC3 and SEC4); clients' auditor (AUF4) in SEC3 and LOC3 in SEC2. Accordingly, the reasoning and previous explanations offered above for the usually positive and significant relationship of TAS, and SUB also hold within all the unlagged sector models, except for SEC1. Briefly, that implies that increase in size of assets or number of subsidiaries

is usually expected to increase the scope of audit work in most business sectors (Simunic,1980; Hay, 2010, Hassan & Naser, 2013).

Table 8.3.2 also indicates AUF4 (KPMG) is positive and significant (0.652) ($p<0.01$) and appear to suggest that it charges a premium compared to the reference category of AUF1(PwC) **in T&L** (the **SEC3** sector). Such premium in T&L sector could be due to auditor's differentiation strategy or some form of industry specialisation (Simon ,1995; El-Gammal, 2012; Abdullah & Ali, 2016). This specific finding about T&L highlights the importance of separating, or sub-setting, the models (sector-wise) when theoretically or methodologically appropriate and it increases the value of its contribution. Thus sector-wise regression reveals more granular information than the main models in **Table 8.3.1** where PwC (AUF1) was seen as having higher mean score of AFE overall than all other auditors.

Also, contrary to results in the **main models (8.3.1 and 8.3.2**) discussed earlier, the audit of companies within the SEC2 sector (**Model 8.3.4**) appears to be more expensive outside of London (LOC3) compared to London (LOC1) (the reference category variable). It could possibly be explained by individual partner-level specialization with strong sector knowledge that increases the profitability of AUF 4 (KPMG) services in a particular locality (Reidenbach, 2018**;** Zimmerman *et al.* 2018). Hence the usual 'city effect' of London being more expensive as identified in the main model (Hay, 2010 p.20) may not always apply. Variables which are negative and significantly associated within different sectors in terms of AF include risk (PBT) (-4.370) at 1% in SEC 3; client's auditor (AUF2)(-0324) at 5% in SEC2; AUF4 in SEC1 SEC2 and SEC3 at different levels of significance. Risk exhibits a negative and significant effect on AF.

This is consistent with some prior studies that find companies in poor financial condition to be riskier because they could become loss-making and attract legal suits against the auditor and/or the company due to subsequent bankruptcy proceedings (Francis & Simon, 1987; Pong and Whittington, 1994; Taylor and Simon, 1999; Huang *et al.,*2010). The auditor is therefore expected to subject such companies to further tests. The significant negative influences of AUF2 (Deloitte) and AUF4 (KPMG) in SEC1 and SEC2 business sectors could be due to a form of peculiarity with the nature of the assets since such differences are usually associated with different levels of risk (Gonthier-Besacier & Schatt, 2006).

Secondly, AUF being negatively significant in SEC1 and SEC2 which are based on investments, may well be due to the fact that they are more amenable to electronic monitoring and hence can offer a more identifiable audit trail and reduced audit work. Auditors could offer fee discounts and charge incrementally lower AF for each of the latter business sectors without lowering audit quality, if they have special skills as industry specialists or if the industries/sectors have homogenous operations and complex accounting practices (Bills *et al*., 2014). The level of perceived risk of each auditor based on a sector and the audit firm's desire to retain clients within a particular sector are also viewed as important considerations in relation to AF within a sector (Dickins *et al*., 2008).

Conclusively, in relation to unlagged sectoral values, SEC3 offers the most significant determinants in terms of AFE within the four business sectors, although all models are significant for all sectors. The sector shows the highest (and the only significant) constant. SEC2 also shows four significant determinants but with a reduced figure in terms of the constant, F statistic and the adjusted R^2. SEC1 offers only two significant determinants and a

much-reduced R^2 while **SEC4** offers only one significant variable. However, the variables explain more about the AF determinants than in SEC1 due to its higher R^2 and F statistic.

8.3.7.2 Lagged Sector-wise Models (Table 8.3.3 below) H2.2a-2.5a

Table 8.3.3 :OBJ2 : (Models 8.3.7 – 8.3.10): LAGGED

Table 8.3.3: OLS Regression Results for - **LAGGED** Models Delineated by **CLIENT- SECTOR (SEC)**

	Model 8.3.7 (SEC1)		**Model 8.3.8 (SEC 2)**		**Model 8.3.9 (SEC 3)**		**Model 8.3.10 (SEC 4)**	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
(ln)TAS	0.767***	0.143	-0.314	0.271	0.166	0.106	0.052	0.110
SUB	0.013	0.015	0.120***	0.019	0.153***	0.025	0.089***	0.021
(ln)CRA	-0.027	0.041	-0.148	0.117	-0.016	0.226	-0.071	0.269
(ln) PBT	-11.893*	5.076	1.500	1.539	-3.757*	1.659	-0.063*	0.027
AUF2	-0.123	0.188	-0.269	0.181	-0.046	0.214	-0.168	0.183
AUF3	-0.019	0.149	--	--	0.162	0.246	-0.108	0.332
AUF4	-0.499*	0.245	-0.752	0.259	0.623*	0.287	0.133	0.202
LOC2	-0.197	0.338	0.040**	0.206	-0.176	0.168	0.050	0.146
LOC3	-0.056	0.178	1.163	0.378	-0.229	0.242	0.076	0.239
Constant	161.034*	70.566	-12.217	18.709	55.748*	23.452	5.915**	1.580
R-squared	.527		.681		.844		.774	
Adj. R-Sq.	.439		.579		.780		.682	
F-Statistic	5.952***		6.662***		13.232***		8.377***	

** p < 0.05, ** p < 0.01, *** p < 0.001*

Source: Author (2023)

Lagged **Models 8.3.7 – 8.3.10** (in **Table 8.3.3** above are all significant ($p<0.001$) with the constants also being positive and significant for all models except for SEC2 **(Model 8.3.8).** The greater number of significant predictors is yielded by SEC1 **(Models 8.3.7)** and SEC3 **(Model 8.3.9**) compared to the other models. SEC3 has the highest effect size (R^2 0.780) especially when compared with R^2 0.439 for SEC1. In SEC2, AUF3 dummy variable was automatically excluded by SPSS, possibly due to its being constant and not varying.

The positive and significant factors are size (TAS) in SEC1, complexity (SUB) in all models except for SEC1, AUF4 in SEC3 and LOC2 in SEC2 for which related analysis have already been offered within this section. The constant is significant in SEC3 and SEC4 which differs from unlagged models where it is only significant in SEC3 (**Model 8.3.5**). Some conjectures are offered in the analysis below which relate to the likely reasons for differences in the influence of AF determinants between unlagged and lagged models. **Table 8.3.3** (lagged values) shows seven positively significant variables compared to six for unlagged values in **Table 8.3.2.** Risk (PBT) is more negatively significant (-11.893) ($p<0.05$) in SEC1 and it is significant for all models, except SEC2 (**Model 8.3.8**) which is positive but not significant (1.500) for lagged values.

In terms of further analysis, the researcher conjectures that some likely reasons for some variables having different sector-wise impact, between unlagged and lagged variables, include the same already offered above (e.g., under evaluation of TAS in the **main** models (in **Table 8.3.1**) with associated citations. Additionally, the fact that more companies would have been preparing to tender/switch auditors during the lagged years (2015 and 2016) may have made the relationship between AFE and previous years' predictors more unstable by evidence that some Big4 auditors do discount fees for the newly rotated companies (Corbella *et al.*,2015).

ARD (2014) came into force in 2014 and became effective in 2016. Moreover, the researcher's audit-work experience reflects the fact that AFE relating to a particular year could be revised by mutual agreement due to significant and unforeseen events. Additionally, the full cost of company audit for the Big4 (which audit almost all FTSE250) is not regularly charged to clients every year since Big4 firms occasionally use auditing as a loss leader to gain more lucrative

work (Goodley 2019). The above discussion establishes the fact that the precise trend or factors involved in AF modelling include several unobservable factors which may be peculiar to the individual auditor or auditee.

Accordingly, the factors which account for differences between lagged and unlagged values could extend beyond a simple historical examination of factors in a theoretical AF model by regression, although the model may identify the influence of certain factors.

8.3.7.3: Choosing between Unlagged and Lagged Models - OBJ2

Considering the specific features of the unlagged and unlagged models above, such as the adjusted R^2, F-values, the number of significant variables and their levels of significance of variables, the unlagged data appear to make more contribution to the related models both in the **main** models in **Tables 8.3.1** and when sub-setting into **sector-wise** models (**Tables 8.3.2 and 8.3.3**). Perhaps, it arises from the fact that unlagged data contains the same year's data for the independent variables and AFE and hence both sets of data comprise of more contemporaneous information.

Such information reflects current adjustments hence make more contribution in terms of the AF determinants. Therefore, relevant stakeholders (e.g., audit committees and auditors) should consider opting for the results of the unlagged models based on the latter reasons.

8.3.7.4: Overview of Theoretical Explanation - OBJ2

The different bases of selecting the variables in this research, including supporting literature and theories relating to known influences are explained in extensive detail in Chapters 4, 6 and

7. Hence more focus will be placed on significant variables within the models on the basis of parsimony (Ang, 2014).

Considering the main model in OBJ2, unlagged and lagged models, size (TAS), complexity (SUB) and industry sector (SEC) variables are positive and significant. The latter resonates with **AT** and Simunic's (1980) Audit Fee Theory)(Seetharaman *et al*. (2001) as larger-sized corporations (or higher number of subsidiaries) would cause more loss-exposure, increase in asymmetry of information, and agency problems which require more monitoring /audit work (Jensen and Meckling,1976; Simunic,1980; Pong & Whittington,1994; Seetharaman *et al*., 2001; Chan *et al*.,1993; Köhler and Ratzinger-Sakel, 2012; Kikhia, 2014; Kanakriyah, 2020).

Although not directly tested in this thesis, the latter finding could be linked to **Dynamic Capabilities Theory (DCT) and Knowledge Based Theory (KBT)** [47] (Miles, 2012) which were not previously identified by the researcher as relevant to AF modelling. DCT postulates that larger firms have more dynamic capability to grow and outperform those with smaller DC. Inferentially speaking, they will have a wider nexus of transactions and relationships (e.g., customers. suppliers, employees, subsidiaries) which should take more audit time to verify.

This inferential logic aligns with the findings of almost all the above models in this research and in AF modeling, generally. KBT also assumes that firms (e.g., clients or audit firms) that have desirable information (and can harness it more appropriately) are more competitive and grow faster than their competitors (Miles,2012). Therefore, they should have more transactions and more complex systems which should cost more to audit (as envisaged by DCT, AT and ST). In essence, it aligns with findings of virtually all the models and the relevant prior authors

[47] See Chapter 4 for Dynamic Capabilities Theory and Knowledge Based Theory.

cited in that regard. Other significant relationships such as positive and significant AUF4 (KPMG) in SEC3 (or likely discount in SEC1) and negative and significant Risk variable (PBT) align with AT and hence ST. For instance, Campa 2013 asserts that Big4 audit firms do charge a premium which does not lead to commensurate level of audit quality. This appears to indicate some self-interestedness of Big4 auditors who are also prioritised by the Board of directors, both of whom are agents hired and paid by the company (as envisaged in AT).

As directors are expected to act in the interest of all relevant stakeholders (e.g., by S.172, CA2006) and auditors are also paid agents of the auditee (s.206-212 and s.218 Insolvency Act 1986), expected to be relied upon by relevant stakeholders, this is relevant to ST. Simunic (1980) also finds that auditors (especially Big4) also do offer discounts to clients due to economies of scale which may well lead to a negative relationship. Also, a lower PBT might signal a higher risk as in **Signalling Theory** (Wu,2012) which could prompt the auditor (as an agent) to increase the level of audit work since there might be more agency problems in existence.

8.3.8: Conclusions Emerging from Results of Data - OBJ2

8.3.8.1:Key Findings

The multiple regression determinations reveal that for:

i) The **main overall** model developed from the set of identified 83 FTSE 250 companies, while employing **both unlagged and lagged data**, the primary NCGVs are **Size, Complexity, and the Sector-category variables.**

(ii) The **sector-wise** models reveal that while employing:

a) **Unlagged** data, the primary NCGVs are:

Size, Complexity, one proxy of Risk (PBT) and one each of categorical Auditor (AUF4) and Location (LOC3) variables; although not within all sectors.

b) Lagged data, the primary NCGVs are:

Size, Complexity, one proxy of Risk (PBT), and one each of categorical Auditor (AUF4) and Location (LOC2) variables, although not within all sectors.

8.3.8.2: Key Inferences and/or Conclusions - OBJ2

a) That within the **main model,** the size of a client's total assets, number of subsidiaries and/or business sector are likely to exhibit primary influence on the audit fees /audit work necessary to minimise the asymmetry of information and reduce client risk to an acceptable level.

b) That for the **sector-wise** models, (in addition to size or number of subsidiaries, as above), an improved financial condition of the auditee and the identity of the relevant audit firm itself, could exhibit primary influence on the level of AF (an agency cost) incurred. This is consistent with Simunic (1980); Gonthier-Besacier and Schatt (2006); Huang *et al*.(2010); Hassan & Naser (2013; Silva *et al.*(2020).

8.4 :OBJ3:Empirical Results, Analysis & Conclusions (NCGVs & CGVs).

8.4.1: Preamble

Having tested the explanatory powers of NCGVs, it is prudent to jointly assess the latter variables with a set of CGVs (AUQ and ACC) which are important to audit, auditees, auditors, AF, and the domain within which audit resides (i.e., Corporate Governance - CG), as copiously

explained in this thesis[48]. It can be argued that CGVs (which reflect audit committee competence and audit quality) may also well be a set of influencing variables, which if added to NCGVs would significantly enhance their explanatory powers as AF determinants.

Therefore, this section of the chapter **firstly** presents relevant models which include NCGVs and CGVs.

Secondly, it then proceeds to identify any NCGVs which have become significantly enhanced because of the addition of the CGVs. In similarity with the approach adopt for OBJ2) above, it proceeds to highlight the key findings followed by inferences/conclusions.

8.4.2: Research Objectives and Hypotheses[49] (OBJ3)

The main objective and its sets of objectives including related hypotheses are already stated in **Table 2.3 and Tables 2.8 (SET 3) in Chapter 2**, within identified set of 83 FTSE250 companies and their four sets; hence only the main objective is restated here as follows:

Main Objective (within OBJ3) :

To determine if the addition of CGVs to primary NCGVs in AF modelling significantly enhances the predictive powers of the latter set of variables within an identified set of FTSE 250 companies and their four business sectors.

As shown in **Chapter 2 (Table 2.8),** the above is formed of a set of **five sub-objectives** (objectives 3.1, 3.2, 3.3, 3.4 and 3.5) which relate to:

1) **Main** models (U&L): The **83** identifiable FTSE 250 firms**(jointly**), in **OBJ 3.1 (H3.1a)**

[48] Chapters 2,4 and 6.
[49] Chapter 2

2) **Sector-wise** models (U&L) - **four** separate business sectors in OBJs **3.2-3.5 (H3.2a-3.5a**).

8.4.3:Brief Commentary on Data and Analysis Critical to OBJ3

The sources of the data, the variables and type of analysis employed in this OBJ3 are already explained in **Chapter 7** and in part within this chapter. The variables are the same as in the **Baseline model** elaborately discussed in Section 3 above**.** They include the NCGVs and CGVs (ACC and AUQ)[50]. As explained, categorical variables (SEC, AUF and LOC) are presented using appropriate dummy coding rules (Field,2017 p.509, Grace-Martin, 2022).

8.4.4: Brief Commentary on Methodological Issues Critical to OBJ3

The thesis contains a **single** DV which is a continuous variable and appropriate checks had been conducted in the **Baseline model.** OLS and multiple regression models also apply to OBJ3 as adopted by some AF modeling researchers such as Simunic (1980) and Kanakriyah (2020) (at 5%,1% and 0.1% significance levels). Relevant methodological issues regarding **NCGVs** data have already been addressed in OBJ2 (within Section 8.3) above. Some data have been transformed (AFE, TAS, CRA, PBT and AUQ) for reasons already explained.

8.4.5: Equations (for Unlagged and Lagged (U&L) Models) – OBJ3

The relevant equations to OBJ3 models are stated in **Chapter 2 (Table 2. 8).** The models follow the same logic as for OBJ2 but includes CVGs .However the equation is restated as follows:

- **Using Unlagged information**

$$\ln(AFE_{it}) = B0 + B1\ln(TAS_{it}) + B2SUB_{it} + B3\ln(CRA_{it}) + B4\ln(PBT_{it}) + B5AUF2_{it} + B6AUF3_{it} + B7AUF4_{it} + B8LOC2_{it} + B9LOC3_{it} + B10SEC2_{it} + B11SEC3_{it} + B12SEC4_{it} + B13ACC_{it} + B14\ln(AUQ_{it}) + E_{it}$$

[50] All variables have been described in detail in Chapter 7 (Key to Research Variables - The Code Book).

- **Using Lagged information**

$\ln(AFE_{it}) = B0 + B1\ln(TAS_{it-1}) + B2SUB_{it-1} + B3\ln(CRA_{it-1}) + B4\ln(PBT_{it-1}) + B5AUF2_{it-1} + B6AUF3_{it-1} + B7AUF4_{it-1} + B8LOC2_{it-1} + B9LOC3_{it-1} + B10SEC2_{it-1} + B11SEC3_{it-1} + B12SEC4_{it-1} + B13ACC_{it-1} + B14\ln(AUQ_{it-1}) + E_{it-1}$

These specifications are applied to coefficients for both U&L versions of the main **model** and sector-wise **models**. The models show that OBJ3 relates to NCGVs and CGV using dummy coding rules on the categorical variables. (Field,2017 p.509, Grace-Martin, 2022).

8.4.6: Results and Discussion of Data Analysis Relevant to OBJ3 (H3.1a - H3.5a)

Three key tables are essential for the comparison that must be made under OBJ3.

- **One table (Table 8.4.1)** provides two models .That is, the results for the **unlagged main model** (**Model 8.4.1**) and results for the **lagged main** model (**Model 8.4.2**), respectively, to address hypothesis **H3.1a** regarding the **83** FTSE companies jointly, and:

- **Two tables (Table 8.4.3** and **Table 8.4.4**) provide four models each. That is, the results for the **unlagged sector-wise** models, (**Models 8.4.3 – 8.4.6**) and the **lagged sector-wise** models (**Models 8.4.7 – 8.4.10)** respectively, to address hypotheses **H3.2a - H3.5a.**

The above listed tables in OBJ3 will then have to be compared with relevant tables in OBJ2 to ascertain which NCGVs have been enhanced as a result of the addition of CGVs in OBJ3.
It is worth noting **three** fundamental points regarding the aim of OBJ3 and the approach being adopted in this section (8.4). **Firstly**, that this objective requires only ACC and AUQ to be added to the variables adopted for analysis in OBJ2. As a result, some commonalities exist between OBJ2 and OBJ3 both in the results, analytical approach and supporting literature.

Secondly, the analysis of the **NCGVs in OBJ2** has already been provided in very extensive detail such that where analytical logic, prior literature, or the arguments in **OBJ3 coincide with**

those in OBJ2, only a brief reference to OBJ2 analysis would be made, rather than duplicating previous analyses, in detail. **Thirdly**, OBJ3 seeks to assess whether the addition of ACC and AUQ to the selected NCGVs does significantly enhance their predictive powers. Hence it is **different** from the objectives in most AF modelling research. Accordingly, OBJ3 is **not aimed** at conducting a variable-by-variable analysis of the relationships of AF determinants with AF, based on prior literature, as was carried out in OBJ2.

Table 8.4.1: OBJ3: The MAIN models (Hypothesis 3.1a)

OLS Regression Results for **OBJ3 UNLAGGED** and **LAGGED** Models

	Model 8.4.1 (UNLAGGED)		**Model 8.4.2 (LAGGED)**	
	Coefficient	Std. Error	Coefficient	Std. Error
(ln)TAS	0.231***	0.054	0.194**	0.063
SUB	0.080***	0.009	0.082***	0.011
(ln) CRA	-0.030	0.033	-0.062	0.042
(ln) PBT	-0.862	0.520	-0.056	0.035
AUF2	-0.127	0.088	-0.122	0.105
AUF3	-0.094	0.114	-0.017	0.143
AUF4	-0.105	0.108	-0.092	0.130
LOC2	-0.121	0.095	-0.084	0.113
LOC3	-0.116	0.105	-0.116	0.128
SEC2	1.924***	0.120	1.827***	0.129
SEC3	2.675***	0.118	2.590***	0.137
SEC4	2.927***	0.115	2.876***	0.136
ACC	0.239	0.158	0.254	0.191
(ln)AUQ	0.008	0.034	0.003	0.040
Constant	11.693	6.612	.805	1.063
R-squared	0.901		.906	
Adjusted R-Sq.	0.894		.896	
F-statistic	128.416***		88.552***	

** $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Source: Author (2023)

Firstly, **Table 8.4.1** above shows two **main** models with U&L versions **(Model 8.4.1 (unlagged)** and **Model 8.4.2 (lagged**) which are both significant ($p < 0.001$), with F-values 128.416 and 88.552, respectively. Both show highly respectable R^2(0.894 & 0.896) with positive constants that appear to indicate AF premiums. Both models also show two continuous variables (TAS and SUB) as positively significant. However, TAS is more significant in the

unlagged model (0.231) ($p<0.001$) than in the lagged model (0.194) ($p< 0.01$). All the sector variables SEC2 (0.1924), SEC3 (2.675) and SEC4 (2.927) are also positively significant (<0.001) in relation to SEC1(the reference category) which is set at zero and hence not overtly expressed in the equation or in the Tables (Field, 2017).

8.4.6.1:Choice between Unlagged and Lagged MAIN Models (in Table 8.4.1) – OBJ3

Based on the comparison of the models on issues such as F values and adjusted R^2 including number of significant variables, and their levels of significance, **Model 8.4.1** (unlagged data) appears to make more contribution to the related models and hence appears to be preferred to **Model 8.4.2 (**based on lagged data), if relevant stakeholders (e.g., directors, audit committees, auditors, or regulators) are involved in a decision as to the preferred main model.

8.4.6.2 Hypothesis 3.1a[51] - OBJ3

To address **H3.1a,** a comparison of unlagged and lagged **main** models (of OBJ2 and OBJ3) must be made. Thus, the predictive powers of NCGVs in the overall **83** identifiable companies in **Table 8.3.1 (Models 8.3.1 and Model 8.3.2)** in **OBJ2** are **compared** with those **in Table 8.4.1 (Models 8.4.1 and 8.4.2) for OBJ3**. This comparison is presented in **Table 8.4.2** below.

It is worth restating that comparison is focused on possible significant enhancement of **only** the NCGVs). Results in **Table 8.4.2** indicate that the predictive powers of the NCGVs are not significantly enhanced by addition of the selected CGVs (ACC and AUQ) in the overall **83** identified companies (H3.1a), **except** for **complexity** factor (SUB).

[51] As stated in **Chapter 2 Table 2.8.** This relates to the overall 83 identified companies**.**

- Therefore, **H3.1a** which relates to the overall **83 i**dentified FTSE 250 companies, is **only accepted** in relation to the **complexity** variable; using both unlagged and lagged data.

Table 8.4.2: OBJ3 : Hypotheses H3.1a
COMPARISON of MAIN Models - Table 8.3.1(OBJ2) and Table 8.4.1(OBJ3).

Variables	(UNLAGGED)			(LAGGED)		
	OBJ2 NCGVs **Table 8.3.1 Model 8.3.1**	**OBJ3 NCGVs +CGVs** **Table 8.4.1 Model 8.4.1**	**SE**(Significantly Enhanced) **NS** (Not SE) **R** (Rejected) **A** (Accepted)	**OBJ2 NCGVs** **Table 8.3.1 Model 8.3.2**	**OBJ3 NCGVs +CGVs** **Table 8.4.1 Model 8.4.2**	**SE/A NSE/R**
(ln)(TAS)	0.244***	0.231***	**NSE/R**	0.209**	0.194**	**NSE/R**
SUB	0.068***	0.080***	**SE/A**	0.070***	0.082***	**SE/A**
(ln) CRA	-0.015	-0.030	**NSE/R**	-0.045	-0.062	**NSE/R**
(ln) (PBT)	-0.796	-0.862	**NSE/R**	-0.056	-0.056	**NSE/R**
AUF2	-0.143	-0.127	**NSE/R**	-0.138	-0.122	**NSE/R**
AUF3	-0.209	-0.094	**NSE/R**	-0.143	-0.017	**NSE/R**
AUF4	-0.076	-0.105	**NSE/R**	-0.070	-0.092	**NSE/R**
LOC2	-0.135	-0.121	**NSE/R**	-0.106	-0.084	**NSE/R**
LOC3	-0.067	-0.116	**NSE/R**	-0.054	-0.116	**NSE/R**
SEC2	1.957***	1.924***	**NSE/R**	1.869***	1.827***	**NSE/R**
SEC3	2.754***	2.675***	**NSE/R**	2.688***	2.590***	**NSE/R**
SEC4	2.978***	2.927***	**NSE/R**	2.948***	2.876***	**NSE/R**
ACC	N/A	0.239	N/A	N/A	0.254	N/A
(ln)AUQ	N/A	0.008	N/A	N/A	0.003	N/A
Adjusted R-Sq.	0.899	0.894		0.902	0.896	
F-statistic	174.588***	128.416***		102.347***	88.552***	

Source: Author (2023)

Key to outcome of Hypothesis H.3.1a in Table 8.4.2 above.

A= Accepted
R = Rejected
SE = Statistically Enhanced
SE/A= Statistically Enhanced/Accepted
NSE = Non-Statistically Enhanced
NSE/R = Non-Statistically Enhanced/Rejected
N/A = Not applicable (OBJ3 only assesses possible significant enhancements of NCGVs) .

8.4.7: Sector-wise Unlagged and Lagged (SEC) Models: H3.2a - 3.5a

In similarity with OBJ2, the influences of variables as AF determinants within individual **sectors** is considered in OBJ3 in a **sector-wise** presentation, using U&L regression tables in **Table 8.4.3 (**for unlagged values: **Models 8.4.3** – **8.4.6**) and **Table 8.4.4 (**for lagged values: **Models 8.4.7 – 8.4.10)** below**.**

Table 8.4.3: OBJ3: Unlagged Sector (Models 8.4.3 – 8.4.6) - H3.2a - 3.5a

OLS Regression Results for **UNLAGGED** Models **Delineated** by **SECTORS (With ACC and AUQ)**

	Model 8.4.3 (SEC1)		**Model 8.4.4 (SEC2)**		**Model 8.4.5 (SEC3)**		**Model 8.4.6 (SEC4)**	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
(ln)TAS	0.596***	0.132	-0.140	0.089	0.228*	0.091	-0.016	0.117
SUB	0.039	0.020	0.126***	0.013	0.136***	0.023	0.072**	0.019
(ln) CRA	-0.013	0.040	-0.119	0.082	0.021	0.195	-0.378	0.218
(ln) PBT	-4.469	3.555	0.300	0.544	-4.170**	1.448	-0.289	0.913
AUF2	-0.246	0.180	-0.304*	0.123	0.045	0.175	-0.009	0.142
AUF3	-0.025	0.155	-0.397	0.374	0.220	0.206	0.272	0.328
AUF4	-0.656	0.300	-1.078***	0.181	0.651*	0.248	0.345*	0.151
LOC2	-0.064*	0.486	0.329	0.151	-0.278	0.142	-0.226	0.127
LOC3	-0.118	0.190	1.918***	0.331	-0.321	0.195	0.115	0.181
ACC	0.413	0.344	-0.369	0.227	0.293	0.398	-1.423***	0.320
(ln) AUQ	0.062	0.069	-0.176**	0.046	-0.071	0.068	-0.012	0.054
Constant	57.860	49.560	2.681	7.234	60.473**	20.625	12.166	12.050
R-squared	.534		.825		.840		.821	
Adj. R-Sq.	.448		.768		.791		.765	
F-Statistic	6.247***		14.564***		17.181***		14.628***	

** p < 0.05, ** p < 0.01, *** p < 0.001*

Source :Author (2023)

Table 8.4.4:OBJ3: Lagged Sector (Models 8.4.7 – 8.4.10) - H3.2a - 3.5a

OLS Regression Results for - **LAGGED** Models **Delineated by SECTOR (With ACC and AUQ)**

	Model 8.4.7 (SEC1)		**Model 8.4.8 (SEC2)**		**Model 8.4.9 (SEC3)**		**Model 8.4.10 (SEC4)**	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
(ln)TAS	0.731***	0.162	-0.680*	0.242	0.171	0.117	-0.009	0.099
SUB	0.040	0.023	0.149***	0.017	0.151***	0.029	0.074**	0.022
(ln)CRA	-0.038	0.049	-0.079	0.093	-0.018	0.237	-0.409	0.264
(ln)PBT	-16.121*	6.322	3.575*	1.519	-3.724*	1.750	-0.064*	0.023
AUF2	-0.020	0.214	-0.287	0.149	-0.041	0.233	0.026	0.160
AUF3	0.276	0.208	--	--	0.167	0.272	0.294	0.326
AUF4	-0.526	0.330	-1.017**	0.248	0.604	0.335	0.282	0.180
LOC2	-0.180	0.468	0.427*	0.183	-0.168	0.182	-0.166	0.141
LOC3	-0.221	0.218	2.136***	0.431	-.234	0.256	0.171	0.203
ACC	0.389	0.397	-0.404	0.291	0.090	0.481	-1.223**	0.347
(ln)AUQ	-0.021	0.078	-0.161**	0.050	0.002	0.086	-0.037	0.068
Constant	220.536	88.191	-36.520	18.782	55.104*	24.823	8.605	1.581
R-squared	.602		.851		.844		.862	
Adj. R-Sq.	.484		.777		.759		.786	
F-Statistic	5.088***		11.430***		9.863***		11.340***	

** p < 0.05, ** p < 0.01, *** p < 0.001*

Source: Author (2023)

These tables lead to consideration of hypotheses **H3.2a** to **H3.5a**[52]. A synthesised analysis of the **models** is offered, while a related **summary** of **all** hypotheses in this thesis is included in the tabular presentation at the end of the **next Chapter (9).**

Overall**,** all the sector models in both **Tables 8.4.3** (unlagged **Models 8.4.3 – 8.4.6)** and **Table 8.4.4** (lagged **Models 8.4.7- 8.4.10)** are significant ($p < 0.001$) which demonstrates a good fit. **Table 8.4.3** shows intercepts with positive figures and appears to indicate audit premia being charged within the sectors. **Table 8.4.4** also shows audit premia except for **Model 8.4.8** (SEC2) with a negative intercept (-36.520) which appears to indicate lowballing (Pong & Whittington,1994). The general direction of influence of the variables remain similar between **Tables 8.4.3 (**unlagged) **and Table 8.4.4.** (lagged) although the significance of several variables differ.

Also, a more condensed approach is adopted in analysing the four sector-wise models below, to enable integrated consideration of the relevant issues and to focus on the requirement of OBJ3 which is about whether any NCGVs are significantly enhanced by addition of CGVs to NCGVs. **Table 8.4.3** (unlagged**)** is briefly analysed before **Table 8.4.4** (lagged).

8.4.7.1: Overview of Unlagged Sector Models: OBJ3: Table 8.4.3: H3.2a - 3.5a

Table 8.4.3 above provides results relating to unlagged models for **sector-wise** consideration of the AF determinants in **Models 8.4.3 to Model 8.4.6**. All four sector models are significant at 0.1%, with the only significant constant being for **Model 8.4.5 (SEC3)** which shows the highest effect size (R^2 0.791) and highest F-value (17.181 $p<0.001$). Except for CRA and AUF3, the other predictors are significant at different levels in at least one sector.

[52] As stated in **Chapter 2 (Table 2.8).**

8.4.7.2:Overview of Lagged Sector-wise OBJ3: Table 8.4.4.: H3.2a - 3.5a

Table 8.4.4 above, provides results relevant to hypotheses H3.2a-3.5a with lagged models for sector-wise consideration of the AF determinants in **Models 8.4.7** to **Model 8.4.10**. All the models are significant with **Model 8.4.8** having most significant variables which independently contribute to the models (i.e., the highest F-value (11.430, $p < 0.001$)). However, SEC4 has the highest effect size ($R^2 = 0.786$). All models indicate a premium constant except **Model 8.4.8** which may indicate lowballing as explained in Chapter 6 and indicated in OBJ2 above.

TAS is positively significant in SEC1, but negatively significant in SEC2 unlike in the unlagged model which is both positively significant for SEC1 and SEC3. SUB is positively significant for SEC2,3&4 (like for the unlagged models). PBT is negatively significant for 3 models (SEC1,SEC3 and SEC4), while being positively significant for SEC2. This can be contrasted with PBT being only positively significant for SEC3 in the unlagged models. AUF2 is not significant; unlike in unlagged models where it is negatively significant in SEC2.

In similarity with unlagged models, AUF3 is non-significant for lagged models. However, in SEC2 it is automatically excluded by SPSS; probably due to being constant and not varying. AUF4 is only significant for SEC2 (as opposed to being negatively significant for SEC2, and positively significant for SEC3 and SEC4 in unlagged version). LOC2 is positively significant in SEC2 (as opposed to being negatively significant in SEC1 with unlagged models). Like unlagged models, LOC3 is positive and significant for SEC2. ACC is negatively significant for only SEC4 (as also in unlagged values) while AUQ is negatively significant for both lagged and unlagged values in SEC2.

8.4.7.3: Hypothesis 3.2a - 3.5a: OBJ3

Table 8.4.5: OBJ3: Summary of Hypotheses: H3.2a - H3.5a

UNLAGGED SECTOR (SEC)MODELS OBJ2 AND OBJ3

COMPARISON : OBJ2 (Table 8.3.2: Models 8.3.3-8.3.6) with OBJ3:Table 8.4.3:Models (8.4.3– 8.4.6)

	SEC1 MODEL			SEC2 MODEL			SEC3 MODEL			SEC4 MODEL		
	OBJ2 NCGVs	**OBJ3 NCGV +CGVs**	**SE/ NSE**	**OBJ2**	**OBJ3**	**SE/ NSE**	**OBJ2**	**OBJ3**	**SE/ NSE**	**OBJ2**	**OBJ3**	**SE/ NSE**
	Table 8.3.2	Table 8.4.3		Table 8.3.2	Table 8.4.3		Table 8.3.2	Table 8.4.3		Table 8.3.2	Table 8.4.3	
	H2.2a	**H3.2a**		**H2.3a**	**H3.3a**		**H2.4a**	**H3.4a**		**H2.5a**	**H3.5a**	
(ln)TAS	*** 0.681	*** 0.596	**NSE/R**	- 0.033	- 0.140	**NSE /R**	* 0.210	* 0.228	**SE/ A**	0.038	- 0.016	**NSE/R**
SUB	0.011	0.039	**NSE/R**	*** 0.104	*** 0.126	**SE /A**	*** 0.148	*** 0.136	**NSE/ R**	*** 0.086	** 0.072	**NSE /R**
(ln)CRA	-0.008	-0.013	**NSE/R**	- 0.173	- 0.119	**NSE/ R**	0.022	0.021	**NSE/ R**	- 0.108	- 0.378	**NSE /R**
(ln)PBT	-4.633	-4.469	**NSE/R**	- 0.342	0.300	**NSE/ R**	** - 4.370	** - 4.170	**NSE/ R**	- 0.182	- 0.289	**NSE/R**
AUF2	-0.225	-0.246	**NSE/R**	* - 0.324	* - 0.304	**NSE /R**	0.009	0.045	**NSE /R**	- 0.207	- 0.009	**NSE/ R**
AUF3	-0.126	-0.025	**NSE/R**	- 0.753	- 0.397	**NSE /R**	0.172	0.220	**NSE/ R**	- 0.135	0.272	**NSE/ R**
AUF4	* -0.481	-0.656	**NSE/R**	*** - 0.848	*** - 1.078	**SE /A**	** 0.652	* 0.651	**NSE/ R**	0.170	* 0.345	**SE /A**
LOC2	-0.110	* -0.064	**SE/A**	- 0.008	0.329	**NSE /R**	- 0.273	- 0.278	**NSE /R**	- 0.013	- 0.226	**NSE/R**
LOC3	0.007	-0.118	**NSE/R**	** 1.041	*** 1.918	**SE /A**	- 0.307	- 0.321	**NSE/ R**	0.059	0.115	**NSE/R**
ACC	N/A	0.413	N/A	N/A	-0.369	N/A	N/A	0.293	**N/A**	N/A	*** -1.423	N/A
(ln)AUQ	N/A	0.062	N/A	N/A	** -0.176	N/A	N/A	-0.071	**N/A**	N/A	-0.012	N/A
Adj.R Sq.	0.408	**0.448**		0.613	**0.768**		**0.794**	0.791		.652	**0.765**	
F-Statistic	*** **7.731**	*** 6.247		*** 9.797	*** **14.564**		*** **21.123**	*** 17.181		*** 10.573	*** **14.628**	

Source: Author (2023)

Table 8.4.6:Summary of Hypotheses OBJ3: H3.2a -H3.5a

LAGGED SECTOR (SEC)MODELS OBJ2 AND OBJ3

COMPARISONOBJ2 (Table 8.3.3:Models 8.3.7 - 8.3.10) with OBJ3:Table 8.4.4: Models (8.4.3 - 8.4.10)

	SEC1 (MODEL)			SEC2 (MODEL)			SEC3 (MODEL)			SEC4 (MODEL)		
	OBJ2 NCGVs	**OBJ3 NCGVs +CGVs**	**SE/ NSE**	**OBJ2**	**OBJ3**	**SE/ NSE**	**OBJ2**	**OBJ3**	**SE /NSE**	**OBJ2**	**OBJ3**	**SE /NSE**
	H2.2a	**H3.2a**		**H2.3a**	**H3.3a**		**H2.4a**	**H3.4a**		**H2.5a**	**H3.5a**	
(ln)(TAS)	*** 0.767	*** 0.731	**NSE /R**	-0.314	* -0.680	**SE /A**	0.166	0.171	**NSE /R**	0.052	-0.009	**NSE /R**
SUB	0.013	0.040	**NSE /R**	*** 0.120	*** 0.149	**SE /A**	*** 0.153	*** 0.151	**NSE /R**	*** 0.089	** 0.074	**NSE /R**
(ln) CRA	-0.027	-0.038	**NSE /R**	-0.148	-0.079	**NSE /R**	-0.016	-0.018	**NSE /R**	-0.071	-0.409	**NSE /R**
Ln(PBT)	* -11.893	* -16.121	**SE /A**	1.500	* 3.575	**SE /A**	* -3.757	* -3.724	**NSE /R**	* -0.063	* -0.064	**SE /A**
AUF2	-0.123	-0.020	**NSE /R**	-0.269	-0.287	**NSE /R**	-0.046	-0.041	**NSE /R**	-0.168	0.026	**NSE /R**
AUF3	-0.019	0.276	**NSE /R**	--	--	**NSE /R**	0.162	0.167	**NSE /R**	-0.108	0.294	**NSE /R**
AUF4	* -0.499	-0.526	**NSE /R**	-0.752	** -1.017	**SE /A**	* 0.623	0.604	**NSE /R**	0.133	0.282	**NSE /R**
LOC2	-0.197	-0.180	**NSE /R**	** 0.040	* 0.427	**SE /A**	-0.176	-0.168	**NSE /R**	0.050	-0.166	**NSE /R**
LOC3	-0.056	-0.221	**NSE /R**	1.163	*** 2.136	**SE /A**	-0.229	-.234	**NSE /R**	0.076	0.171	**NSE /R**
ACC	N/A	0.389	N/A	N/A	-0.404	N/A	N/A	0.090	**N/A**	N/A	** -1.223	N/A
(ln)AUQ	N/A	-0.021	N/A	N/A	** -0.161	N/A	N/A	0.002	**N/A**	N/A	-0.037	N/A
Adj. R-Sq.		0.484			0.777			0.759			0.786	
F-Statistic		*** 5.088			*** 11.430			*** 9.863			*** 11.340	

Source: Author (2023)

In similarity with **H3.1a** far above, **H3.2a-3.5a** compares sector-wise (unlagged and lagged models. **Tables 8.4.5** (unlagged models) and **Table 8.4.6** (lagged models) immediately above. The relevant variables are clearly indicated in both tables using the codes which have been explained earlier (e.g., SE is significantly enhanced). Accordingly, the outcomes of **H3.2a-3.5a** are provided in the latter tables (**8.4.5 and 8.4.6**) above; pending relevant theoretical explanations in the next subsection. Additionally, the summary of the findings and conclusions /inferences relating to OBJ3 are included at the end of this section, under the heading

'***Conclusions Emerging from Results of Data – OBJ3*****,** within this section after the Relevant Theoretical Explanations below.

As stated, **H3.2a-3.5a** is based on comparison of OBJ2 models with OBJ3 for unlagged and lagged models in relation to the sectors (**Tables 8.4.5 and 8.4.6** above). This is to ascertain which NCGVs have been significantly enhanced as a result of addition of CGV variables. Such NCGVs have been indicated in the latter Tables above, using the codes which were explained earlier (e.g., SE is significantly enhanced), pending relevant theoretical explanations in the next subsection.

Therefore, the **hypotheses (H3.2a -3.5a)** (which relate to the four sectors of the identified FTSE 250 companies), are **only accepted** in relation to location, size, complexity and one categorical auditor variable (using **unlagged data**) in some sectors. In terms of **lagged data**, they **are only accepted** in respect of size, complexity, location, one proxy of risk (PBT) and one categorical auditor (AUF) in some sectors. Additionally, the summary of the findings and conclusions /Inferences relating to OBJ3 are included at the end of this section, under the heading '***Conclusions Emerging from Results of Data – OBJ3*****,** within this section after the Relevant Theoretical Explanations below.

8.4.7.4:Relevant Theoretical Explanations - OBJ3

As stated above, under the **Main models (H3.1a),** only **complexity** variable was significantly enhanced by addition of CGVs. Explanations and conjectures offered elsewhere in this thesis[53] imply that the addition of CGVs to NCGVs would significantly improve their influence. For instance, the improved competence of audit-related agents (i.e., of audit committees and

[53] Chapter 6

auditors as in AT and on behalf of stakeholders, as in ST) should improve the quality of agency reporting of the variables. A specific illustration of such variable is the size of assets (e.g., TAS) which is one of the most significant determinants of AF (Musah, 2017;Wu, 2018; Januarti & Wiryaningrum 2018; Ghadhab *et al.,* 2019). Therefore, improved governance could lead to more reliable valuation/classification/description of those assets. Hence (as a proxy for size variable) they would be more precise and predictive in terms of its influence on AF. Inferentially, a wrong valuation of such assets would make them less predictive of AF.

However, in the **main** models (hypothesis H3.1a), the addition of the CGVs (ACC and AUQ) do not significantly improve the determining influence of other NCGVs apart from complexity (number of subsidiaries). These subsidiaries are essentially foreign subsidiaries which are not within the immediate geographical control of the identified companies. This increased loss of control (i.e. Increased scope of agency problems and asymmetry of information) may provoke overcompensation in the level of competence of AC's and standard of audit quality applied to minimise the asymmetry of information to an acceptable level. Thus, more time and effort would likely to be further invested in dealing with the audit of the subsidiaries which should enhance the extent to which complexity is accounted for. The higher level of precision likely to arise from the improvement enhances the extent to which complexity determines AF.

The latter conjectures could also arise due to lessons being learned from several accounting scandals that occurred before the accounting period being studied such as in Enron and Parmalat which involved wrong and arbitrary valuation of transactions/assets relating to subsidiaries (Tchouassi and Nosseyamba, 2011). The fact that other variables failed to respond significantly to the CGVs could also be that the accounting/internal control systems within the identified FTSE250 companies are already particularly good, hence further improvement in

governance through audit committees (e.g., more NEDs and members with financial expertise) or improved audit quality does not make a significant difference .

Ghafran (2017) claims that FTSE 250 companies lack transparency in terms of governance when compared to FTSE 100. Due to the latter reason, they do compensate by employing effective financial expertise. Most of the models indicate a payment of audit premia to the auditors (i.e. Big4 audit firms) of the identified FTSE 250 companies. Despite such premia (the audit quality usually fails to improve commensurately (Campa 2013); hence it may be less impactful on the predictive powers of the NCGVs.

In terms of the **sector-wise models (H3.2a-3.5a)** with **unlagged** variables that have indicated significantly enhanced predictive powers are indicated in the previous subsection (and already shown in **Table 8.4.5** above). The enhancement could be due to the demand-based assertion as AC's with more NEDs or financial competence do demand more audit work which could lead to improved reporting to protect their reputations (Farooq *et al*.2018). Additionally, the influence of KPMG may have become significantly enhanced due to the improved audit committee competence which enabled the audit firm to apply audit differentiation strategies more appropriately. This may serve the purpose of exposing their role as a possible specialist in SEC2 and SEC4 (Numan & Willekens, 2012). The possible explanations regarding complexity (number of subsidiaries and size) have been offered from earlier explanations under this subsection.

Regarding **sector-wise models (H3.2a-3.5a)** with **lagged** models, the variables that are significantly enhanced due to addition of CGVs are included in **Table 8.4.6.** and identified in the previous subsection**.** Conjectures made earlier regarding significantly enhanced variables

apply also for size and risk. For instance, size (TAS) of an auditee would be more representative/precise in terms of its values (and hence its relationship with AF) if AC's establish good reporting system and control which also leads to improved audit quality.

8.4.8: Conclusions Emerging from Results of Data – OBJ3

As a form of restatement, OBJ3 is **not** aimed at discussing each of the relationships between the variables and AF, as in most AF modelling studies.

8.4.8.1: Key Findings

The multiple regression determinations (when NCGVs and CGVs are regressed contemporaneously) reveal that:

i) The **main (overall) model** relating to the overall set of identified 83 FTSE250 companies, while employing both **unlagged** and **lagged** data, suggests that the primary NCGV with significantly enhancing predictive power is: **Complexity.**

ii) The **sector-wise models** (while employing **unlagged data)** reveal that, the primary NCGVs with significantly enhancing predictive power are identified as **location** category variables, **size**, **complexity** and one categorical **auditor** variable although not within all sectors.

iii) The **sector-wise models** (while employing **lagged data)** reveal that the primary NCGVs that suggest significantly enhanced predictive power are identified as **size, complexity, location**, one proxy of **risk (**PBT) and one categorical **auditor (**AUF) variable, although not within all sectors.

8.4.8.2: Key Inferences and/or Conclusions - OBJ2

The multiple regression determinations reveal that:

i) Within the **main (overall) models** relating to 83 identified FTSE 250 companies, audit committee competence(ACC) and improved audit Quality (AUQ) appear to contribute to an increased influence of **complexity** (number of subsidiaries) on audit fees (possibly due to functions such as better verification, classification, and resultant transparency).

ii) Within the **sector-wise models**, addition of ACC and AUQ appears to influence more variables in some sectors when the data is subset into sector-wise models. This is possibly due to sector-specific knowledge by committees or sector specialisation/differentiation by auditors or a different nature of sector assets /risk or effects of location on cases within specific sectors (Numan and Willekens, 2012).

8.4.8.3:Tabular Summary of Hypotheses Outcomes – OBJ3

The summary of the outcome of **each hypothesis** in **this OBJ3,** together with those of **each hypothesis** of other empirical objectives (**OBJ2** and **OBJ4)** are included at the **end** of the next **Chapter (9).** This is to enable the presentation of a global/integrated view of the outcomes of all hypothesis-testing in one location and also on the basis of parsimony (Ang, 2014).

8.4.9: Chapter Summary

The chapter mainly devoted itself to empirical analysis and interpretation of the statistically enabled objectives (Objectives 2 and 3). To achieve the latter aim, a baseline model was firstly offered to give expression to descriptive statistics and necessary preliminary checks/tests to enable the statistical method (OLS) adopted in this thesis. Main and sector-wise models were calculated for Objectives 2 and 3. In terms of the most significant determinants, size,

complexity, risk and business sector appear to be the factors that exert the most significant influence on AF in the selected FTSE 250 companies within this research. The effect of adding CGVs to NCGVs was empirically determined and the variables that were significantly enhanced include size, complexity, location, and auditor. Based on the latter findings, overall conclusions were drawn which also conform with the main theoretical arguments (mainly as envisaged by accordance with AT and ST) that facilitate this research.

CHAPTER 9

Empirical Results, Analysis & Conclusions

OBJ4 and Summary of All Hypotheses Testing

9.1:Introduction

The previous chapter focused on developing statistical models which seek to identify the primary NCGVs that influence AF (OBJ2), and models that assess whether the addition of the selected CGVs to the NCGVs would significantly enhance the influence of the NCGVs on AF (OBJ3). To enable the fulfilment of the latter objectives, it offered descriptive statistics, preliminary and robustness tests, and analysis for the use of OLS, including development of a baseline model. Main and sector-wise models (based on unlagged and lagged data) were calculated for both objectives. Findings indicate that for OBJ2, size, complexity, risk, and business sector are the most significant determinants of AF in the selected FTSE 250 companies within this research. Regarding OBJ3, the chapter found size, complexity, location, and auditor as significantly enhanced due to adding CGVs to NCGVs in some sectors Theoretically, the chapter concludes that AT and ST are the primary theories that underpin the findings.

The purpose of this chapter is **firstly,** to determine whether the influence of the clients' characteristics on AF (within this research) exhibit shared commonality across the Big4 auditors. To achieve this purpose, auditor-wise models are calculated by using U&L data, followed by comparisons based on granular information indicated in the models. The Big4 auditors are of high importance to the audit market[54] as they are more proficient at providing

[54] As explained in Chapters 1, 3 and 6.

the three key aspects of the audit product (technical audit, insurance and value added) (Department for Business Innovation and Skills (DBIS), 2006) coupled with their 'deep pockets or insurance (Gonthier-Besacier and Schatt, 2006, p.14). As a result of the above qualities, there has been a tendency to treat the Big4 auditors as a homogenous unit in several studies in AF modelling (Fafatas and Sun,2010, Hrazdil,2020). This thesis does not have as its aim or objective to research the Big 4/Non-Big 4 dichotomy as in several AF research studies (e.g., Peel, 2013; Kanakriyah,2020) as copiously explained in Chapters 6 and 7.

Secondly, the chapter offers an overarching summary of the outcomes associated with **every hypothesis** within the thesis in **Table 9.5** below just before the chapter summary.

9.2:Research Objectives and Hypotheses relating to OBJ4

The **objectives** and **hypotheses** are as stated in **Tables 2.4. and Tables 2.9** in **Chapter 2 (SET4)**. Hence only the main objective is restated as follows:

Main Objective (within OBJ4)

OBJ4: The determine if the influence of the identified AF determinants in the identified cases of the FTSE 250 exhibit shared commonality across the Big4 audit forms.

The above research objective is made of four sets of objectives (Objectives **4.1, 4.2, 4.3, 4.4**) which relate to each of the **four** auditors.

9.2.1:Commentary on Data and Analysis Critical to OBJ4.

The relevant issues relate to the sources of the data and the variables employed in OBJ4. The variables, data, and the sources of data critical to **OBJ4** are the same as those for OBJ3,

including those transformed by natural logarithm.[55] Therefore, the information is provided concisely, so as to minimise unmerited repetition. As with previous sections, categorical variables (SEC, AUF and LOC) are presented using appropriate dummy coding rules based on unlagged and lagged model equations **(**in **Chapter 2)**, as presented in **Tables 9.1, 9.2, 9.3 and 9.4 far below** (Field, 2017 p.509, Grace-Martin, 2022).

9.2.2:Commentary on Methodological Issues Critical to OBJ4

As stated above, the **Baseline** model as analyzed in Chapter 8 applies to all objectives, including OBJ4. The DV is the same for OBJ2 and OBJ3 and it is a continuous variable for which appropriate checks had been conducted in relation to OLS and MRA (the estimation techniques employed) for the regression models at 0.1%,1% and 5% levels of significance. These methods were adopted by some AF modeling researchers such as Simunic (1980), Kikhia (2014) and Kanakriyah (2020). As indicated[56], the AUF variable is categorical and comprises of AUF1 (PwC), AUF2 (Deloitte), AUF3 (EY) and AUF4 (KPMG). In compliance with dummy-coding rules (Field 2017) AUF1(PwC) is set at zero and used as a reference category, hence it is not overtly shown in the equations below.

9.2.3: Equations relating to OBJ4 (U &L)

Table 9.1 below utilizes equations **4.1a - 4.5a** in **Chapter 2, Table 2.9)** for **unlagged** OLS model, while **Table 9.2** utilizes a **lagged** version of the OLS models for each of the auditors. These are restated as follows as follows:

- **Using Unlagged information**

$$\ln(AFE_{it}) = B0 + B1\ln(TAS_{it}) + B2SUB_{it} + B3\ln(CRA_{it}) + B4\ln(PBT_{it}) + B5AUF2_{it} + B6AUF3_{it} + B7AUF4_{it} + B8LOC2_{it} + B9LOC3_{it} + B10SEC2_{it} + B11SEC3_{it} + B12SEC4_{it} + B13ACC_{it} + B14\ln(AUQ_{it}) + E_{it}$$

[55] See Chapters 7 and 8.
[56] Chapters 7 and 8.

- **Using Lagged information**

$\ln(AFE_{it}) = B0 + B1\ln(TAS_{it-1}) + B2SUB_{it-1} + B3\ln(CRA_{it-1}) + B4\ln(PBT_{it-1}) + B5AUF2_{it-1} + B6AUF3_{it-1} + B7AUF4_{it-1} + B8LOC2_{it-1} + B9LOC3_{it-1} + B10SEC2_{it-1} + B11SEC3_{it-1} + B12SEC4_{it-1} + B13ACC_{it-1} + B14\ln(AUQ_{it-1}) + E_{it-1}$

9.2.4:Results and Discussion of Data Analysis relevant to OBJ4

Table 9.1:OBJ4: UNLAGGED Models Delineated by CLIENT-AUDITOR (AUF)

	AUF1 Model 9.1		AUF2 Model 9.2		AUF3 Model 9.3		AUF4 Model 9.4	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
(ln)TAS	0.490***	0.113	0.087	0.078	0.059	0.141	0.188	0.173
SUB	0.087***	0.017	0.086***	0.013	0.056	0.048	0.066	0.035
(ln)CRA	-0.029	0.068	-0.029	0.040	-0.098	0.059	-0.223	0.121
(ln)PBT	-2.138*	0.930	-2.115**	0.666	0.070	4.793	0.420	2.130
LOC2	-0.343	0.263	-0.191	0.102	-0.106	0.229	0.462	0.230
LOC3	0.054	0.328	-0.167	0.165	-0.051	0.234	0.828*	0.383
SEC2	1.963***	0.252	2.208***	0.154	1.350**	0.474	2.305***	0.270
SEC3	2.292***	0.310	2.778***	0.139	2.399***	0.306	3.752***	0.295
SEC4	2.819***	0.255	2.854***	0.163	2.914***	0.516	3.529***	0.312
ACC	0.037	0.404	-0.104	0.253	0.429	0.566	-0.173	0.361
(ln)AUQ	0.042	0.068	0.092	0.048	-0.117	0.068	-0.109	0.090
Constant	26.426*	12.767	31.850**	8.919	0.688	66.782	-6.282	29.286
R squared	.901		.950		.954		.950	
Adj. R Sq.	.884		.940		.931		.930	
F-Statistic	52.167***		92.472***		41.383***		46.815***	

** $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Source: Author (2023)

The OBJ4 models follow the same logic as in OBJ3 with the exception that the models are strictly delineated by AUF. **Table 9.1** (**Models 9.1–9.4)** provides the results of the set of AUF models showing the coefficients for the unlagged models, while **Table 9.2** provides coefficients for **Models 9.5 – 9.8** regarding the lagged models. The approach adopted in OBJ4 is to discuss the outcome of unlagged and lagged variables jointly (where necessary) and to provide comparative tables **(Tables 9.3 and 9.4)** to address the hypotheses **(H4.1a-H4.4a**). This is because the focus is not necessarily on the variable-by-variables analysis of

relationships with AF as in most AF studies. It is to ascertain whether the influence of the identified AF determinants in the identified cases of the FTSE 250 exhibit shared commonality across the Big4 audit firms.

Table 9.2: Lagged Models Delineated by CLIENT-AUDITOR (AUF)

	AUF1 Model 9.5		**AUF2** Model 9.6		**AUF3** Model 9.7		**AUF 4** Model 9.8	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
(ln)TAS	0.631***	0.159	-0.027	0.091	-0.177	0.130	0.207	0.236
SUB	0.077**	0.021	0.073***	0.014	0.255**	0.069	0.059	0.063
(ln)CRA	-0.075	0.088	-0.039	0.055	0.023	0.074	-0.261	0.205
(ln)PBT	-4.765*	1.765	-0.074**	0.023	0.066	5.469	0.138	2.994
LOC2	-0.149	0.364	-0.049	0.104	0.067	0.229	0.648	0.377
LOC3	0.481	0.428	0.061	0.200	0.176	0.254	0.972	0.629
SEC2	2.728***	0.467	2.070***	0.177	2.126	1.454	2.158***	0.399
SEC3	2.027***	0.396	2.837***	0.168	2.102***	0.304	3.549***	0.481
SEC4	2.859***	0.358	2.837***	0.211	1.875*	0.594	3.294***	0.468
ACC	-0.160	0.488	-0.256	0.340	0.445	0.537	-0.557	0.478
(ln)AUQ	-0.062	0.094	-0.019	0.055	0.004	0.064	0.058	0.119
Constant	61.758*	23.769	4.622**	1.571	2.634	76.822	-1.692	41.030
R-squared	.914		.959		.982		.949	
Adj. R-Sq.	.889		.946		.960		.909	
F-Statistic	37.473***		70.452***		44.580***		23.695***	

** $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Source: Author (2023)

9.2.4.1: Consideration of Shared Commonality Across The Auditors (H4.1a-H4.4a)

Firstly, all **unlagged models** (**9.1- 9.4**) in **Table 9.1 and lagged models (Models 9.5 - 9.8) (Table 9.2**) are all significant with the highest effect size offered in AUF2 ($R^2 = 0.960$) and ($R^2 = 0.960$) respectively. In general, the models have several significant predictors. All the models have the sector variable as significant at 0.1% except for AUF3. AUF1 has the most significant number of determinants and both AUF1 and AUF2 have significant and positive constants indicating relative premium in terms of engagements. Aspects of audit premia and discounts in relation to auditors have already been discussed elaborately in OBJ2 and further

indicated in OBJ3. On the other hand, AUF4 shows a negative constant which appears to indicate lowballing when auditors offer discounts to secure initial engagements (Pong & Whittington, 1994) as also explained in OBJ2.

Table 9.3: OBJ4: UNLAGGED: Shared Commonality in Direction and Significance COMPARISON of Models Delineated by CLIENT-AUDITOR (AUF)

	AUF1 **Model** 9.1 **Table** 9.1	**AUF2** **Model** 9.2 **Table** 9.1	**AUF3** **Model** 9.3 **Table** 9.1	**AUF4** **Model** 9.4 **Table** 9.1	**Shared commonality in directions of influence?**	**Shared commonality in approximate levels of significance?**	**Hypotheses Accepted(A) /Rejected(R)**
	Coeff.	Coeff.	Coeff.	Coeff.			
(ln)TAS	0.490***	0.087	0.059	0.188	Yes	**No**	**A**
SUB	0.087***	0.086***	0.056	0.066	Yes	**No**	**A**
(ln)CRA	-0.029	-0.029	-0.098	-0.223	Yes	**Yes**	**R**
(ln)PBT	-2.138*	-2.115**	0.070	0.420	No	**No**	**A**
LOC2	-0.343	-0.191	-0.106	0.462	No	**Yes**	**A**
LOC3	0.054	-0.167	-0.051	0.828*	No	**No**	**A**
SEC2	1.963***	2.208***	1.350**	2.305***	Yes	**Yes**	**R**
SEC3	2.292***	2.778***	2.399***	3.752***	Yes	**Yes**	**R**
SEC4	2.819***	2.854***	2.914***	3.529***	Yes	**Yes**	**R**
ACC	0.037	-0.104	0.429	-0.173	No	**Yes**	**A**
(ln)AUQ	0.042	0.092	-0.117	-0.109	No	**Yes**	**A**
R-squared	.901	.950	.954	.950	N/A	N/A	N/A
Adj. R-Sq.	.884	.940	.931	.930	N/A	N/A	N/A
F-Statistic	52.167***	92.472***	41.383***	46.815***	N/A	N/A	N/A

** p < 0.05, ** p < 0.01, *** p < 0.001*

Source :Author (2023)

Regarding hypotheses **(H4.1a-H4.4a**), the shared commonality is assessed in this thesis based on both the **direction of influence and the level of significance** of each of the variables across the auditors. They are jointly considered (accepted or rejected) by a granular comparison of the latter two factors across the auditors in **Tables 9.3** above **and 9.4** below. A brief overview of the outcome of **H4.1a-H4.4a** is offered within the next two paragraphs prior to discussing the variables in connection to the latter hypotheses.

Considering **Table 9.3 above (unlagged** models), the comparative information show that the coefficients of the AF determinants (PBT, LOC (LOC2 & LOC3), ACC and AUQ) **do not** exhibit shared commonality in terms of **direction of influence**. TAS, SUB, PBT, **do not** exhibit shared commonality in **approximate level of significance**.

Table 9.4:OBJ4: LAGGED: Shared Commonality in Direction and Significance

COMPARISON of Models Delineated by CLIENT-AUDITOR (AUF)

	AUF1 **Model** 9.5 **Table** 9.2	**AUF2** **Model** 9.6 **Table** 9.2	**AUF3** **Model** 9.7 **Table** 9.2	**AUF4** **Model** 9.8 **Table** 9.2	**Shared Commonality in Direction of influence?**	**Shared commonality in approximate level of significance?**	**Hypotheses Accepted(A) /Rejected (R**
	Coeff.	Coeff.	Coeff.	Coeff.			
(ln)TAS	0.631***	-0.027	-0.177	0.207	No	No	**A**
SUB	0.077**	0.073***	0.255**	0.059	No	No	**A**
(ln)CRA	-0.075	-0.039	0.023	-0.261	No	Yes	**A**
(ln)PBT	-4.765*	-0.074**	0.066	0.138	No	No	**A**
LOC2	-0.149	-0.049	0.067	0.648	No	Yes	**A**
LOC3	0.481	0.061	0.176	0.972	Yes	Yes	**R**
SEC2	2.728***	2.070***	2.126	2.158***	Yes	No	**A**
SEC3	2.027***	2.837***	2.102***	3.549***	Yes	Yes	**R**
SEC4	2.859***	2.837***	1.875*	3.294***	Yes	Yes	**R**
ACC	-0.160	-0.256	0.445	-0.557	No	Yes	**A**
(ln)AUQ	-0.062	-0.019	0.004	0.058	No	Yes	**A**
Constant	61.758*	4.622**	2.634	-1.692	N/A	N/A	N/A
R-squared	.914	.959	.982	.949	N/A	N/A	N/A
Adj. R-Sq.	.889	.946	.960	.909	N/A	N/A	N/A
F-Statistic	37.473***	70.452***	44.580***	23.695***	N/A	N/A	N/A

** $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Source: Author (2023)

Considering **Table 9.4** above, (**lagged** models) below, the comparative information indicate that the coefficients of the AF determinants (TAS,CRA,PBT, LOC (only LOC2), ACC and AUQ) **do not** exhibit shared commonalty in terms of **direction of influence**. TAS, SUB, PBT, SEC2, **do not** exhibit an **approximate level of significance** within the lagged models. The latter is similar to the outcome of unlagged variables.

In conclusion, only some selected determinants (as discussed above and indicated in **Tables 9.3 and 9.4**) exhibit shared commonality using unlagged or lagged models.

9.2.4.2: Size Variable (TAS)

In **unlagged** models in **Table 9.1** TAS (client's size) variable has positive coefficients with AFE regarding all the models (but significant only in AUF1). Justification for TAS exhibiting such a relationship as an AF determinant has been much elaborated in both OBJ2 and OBJ3 with citations and this applies to relevant AUF-wise models. Briefly, the larger the client's size of assets the more audit time is likely to be spent on audit-related issues (Simunic,1980; Kanakriyah, 2020).

Regarding the **lagged** models (in **Table 9.2),** the relationship of **TAS** is more complicated since it includes positive relationship (in AUF 4), positive and significant (in AUF1), and negative (in AUF2 and AUF3). Acar and Acar (2019), argue that in some cases, the substantial internal control systems of large firms reduces audit work and incredibly decreases AF, causing a negative relationship between TAS and AF.

Therefore, in terms of **H4.1a - H4.4a**, the direction of influence of the **TAS** variable exhibits shared commonality using **unlagged** and **lagged** values across the FTSE 250 auditors of the selected companies; **unlike the approximate level of significance**. The hypotheses for the Big4 firms are **accepted.**

Some identical relationships of all the independent variables with AF have been explained and referenced in OBJ2 and OBJ3. The summary of all hypotheses (in Table 9.5**)** at the end of this

chapter shows the outcome of each hypothesis in this thesis as they relate to every variable. This includes OBJ4.

9.2.4.3: Complexity Variable (SUB)

Within the **unlagged** models in **Table 9.1** the SUB (client's complexity) variable is **positive** in all models and but only significant in AUF1 and AUF2 . Within the **lagged** models in **Table 9.2**, the SUB variable shows a positive influence in all models, but it is only significant in three models (AUF1, AUF2 and AUF3).

Therefore, in terms of H4.1a - H4.4a, the **direction of influence** of the SUB variable exhibits shared commonality using unlagged and lagged values across the FTSE 250 auditors of the selected companies; **unlike** the **approximate level of significance**. The hypotheses for the Big4 firms are **accepted.**

9.2.4.4:Risk Variables (CRA & PBT)

CRA (the first proxy for risk factor) in the **unlagged** models (**Table 9.1**) does exhibit shared commonality in terms of direction of influence and approximate level of significance on AF across the audit firms. This is unlike the second proxy for risk **(PBT**) which is both significantly negative (in AUF1 and AUF2) and positive in AUF3 and AUF4. With regard to **lagged** models (**Table 9.2)** both CRA and PBT do not exhibit shared commonality in direction of influence or approximate level of significance.

Therefore, in terms of **H4.1a - H4.4a, only CRA** exhibits shared commonality in the direction of influence **and** approximate level of significance across the selected Big4 audit firms; **unlike** PBT. The hypotheses for the Big4 firms are **accepted.**

9.2.4.5: Location Variable (LOC)

The negative relationship of LOC2 (in relation to LOC1, the reference category) as shown for some auditors is expected. This is because AT anticipates that there would be more agency burden and hiring costs in London (LOC1), the capital of UK, than other locations in England (LOC2) and outside England in UK (LOC3) (Brinn *et al.,*1994; Hay, 2006). Both LOC2 and LOC3 variables also do show positive relationships especially within the **lagged** values (**Table 9.2**) and a positive and significant relationship once, in AUF 4 within the **unlagged** models **(Table 9.1).** The latter relationship is unexpected.

However, the period under study spans the periods between 2014 (the year ARD (2014) came into force and 2016 when the regulations took effect). Hence there is very likely to be a more diverse set of considerations in terms of what auditors considered as the most significant AF determinants. It is likely that audit firms and clients within LOC1 (London) were subjected to relatively more competitive AF pricing due to tender and rotation and while preparing for (and implementing) the new regulations.

Therefore, in terms of **H4.1a-H4.4a, both LOC variables do not** exhibit shared commonality in **direction of influence** and **approximate level of significance** within the selected FTSE 250 auditors using lagged values. The hypotheses for the Big4 firms are **accepted**.

9.2.4.6: Sector Variable (SEC)

For the sector categorical variables (SEC), the **unlagged** and **lagged** variables do show positive and significant relationship across the auditors except for SEC2 in lagged version within AUF3**.** The business sector factor appears to be a key consideration amongst the auditors and audit fee premia are earned in relation to SEC1(E1I). SEC1 and SEC2 relate to investments which are

essentially processed and updated electronically and should be easier to aggregate and verify. Hence, SEC2 (R&C REITs) exhibits less premium over SEC1 than other industries. This aspect was also discussed in detail in OBJ2 and OBJ3. For instance, this premium in relation to SEC1 is also confirmed in OBJ3.

In terms of **H4.1a - H4.4a, the SEC variable** exhibits shared commonality in **direction of influence** and **approximate level of significance** within the Big4 auditors using unlagged and lagged values **except** within lagged AUF3 variable. The hypotheses for the Big4 firms are **rejected**, **except** for AUF3.

9.2.4.7: Audit Committee Competence Variable (ACC)

ACC does have negative and positive relationships with AF in both **unlagged** and **lagged** versions (**Tables 9.1 and 9.2**). Based on AT, audit committees act as agents of a firm's CG. Hence it is reasonable to assume that an increase in ACC (e.g., in financial competence or number of NEDs/IDs) could lead to more interaction with auditors and increase AF such as in AUF1 and AUF2 in unlagged models or AUF3 in lagged models (Fama & Jensen, 1983; Hay, 2012; Ghafran & O'Sullivan, 2017). Conversely, AT also expects that ACC in FTSE250 could improve the level of governance and reduce agency problems and hence lead to lesser AF as shown in AUF2 and AUF4 in unlagged version of models and AUF1, AUF2 and AUF4 using lagged values.

Therefore, ACC **does not** exhibit commonality in **direction of influence** and **approximate level of significance** within the Big4 auditors using unlagged and lagged values **except** within lagged AUF3 variable. The hypotheses for the Big4 firms are **rejected**.

9.2.4.8: Audit Quality Variable (AUQ)

Despite the constants in the models being significant (with a premium) for AUF1 and AUF2 models (in **Tables 9.1 and Table 9.2)**, the AUQ variable in the latter models is not significant (although positive). This is consistent with some previous studies and assertions already offered in OBJ2 and OBJ3 regarding the disproportionate relationship between Big4 premium and AUQ (Campa, 2013). This could be instigated by the clients' perception of '*deep pockets*' of the auditors in case of litigation (Gonthier-Besacier and Schatt, 2006, p.14). The fact that the Big4 auditors are used as surrogates for audit quality (e.g., Hay *et al.* 2006) induces clients to accept high charges (premia) at the outset of the audit engagement.

Regarding AUQ, further discussions of the likely reasons for positive or negative relationship have been provided in OBJ3 and Chapter 6. Also, AF pressure (such as could arise in a period of MAR under this research) have been shown to be associated with decreased audit quality, since auditors can reduce audit procedures, accept doubtful audit evidence, and accept higher audit risk (Coram *et al*., 2004; Ettredge *et al.,* 2014). Possible reasons for differences in lagged versions also align with those offered in OBJ2. This includes the extent to which the impact of different variables is masked or disrupted by the behavior of auditors such as lowballing, extra billing, renegotiation of AF, changes to the accounting systems and preparation for the tendering and rotation processes (Goddard and Schmidt, 2021).

In terms of **H4.1a - H4.4a,** the AUQ variable **does not** exhibit shared commonality in **direction of influence** and **approximate level of significance** within the Big4 auditors. The hypotheses for the Big4 firms are therefore **accepted**.

9.2.5:Choice between lagged and lagged models.

Having established the shared commonality of the influence of selected variables across the Big4 (on the bases of the direction of influence of AF determinants and their approximate levels of significance - using both unlagged and lagged models), it is appropriate to consider the preferred model to report under OBJ4. It will serve stakeholders regarding the conclusions that they may draw from each objective. **Unlagged** models have eighteen instances of significant variables with fourteen significant at 0.1%, two significant at 1% and two at 5%. **Lagged** models show seventeen instances of significant variables with twelve at 0.1%, three at 1% and two at 5%. Adjusted R^2 is marginally higher for **lagged** models in three out of the four models. However, the F-values which give joint effect of all variables are, on average, higher for **unlagged** values.

Consequently, the unlagged models in **Table 9.1** appear to make more contribution to the relevant models and should be the preferred set of models.

9.3: Relevant Theoretical Explanations – OBJ4

Firstly, the variables adopted under OBJ4 are the same as those for OBJ3, although the focus in OBJ4 is on AUF-wise presentation of the same equation in OBJ3. Hence some similarities exist between them. This section offers a summarised discussion of theoretical underpinnings of the direction/significance of some relationships in terms of shared commonality discussed above. For instance, in the **unlagged models** PBT, LOC, ACC and AUQ do not exhibit shared commonality in **direction** of influence across the auditors while TAS, SUB, PBT also do not exhibit shared commonality in approximate level of **significance**.

Differences in perception of risk (PBT) inherent in the audit of AF determinants may vary with auditors. Some consider increased PBT (a proxy of risk) as evidence of less agency problems and vice versa (Kikhia,2014). On the other hand, some auditors consider increased PBT (or CRA) as ability of the client to afford more AF or the need for more audit work to ensure that the increases are backed by genuine transactions (Pong & Whittington,1994). This relates to matching agency work with possible increased risk of inflated PBT which resonates with **AT**. This could lead to differences in direction of influence and level of significance of a variable on AF in relation to different auditors.Therefore, auditors as agents will rely on different signals of risk (as in **Signaling Theory)** when determining the extent of audit work required (Wu,2012).

In terms of LOC variable, businesses especially their subsidiaries usually involve different number of localities, countries, and classes of stakeholders for different auditors as in **ST** (Taylor and Simon, 1999). For instance, the latter authors claim that a US subsidiary is expected to exhibit a higher risk of legal propensity in terms of litigation against the auditor. In general, a negative relationship of LOC2 or LOC3 in relation to LOC1(London) is expected as transaction costs (e.g., staff costs, hourly rates) are highest in London (Hay *et al.*,2006).

In general, the SEC2, SEC3 and SEC4 variables are highly significant in relation to SEC1 (EII), and this appears to be more related to the nature of the sectors than to a particular theory. Explanations offered in OBJ3 regarding ACC positive or negative influence holds for OBJ4. For instance, the fact that ACC is not significant combined with indication of premia being charged across the auditors (positive constants in most models) appears to suggest that the audit committee may have requested increased level of audit to be able to defend their reputations as in AT (We,2012; Januarti *et al.,* 2020).

Also, the fact that AUQ is not significant despite several constants indicating AF premiums appears to demonstrate lack of commensurate return for the premia paid to the Big4 as already explained (Campa,2013). This resonates with self-interestedness and opportunism, as in AT. The Big4 can achieve these premia due to what appears to be ineffective control by regulators; despite frequent scandals (Sikka,2019) as anticipated by RCT in a situation where the regulated entity regulates the regulators. In the **lagged** models TAS, SUB, PBT, do not exhibit shared commonality in approximate level of significance. In general, auditing is based on risk exposure (Simunic,1980), hence the significance of a variable as an AF determinant would depend on the level of risk attributed to it by the auditor.

Although size is the most significant variable in AF modelling, generally (Hay,2006), the researcher opines that its influence as an AF determinant would depend on the significance placed on it when pricing the audit, in terms of audit effort. Hence differences in levels of significance are likely to vary across auditors. Same applies to complexity (SUB) as explained in OBJ2 and OBJ3. For instance, the number of clients' subsidiaries and the different locations in which they are located may affect their influence on AF within different audit firms (Simunic,1980; Brinn *et al.,*1994).

9.4:Conclusions Emerging from Data Results - OBJ4 (H4.1a-H4.4a)

In broad terms, the findings in OBJ4, show some similarities with those in prior studies. For instance, most other authors find the (agency-related) factors which have a positive and significant relationship with AF (an agency cost) are client's size (TAS), a size-related factor complexity (SUB) and all business sectors (SEC) (Khikia,2014); except for SEC3 using lagged values. However, the main aim of OBJ4 is the assessment shared commonality in influence of

the AF determinants across the Big4, hence the explanation relationships of individual variables with AF is not the focus of OBJ4, unlike more detailed discussions in OBJ2.

9.4.1: Key Findings

The multiple regression determinations reveal that between and across the Big4 firms:

i) The **unlagged** models, exhibit **an absence** of shared commonality across the Big4 audit firms (in terms of both the direction of influence and approximate level of significance) in relation to the influence of the identified audit fee determinants **except** for risk (CRA) and the sector identity variables.

ii) The **lagged** models also reveal **an absence** of shared commonality across the Big4 audit firms (in terms of both the direction of influence and approximate level of significance) in relation to the influence of the identified audit fee determinants **except** for, one category of location variable (LOC3) and two categorical sector variables (SEC3 and SEC4).

9.4.2: Key Inferences and/or Conclusions – OBJ4

i) That **unlagged** and **lagged** results suggest a similar (although not identical) conclusion to that drawn by Hrazdil *et al.* (2020) that the Big4 auditors do not appear to reflect 'Homogeneity' in terms of their researched audit fee pricing features. Therefore, audit fee appears to be determined individually, subjectively, and ununiformly across the Big4 auditors based on the client factors considered in this research. The results are therefore unsupportive of the widespread practice of treating the Big4 auditors in audit fee determination terms, as homogenous entities.

ii) For **unlagged** results in this research, there appears to be consensus across auditors (in this research) that the risk proxy (CRA) and sector considerations are similar across the auditors.

iii) For **lagged** results there appears to be consensus across the auditors (in this research), that location and the business sector considerations are similar.

In conclusion, the coefficients of most of the variables **do not** exhibit shared commonality across the auditors and the unlagged models in **Table 9.1** should be the preferred model considering R^2, F-Statistic and number of significant variables.

9.5 : Summary of All Hypothesis Testing and Robustness checks

This focus of this subsection is to provide an overarching **summary of robustness tests** conducted regarding the analysis of empirical objectives as well as **a table** which **summarises the outcomes of all the hypotheses** associated with the different empirical results (in OBJs 2-4).

9.5.1 Summary of Robustness Checks

Several robustness tests in relation data and models including assessing compliance with key assumptions relating to data analysis are summarised below.

- Relevant models were assessed for good fit and compared between unlagged and lagged models, based on such factors as R^2 or Adjusted R^2 (Pallant, 2020). These statistics were very high for all models as indicator of goodness of fit metric for the linear regression models. This demonstrates that the variables included in the model have made significant contribution towards the determination of AF, especially with unlagged values which were

(on average) higher. Indeed, the Adjusted R^2 for all the models averaged over 40% and several were above 70% which implies good model fit. This could partly be due to the fact that the population (rather than the sample) of the companies within each sectoral set was used .

- The differences between unlagged and lagged models in relating to these statistics were also low in value; which signifies consistency and robustness among different models; some of which contain different variables for different objectives.
- The F-test in ANOVA relating to statistical significance of models is also another indicator of robustness; and is considered as a complementary tool used together with Adjusted R^2 to evaluate the **overall quality** and **significance** of **the models**. The F-tests in ANOVA of the **Baseline model** (which contains all the researched variables in this thesis) were significant and indicate that a substantial proportion of the variability in the dependent variable is accounted for by the model. The others include those already copiously discussed in Chapter 8 which include :
- Breusch-Pagan test for heteroscedasticity
- Autocorrelation of Baseline model.
- Cook's distance for outliers.
- Kolmogorov-Smirnov tests for normality
- Use of histograms (eyeball tests)
- Multicollinearity
- Heteroskedasticity

For each of the robustness tests conducted the purpose/meaning and appropriate references were given to validate the tests as well as some indication of the acceptable parameters within such tests.

9.5.1 Summary of All Hypotheses Tests

Table 9.5 below, shows the outcome of all hypotheses for OBJs 2-4 .

Table 9.5:SUMMARY OF HYPOTHESES TESTING

#	Objective	Hypothesis Number	Hypotheses	Results	
1.	*2.1*	*2.1a*	***Identified set of all selected 83 (FTSE 250) companies*** *That there subsists a positive & significant relationship between* ***AF and*** *the primary* ***NCGVs*** *(Client's:* ***Size/ Complexity / Risk/ Auditor/ Location / Sector)*** *within a* ***set of 83 (****FTSE 250) companies; using* ***Unlagged and Lagged*** *(U&L) information.*	**Unlagged**	**Lagged**
			(ln)TAS - Client's size	***Accepted***	***Accepted***
			SUB - Client's Complexity (SUB)	***Accepted***	***Accepted***
			(ln)CRA - Client's Risk	***Rejected***	***Rejected***
			(ln)PBT- Client's Risk(ln)	***Rejected***	***Rejected***
			AUF2 - Client's Auditor	***Rejected***	***Rejected***
			AUF3 - Client's Auditor	***Rejected***	***Rejected***
			AUF4 - Client's Auditor	***Rejected***	***Rejected***
			LOC2- Client's Location	***Rejected***	***Rejected***
			LOC3- Client's Location	***Rejected***	***Rejected***
			SEC 2- Client's Sector	***Accepted***	***Accepted***
			SEC3- Client's Sector	***Accepted***	***Accepted***
			SEC4- Client's Sector	***Accepted***	***Accepted***
2.	*2.2*	*2.2a*	***Identified set of 32 (FTSE 250) EII companies*** *That there subsists a positive & significant relationship between* ***AF and*** *the primary* ***NCGVs*** *(Client's:* ***Size/ Complexity / Risk/ Auditor Location)*** *within a* ***set of 32 (****FTSE 250****) EII,*** companies; *using (U &L) information.*	**Unlagged**	**Lagged**
			(ln) TAS - Client's size	***Accepted***	***Accepted***

			SUB - Client's Complexity (SUB)	***Rejected***	***Rejected***
			(ln) CRA - Client's Risk	***Rejected***	***Rejected***
			(ln) PBT- Client's Risk(ln)	***Rejected***	***Rejected***
			AUF2 - Client's Auditor	***Rejected***	***Rejected***
			AUF3 - Client's Auditor	***Rejected***	***Rejected***
			AUF4 - Client's Auditor	***Rejected***	***Rejected***
			LOC2- Client's Location	***Rejected***	***Rejected***
			LOC3- Client's Location	***Rejected***	***Rejected***
3.	***2.3***	***2.3a***	***Identified set of 18 (FTSE 250) R&C REITS companies*** *That there subsists a positive & significant relationship between* ***AF and*** *the primary* ***NCGVs*** *(Client's:* ***Size/ Complexity / Risk/ Auditor Location****) within a* ***set of 18 (****FTSE 250****) R&C REITS*** *companies; using (U &L) information.*	**Unlagged**	**Lagged**
			(ln) TAS - Client's size(	***Rejected***	***Rejected***
			SUB - Client's Complexity (SUB)	***Accepted***	***Accepted***
			(ln) CRA - Client's Risk	***Rejected***	***Rejected***
			(ln)PBT- Client's Risk(ln)	***Rejected***	***Rejected***
			AUF2 - Client's Auditor	***Rejected***	***Rejected***
			AUF3 - Client's Auditor	***Rejected***	***Rejected***
			AUF4 - Client's Auditor	***Rejected***	***Rejected***
			LOC2- Client's Location	***Rejected***	***Accepted***
			LOC3- Client's Location	***Accepted***	***Rejected***
4.	***2.4***	***2.4a***	▪ ***Identified set of 17(FTSE 250) T & L companies*** *That there subsists a positive & significant relationship between* ***AF and*** *the primary* ***NCGVs*** *(Client's:* ***Size/Complexity/ Risk/ Auditor Location****) within a* ***set of 17(****FTSE 250****) T &L*** *companies, using (U &L) information.*	**Unlagged**	**Lagged**
			TAS (ln) - Client's size(	***Accepted***	***Rejected***
			SUB - Client's Complexity (SUB)	***Accepted***	***Accepted***
			CRA - Client's Risk	***Rejected***	***Rejected***

			PBT- Client's Risk(ln)	***Rejected***	***Rejected***
			AUF2 - Client's Auditor	***Rejected***	***Rejected***
			AUF3 - Client's Auditor	***Rejected***	***Rejected***
			AUF4 - Client's Auditor	***Accepted***	***Accepted***
			LOC2- Client's Location	***Rejected***	***Rejected***
			LOC3- Client's Location	***Rejected***	***Rejected***
5.	***2.5***	***2.5a***	▪ ***Identified set of 16(FTSE 250) SS companies*** *That there subsists a positive & significant relationship between* ***AF and*** *the primary* ***NCGVs*** *(Client's:* ***Size/ Complexity / Risk/ Auditor Location)*** *within a* ***set of 16(****FTSE 250****) SS companies;*** *using (U &L) information.*	**Unlagged**	**Lagged**
			TAS (ln) - Client's size	***Rejected***	***Rejected***
			SUB - Client's Complexity	***Accepted***	***Accepted***
			CRA - Client's Risk	***Rejected***	***Rejected***
			PBT- Client's Risk(ln)	***Rejected***	***Rejected***
			AUF2 - Client's Auditor	***Rejected***	***Rejected***
			AUF3 - Client's Auditor	***Rejected***	***Rejected***
			AUF4 - Client's Auditor	***Rejected***	***Rejected***
			LOC2- Client's Location	***Rejected***	***Rejected***
			LOC3- Client's Location	***Rejected***	***Rejected***
6.	***3.1***	***3.1a***	▪ ***Identified set of all selected 83 (FTSE 250) companies*** *That the addition of* ***CGVs*** *(ACC and AQ) to the primary NCGVs (Client's:* ***Size / Complexity / Risk / Auditor/ Location /Sector)*** ***significantly enhances*** *the predictive powers of the latter set of variables within an identifiable set of* ***83 (****FTSE 250****)*** *companies, using (U&L) information.*	**Unlagged**	**Lagged**
			(ln)TAS - Client's size (TAS)	***Rejected***	***Rejected***
			SUB - Client's Complexity (SUB)	***Accepted***	***Accepted***
			(ln)CRA - Client's Risk	***Rejected***	***Rejected***
			(ln)PBT- Client's Risk(ln)	***Rejected***	***Rejected***
			AUF2 - Client's Auditor	***Rejected***	***Rejected***
			AUF3 - Client's Auditor	***Rejected***	***Rejected***

			AUF4 - Client's Auditor	***Rejected***	***Rejected***
			LOC2- Client's Location	***Rejected***	***Rejected***
			LOC3- Client's Location	***Rejected***	***Rejected***
			SEC2- Client's Sector	***Rejected***	***Rejected***
			SEC3- Client's Sector	***Rejected***	***Rejected***
			SEC4- Client's Sector	***Rejected***	***Rejected***
7.	***3.2***	***3.2a***	▪ ***Identified set of 32 (FTSE 250) EII companies*** That the addition of **CGVs** (ACC and AQ) to the primary NCGVs *(Client's:* ***Size / Complexity / Risk / Auditor/ Location) significantly enhances*** *the predictive powers of the latter set of variables within an identifiable* set of **32 (FTSE 250) EII** companies; using (*U&L)* information.	**Unlagged**	**Lagged**
			(ln)TAS - Client's size	***Rejected***	***Rejected***
			SUB - Client's Complexity (SUB)	***Rejected***	***Rejected***
			(ln)CRA - Client's Risk	***Rejected***	***Rejected***
			(ln)PBT- Client's Risk(ln)	***Rejected***	***Rejected***
			AUF2 - Client's Auditor	***Rejected***	***Rejected***
			AUF3 - Client's Auditor	***Rejected***	***Rejected***
			AUF4 - Client's Auditor	***Rejected***	***Rejected***
			LOC2- Client's Location	***Accepted***	***Accepted***
			LOC3- Client's Location	***Rejected***	***Rejected***
8	***3.3***	***3.3a***	▪ ***Identified set of 18 (FTSE 250) RC/REITS companies*** That the addition of **CGVs** (ACC and AQ) to the primary NCGVs *(Client's:* ***Size / Complexity / Risk / Auditor/ Location) significantly enhances*** *the predictive powers of the latter set of variables within an identifiable* set of **18 (FTSE 250)** ***RC/REITS*** companies; using (*U&L)* information.	**Unlagged**	**Lagged**
			(ln)TAS - Client's size(	***Rejected***	***Rejected***
			SUB - Client's Complexity (SUB)	***Accepted***	***Accepted***
			(ln)CRA - Client's Risk	***Rejected***	***Rejected***

			(ln)PBT- Client's Risk(ln)	***Rejected***	***Rejected***
			AUF2 - Client's Auditor	***Rejected***	***Rejected***
			AUF3 - Client's Auditor	***Rejected***	***Rejected***
			AUF4 - Client's Auditor	***Accepted***	***Accepted***
			LOC2- Client's Location	***Rejected***	***Rejected***
			LOC3- Client's Location	***Accepted***	***Accepted***
9	***3.4***	***3.4a***	▪ . ***Identified set of 17 (FTSE 250) T&L companies*** That the addition of **CGVs** (ACC and AQ) to the primary NCGVs *(Client's:* ***Size / Complexity / Risk / Auditor/ Location) significantly enhances*** *the predictive powers of the latter set of variables within an identifiable* set of **17 (FTSE 250) T&L** companies; using (*U&L)* information.	**Unlagged**	**Lagged**
			(ln)TAS - Client's size	***Accepted***	***Accepted***
			SUB - Client's Complexity (SUB)	***Rejected***	***Rejected***
			(ln)CRA - Client's Risk	***Rejected***	***Rejected***
			(ln) PBT Client's Risk	***Rejected***	***Rejected***
			AUF2 - Client's Auditor	***Rejected***	***Rejected***
			AUF3 - Client's Auditor	***Rejected***	***Rejected***
			AUF4 - Client's Auditor	***Rejected***	***Rejected***
			LOC2- Client's Location	***Rejected***	***Rejected***
			LOC3- Client's Location	***Rejected***	***Rejected***
10	***3.5***	***3.5a***	▪ . ***Identified set of 16 (FTSE 250) SS companies*** *That the addition of* ***CGVs*** *(ACC and AQ) to the primary NCGVs (Client's:* ***Size / Complexity / Risk / Auditor/ Location) significantly enhances*** *the predictive powers of the latter set of variables within an identifiable set of* ***16 (FTSE 250) SS*** *companies; using (U&L) information.*	**Unlagged**	**Lagged**
			(ln)TAS - Client's size	***Rejected***	***Rejected***
			SUB - Client's Complexity (SUB)	***Rejected***	***Rejected***
			(ln)CRA - Client's Risk	***Rejected***	***Rejected***
			(ln) PBT Client's Risk(ln)	***Rejected***	***Rejected***

			AUF2 - Client's Auditor	***Rejected***	***Rejected***
			AUF3 - Client's Auditor	***Rejected***	***Rejected***
			AUF4 - Client's Auditor	***Accepted***	***Accepted***
			LOC2- Client's Location	***Rejected***	***Rejected***
			LOC3- Client's Location	***Rejected***	***Rejected***
11	***4.1***	***4.1a***	*That the AF determinants in the identified cases within the FTSE 250 companies audited by* ***PwC do not*** *exhibit shared commonality in approximate levels of significance and direction of influence with those of the cases audited by* ***Deloitte, KPMG, and EY*** *using (U & L) information.*	**Unlagged**	**Lagged**
			(ln)TAS - Client's size	***Accepted***	***Accepted***
			SUB - Client's Complexity (SUB)	***Accepted***	***Accepted***
			(ln)CRA - Client's Risk	***Rejected***	***Accepted***
			(ln)PBT - Client's Risk(ln)	***Accepted***	***Accepted***
			LOC2- Client's Location	***Accepted***	***Accepted***
			LOC3- Client's Location	***Accepted***	***Rejected***
			SEC2- Client's Sector	***Rejected***	***Accepted***
			SEC3- Client's Sector	***Rejected***	***Rejected***
			SEC4 - Client's Sector	***Rejected***	***Rejected***
			ACC – Audit Committee Competence	***Accepted***	***Accepted***
			(ln)AUQ - Audit Quality	***Accepted***	***Accepted***
12	***4.1***	***4.2a***	*That the AF determinants in the identified cases within the FTSE 250 companies audited by* ***Deloitte do not*** *exhibit shared commonality in approximate levels of significance and direction of influence with those of the cases audited by* ***PwC, KPMG, and EY*** *using (U & L) information.*	**Unlagged**	**Lagged**
			(ln)TAS - Client's size	***Accepted***	***Accepted***
			SUB - Client's Complexity (SUB)	***Accepted***	***Accepted***
			(ln)CRA - Client's Risk	***Rejected***	***Accepted***
			(ln)PBT- Client's Risk(ln)	***Accepted***	***Accepted***

			LOC2- Client's Location	***Accepted***	***Accepted***
			LOC3- Client's Location	***Accepted***	***Rejected***
			SEC 2- Client's Sector	***Rejected***	***Accepted***
			SEC 3- Client's Sector	***Rejected***	***Rejected***
			SEC 4- Client's Sector	***Rejected***	***Rejected***
			ACC – Audit Committee Competence	***Accepted***	***Accepted***
			(ln)AUQ - Audit Quality	***Accepted***	***Accepted***
13	***4.3***	***4.3a***	*That the AF determinants in the identified cases within the FTSE 250 companies audited by **EY do not** exhibit shared commonality in approximate levels of significance and direction of influence with those of the cases audited by **PwC, Deloitte and KPMG** using (U & L) information*	**Unlagged**	**Lagged**
			(ln)TAS - Client's size	***Accepted***	***Accepted***
			SUB - Client's Complexity (SUB)	***Accepted***	***Accepted***
			(ln)CRA - Client's Risk	***Rejected***	***Accepted***
			(ln)PBT - Client's Risk(ln)	***Accepted***	***Accepted***
			LOC2- Client's Location	***Accepted***	***Accepted***
			LOC3- Client's Location	***Accepted***	***Rejected***
			SEC 2- Client's Sector	***Rejected***	***Accepted***
			SEC 3- Client's Sector	***Rejected***	***Rejected***
			SEC 4- Client's Sector	***Rejected***	***Rejected***
			ACC – Audit Committee Competence	***Accepted***	***Accepted***
			(ln)AUQ - Audit Quality	***Accepted***	***Accepted***
14	***4.4***	***4.4a***	*That the AF determinants in the identified cases within the FTSE 250 companies audited by **KPMG do not** exhibit shared commonality in approximate levels of significance and direction of influence with those of the cases audited by **PwC, Deloitte and EY** using (U & L) information.*	**Unlagged**	**Lagged**
			(ln)TAS - Client's size	***Accepted***	***Accepted***

	SUB - Client's Complexity (SUB)	***Accepted***	***Accepted***
	(ln)CRA - Client's Risk	***Rejected***	***Accepted***
	(ln)PBT)- Client's Risk(ln)	***Accepted***	***Accepted***
	LOC2- Client's Location	***Accepted***	***Accepted***
	LOC3- Client's Location	***Accepted***	***Rejected***
	SEC2- Client's Sector	***Rejected***	***Accepted***
	SEC3- Client's Sector	***Rejected***	***Rejected***
	SEC4- Client's Sector	***Rejected***	***Rejected***
	ACC – Audit Committee Competence	***Accepted***	***Accepted***
	(ln)AUQ - Audit Quality	***Accepted***	***Accepted***

Source Author (2023)

9.6: Chapter Summary

The chapter devoted itself to determining whether the coefficients of the selected AF determinants in this research exhibit shared commonality across the Big4 auditors. Accordingly, the chapter firstly offers auditor-wise (unlagged and lagged) regression models which provided the bases for granular comparison of the coefficients across the auditors. In the main, the results indicate several variables that exhibit commonality only in direction of influence or only in level of significance, but not necessarily in both aspects within the same regression model. Hence the outcome of this OBJ4 fails to support the approach by several AF modellers of treating the Big4 as one homogenous unit. Finally, the chapter offers a summary of the hypothesis of all the empirical objectives (OBJs 2-4) which provides an overview of the outcomes of all the hypothesis tests.

CHAPTER 10

Policy Contributions, Recommendations & Limitations

10.1:Introduction

The previous chapter provided analysis of one of the empirical objectives of the thesis (OBJ4) and a summary of the robustness tests and hypotheses of all empirical objectives (OBJs 2-4). In so doing, auditor-wise models were calculated which assessed the coefficients of the selected variables on the basis of shared commonality across the Big4 auditors. While several variables exhibited shared commonality in terms of either direction of influence or level of significance, only a few actually exhibited shared commonality in terms of both aspects within the unlagged and lagged models.

Having addressed OBJ1(in Chapter 4), OBJ5 (in Chapter 5), OBJ2 and OBJ3 (in Chapter 8), and OBJ4 within the last chapter (9), there are related policy contributions to be realised from the conclusions, as well as recommendations, limitations, including some suggestions for future research. It is worth restating that conclusions of all objectives have already been duly discussed and summarised at the end of each objective in the relevant chapters. Remenyi & Bannister (2012) assert that being parsimonious is a basic principle of academic research; hence a complete repetition of those conclusions is not required, especially as the relevant chapters have been indicated. Accordingly, this chapter comprises of **three** main sections.

Firstly, the chapter aligns its discussion of policy contributions with relevant objectives of the thesis . It does so on the bases of 'Key **Theoretical** Knowledge Contributions**'** (linked to OBJ1

and OBJ5 which are qualitatively focused) and 'Key **Empirical** Knowledge Contributions' (linked to OBJs 2-4 which are empirically focused)

Secondly, key **recommendations** are offered based on the policy contributions while ensuring that the linkage created in this thesis, between each objective, its findings/results and the policy contributions is sustained.

Lastly, the chapter offers some **limitations** of the research**,** some of which induce calls for research into some relevant aspects of the thesis by future researchers. This is achieved principally by suggestions which relate to alternative research paradigm, choices, approach, or techniques.

10.2: Policy Contribution Considerations

As indicated above, theoretical contributions emanate from OBJ1 and OBJ5 and hence **before identifying the policy contributions,** it is necessary to highlight the theoretical knowledge contributions from which they flow. Although some of the policy contributions arising from the thesis could be interrelated, an attempt has been made below to categorise the contributions according to **their objectives** with relevant **possible benefits** to relevant stakeholders such as auditors, directors, and AF modelling authors.

10.2.1: Objectives 1 and 5:Key Theoretical Knowledge Contributions

10.2.1.1: Objective 1: Key Theoretical Knowledge Contributions

OBJ1 focuses on theories relating to AF modelling in general and not limited a particular study or index. It reaffirms (i.e., extends) some **existing theoretical** knowledge to the sectoral sets

of the FTSE 250. The key inference/conclusion is that agency relationship (as envisaged by AT) necessitates audit, while requiring due regard for ethical interest of all concerned parties (as envisaged by ST). This implies that AT is very relevant but too parochial to fully accommodate the wider nature of the nexus of relationships and certain issues which are then further considered in ST. The key aspect of knowledge within this objective focuses on the fact that it narrows the existing gap caused by the absence of generally accepted theories in AF modelling by also identifying other theories (other than AT and ST) that could possibly be linked to AF.

Regarding **original theoretical** contribution to knowledge, the objective precedentially associates DCT with AF modelling as explained in Chapters 4 and 8. Additionally, the thesis innovatively engages in a comparison of the three main theories that facilitate this thesis (AT, ST and RCT).[57] By doing so, the thesis also uniquely offers further original contribution by identifying **control** as the key denominator amongst the latter theories supported by diagrammatic representation of the key arguments in Chapter 4. In brief, AT deals with separation of ownership (shareholders) from **control** (board of directors) while ST **c**oncerns itself with separation of **control** from a wider spectrum of stakeholders (including non-owner stakeholders) so as to cope with additional relationships recognised in modern corporations (s.172 CA,2006).

RCT**,** on the other hand, identifies itself with loss of **control** by the regulator to the regulated entity. To the best of the researcher's knowledge these contributions stated within this paragraph, are contributions to knowledge originally generated by this thesis.

[57] Chapter 4

10.2.1.2: Objective 5: Key Theoretical Knowledge Contributions

Unlike any literature that was consulted prior to (and during) this thesis, this objective contributes **original** knowledge to AF literature within the identified FTSE 250 firms. Primarily, it does so by seeking to **identify theories** (mainly AT, ST and RCT) that possibly underpin AF movements in a **regime of MAR**.[58]It also uniquely associates DCT and KBT with AF movements in MAR regime. As also concluded under Chapter 5, different key implications arise in the two MAR situations (RWAR and NAR)[59] assessed under analytical review.

Generally, where there is RWAR, the increased regulation leads to increases in asymmetry of information due to MAR regulation, and higher average increases in AF arise closer to the year of implementation of MAR (i.e., year of rotation - 2016). Although it is reasonable to expect additional audit work when there is an increase in regulation (and within the identified FTSE 250 companies, the timing appears to be opportunistic, as in AT, and by extension, ST). Also, they may possibly be aimed at recovering earlier discounts offered by the auditors.

On the other hand, where there is NAR (No Auditor Rotation) there appears to be discounting of fees; (i.e., lowballing) (Pong &Whittingtom,1994 and Corbella *et al.*,2015) by the incumbent auditor closer to the year of implementation of MAR (2016).The discounting of fees just before 2016 may well be aimed at signalling audit clients (as in **Signalling Theory**) about the auditor's enthusiasm (as an agent) to retain existing audit engagements (Wu,2012).

[58] Chapter 5
[59] RWAR (Retendering With Auditor Rotation) and NAR(No Auditor Rotation)

10.2.2: Theoretical Policy Contributions

Based on the above Key theoretical **knowledge** contributions in OBJ1 and OBJ5, some theoretical **policy** contributions can be offered as follows:

10.2.2.1: Objective 1: Theoretical Policy contributions

- That, the findings enhance AF - related (packaged) advice for management in terms of **the** diversity of theoretical lenses /explanations through which to advise stakeholders.
- That, management can benefit from caveats offered[60] in relation to:
    - the application of the main theories (AT and ST) and
    - Current Audit Fee model (essentially based on Simunic.1980).

10.2.2.2: Objective 5: Theoretical Policy contributions

- That, (in terms of AF negotiations), management has some improved understanding of theories and literature relating to movements of AF in relation to **MAR** (Audit Regulation and Directive, 2014).
- That, (at the time of tendering and actual rotation) management can be guided by explanations offered regarding MAR (e.g., in general, actual change of auditors appear to be associated with increases in AF).

10.2.3: Objectives 2 - 4: Key Empirical Knowledge Contributions

Apart from theoretical aspects that drive the thesis, this research is primarily motivated by the perceived absence of direct quantitative research into the determinants of AF in FTSE 250 companies or their sectoral sets in the UK. Accordingly, OBJs 2-4 offer some key empirical **knowledge** contributions, individually, as well as by virtue of shared contributions in some

[60] Chapter 4

respects, such as the empirical approach or the duration for which data was collected or technique/s employed in fulfilment of those objectives. In similarity with the theoretical objectives (OBJ1 and OBJ5), the **knowledge** contributions for the empirical objectives (OBJ2-4), are first presented as foundation for the **policy** contributions**.**

10.2.3.1: Objectives 2-4: Shared Empirical Knowledge Contributions

Firstly, this thesis is the first specific, quantitative research into AF determination in FTSE 250 or its sectoral sets (to the best of the researcher's knowledge) and hence contributes **original** knowledge in that context. **Secondly**, the **lagged data** in OBJ2-4 is an **original** contribution to knowledge. It represents an attempt to align statistical representation of information (multiple regression) with real word considerations of AF determinant factors[61]. Outcomes of the unlagged and lagged regressions are already explained in the previous and penultimate chapters.

Thirdly, the latter three empirical objectives do contribute **original** knowledge in thesis in terms of **its unique timeline** (2014 -2016) within the FTSE 250. The ARD (2014) which introduced MAR, is one of the most significant regulations with regard to auditors and it came into force in 2014 and took effect from 2016.

Therefore, apart from being the first quantitative research into the FTSE250 or its sectoral sets, this thesis provides some indicative knowledge of the behaviour of AF determination between those key years. The regulation was meant to address some agency problems such as familiarity and cosiness of the auditor with audit clients including their audit committees, audit concentration and scandals (Sikka,2019). Accordingly, this research period appears to increase

[61] Chapter 7

the significance of this thesis in comparison with periods observed in prior literature which are not associated with the introduction of such a key regulation.

Additionally, the fact that virtually all the models (in OBJs 2-4) show positive constants appear to indicate AF premia being charged and this **extends** knowledge from previous work on AF (e.g., Pong and Whittington, 1994; Gonthier-Besacier and Schatt, 2006; Campa, 2013; Sikka, 2019).

10.2.3.2: Objectives 2: Key Empirical Knowledge Contributions

Aside from the shared aspects of knowledge contribution common to OBJ3and OBJ4 as above, **OBJ2** provides some evidence of some **primary traditional** determinants (NCGVs), using unlagged and lagged data/models in the identified FTSE 250 companies. The results in OBJ2 **extend knowledge of** previous literature on AF modelling in UK (e.g.,Taffler and Ramalinggam,1982; Chan *et al.*,1993; Pong and Whittington, 1994; Campa, 2013) and globally by AF modelling author (Simunic, 1980) and others (e.g., Firth, 1985; Castro *et al.*,2015,Widmann, 2020). It also originates and extends knowledge to the FTSE 250 index by **sub-setting** the main models comprising overall number of companies into **sector-wise** models.

10.2.3.3: Objective 3: Key Empirical Knowledge Contributions

OBJ3 originates and **extends** knowledge on an individual basis, aside from the aspects of shared knowledge contributions offered by empirical objectives above. In addition to the NCGVs (in OBJ2), OBJ3 also includes CGVs. It therefore **extends** knowledge in terms of providing evidence of some significant determinants while controlling for the two CGVs in this thesis. In so doing, it also **originates new** knowledge by its direct focus on assessing

whether the addition of CGVs **significantly enhances** the coefficients of the selected NCGVs; specifically, within the sectoral sets of the FTSE250. A key aspect in which it also contributes original knowledge is in relation to the **construction** of the **CGVs (ACC and AUQ)** as already elaborated in other aspects of the thesis especially in Chapter 7. Therefore, the proxies for the two CGVs are unique to this thesis.

10.2.3.4: Objective 4: Key Empirical Knowledge Contributions

Aside from the **shared** aspects of knowledge contribution common to OBJ2 and OBJ3 as above, OBJ4 uses the clients' **variables identified in this thesis** to contribute **indicative** knowledge that is **original** in connection with the widespread practice of treating the Big4 audit firms as a homogeneous unit. While Hrazdil *et al*. (2020) assessed the homogeneity or otherwise of Big 4 audit firms based on audit premia and industry specialisation in the U.S., this research uniquely assesses the shared commonality in the influence of the selected AF determinant factors across auditors within this research.

The assessment of the shared commonality across the Big4 on the basis of the selected clients' variables is perceived by the researcher as the **original** and hence first, within AF study, especially in the UK. Despite the results of OBJ4 being described as indicative knowledge by the researcher, as above, they do align with those of some authors (e.g., Fafatas and Sun, 2010; Hrazdil *et al*., 2020) to the extent that they also challenge the common assumption that the Big4 audit firms comprise a homogenous unit (e.g., Kanakriyah,2020). OBJ4 is assessed by creation of auditor-wise models within the identified sectoral FTS250 companies.

Based on the above Key Empirical **Knowledge** Contributions in Objectives 2-4 above, some Empirical **Policy** Contributions can be offered.

10.2.4: Objectives 2-4: Empirical Policy Contributions.

- That, the predominant existence of models with **positive** constants (audit premia) should provoke management's thinking and possible reassessment of the value of audit and provoke more aggressive pricing of audit engagements. In particular, there is the possible existence of premia being earned by auditors of R&C REITs, T&L and SS industry sectors compared to EII sector in this research.
- That, the existence of some **negative** constants indicates possible **low balling**. This should prompt management to ensure that audit quality is not also reduced due to the discounting of early engagement fees by auditors.
- That, management, audit committee members and other stakeholders such as professional regulators (e.g., the Competition Commission, ICEAW and ACCA) be aware that auditors of the identified FTSE 250 audit firms appear to use differentiation strategies to earn premia in terms of industry specialisation. The latter knowledge could benefit these stakeholders if it forms the basis for policies that aim to address aspects such as the oligopolistic behaviour of the Big4 firms (Chambers, 2013).
- That, management, and other stakeholders such as audit committee members who take regard for the findings of this thesis should consider choosing regression results based on **unlagged data** over those with **lagged data** for reasons already explained in the previous chapter (e.g., higher $R^{2,}$, F-statistic and number of significant variables).
- That, the **empirical findings** about these sectoral sets of FTSE250 provide management and other stakeholders such as regulators, AF modelling auditors, and audit committee members with a basis **for comparison** between the relevant sectoral sets of **other i**ndices.
- That, management, auditors, audit committee members and AF modelling authors particularly note that size (**TAS)** being negatively associated with AF (within the R&C

REITs sector) is very rare in AF modelling (Acar and Acar, 2020). Hence, this finding challenges the institutionalised thinking that size only has a positive and usually significant relationship with AF. Stakeholders should therefore give some consideration to the latter point, especially if the audit client has a very improved accounting system (Acar and Acar, 2020).

10.2.4.1: Objective 2: Empirical Policy Contributions

Aside from the aspects of policy contributions common to OBJ3 and OBJ4 as above, OBJ2 also contributes individually as follows:

- That, the findings prompt stakeholders such as management, audit committee members and auditors to be aware of the **predominant factors (NCGVs)** that drive **audit fee** across the identified sets of the FTSE 250, as already cited/referenced above (e.g., size, complexity, and business sectors)[62].
- That, management should (as a priority) conduct regular reviews aimed at improving governance of the predominant factors on the basis of their relationships with AF so as to minimise the AF payable. For instance, size (TAS)) being a very positive and significant determinant factor of AF must be of high priority in terms of **appropriate verification** including cut off procedures. This is to ensure that it is not stated above its appropriate value since any increases appear to also increase AF.

10.2.4.2: Objective 3: Empirical Policy Contributions

In addition to the aspects of policy contributions common to OBJ2 and OBJ4 as above, OBJ3 also contributes as follows:

[62] Chapter 8

- That, management, and audit committee members can be **more selective** about CGVs since results are **mixed** and the chosen CGVs in this thesis are rarely significant.
- That, management, audit committee members and other stakeholders (e.g., AF modelling authors should further explore identified **NCGVs** which were **significantly enhanced** by addition of **CGV (**especially size and complexity**).** Such NCGVs appear to respond favourably to improved governance and hence should be selectively considered in terms of management time and research focus.
- That, management should reassess the benefit of the audit premia that appears to be paid for industry-specialisation amongst auditors since the audit quality variable **(AUQ)** is only significant within a single business sector (T&L sector). This appears to align with the findings of Campa (2013) which claims that audit quality offered by the Big4 is not commensurate with audit fee premia charged.
- That, management should not overload audit committees with members that have financial expertise and/or several NEDS as this might not significantly affect the auditor's perception of governance to prompt reduction/increase in audit procedure. The audit committee competence variable (ACC) is only significant in one sector-wise model (SS sector) in OBJ3.

10.2.4:3:Objective 4: Empirical Policy Contributions

In addition to the aspects of policy contributions common to OBJ2 and OBJ3 as above, OBJ4 also makes other policy contributions as follows:

- That, management, audit committee members can make more specific decisions regarding the presence or absence of shared commonality or homogeneity of impact with regard to certain client's characteristics across the Big4 auditors based on indicative findings in this research.

- That, when negotiating audit engagements within the identified sectoral sets (and possibly other FTSE 250 companies), management should note that there appears to be consensus across auditors that size proxies (e.g., total assets), risk proxy (e.g., profit before tax) and sector considerations are very significant.
- That, on the basis of premia that appear to be paid to auditors, (as indicated in the **auditor-wise models),** management and auditors in particular, should reconsider the audit quality as explained/referenced within this section).

10.3: Research Recommendations

Based on the knowledge and policy contributions, the results offer some avenues for recommendations and further research. The recommendations are focused on both future researchers and other potential beneficiaries of the results/findings of this thesis (e.g., the Board, auditors, AF modellers, journal publishers and regulators).

10.3.1: Objectives 1 and 5: Theoretical Research Recommendations

- That **AF modelling scholars** should consider/acknowledge the **limitations** of the Agency and Stakeholder theories as lenses through which AF modelling may be viewed[63].

10.3.1.1: Objective 1: Theoretical Research Recommendations

- That relevant parties such as authors, journal reviewers, publishers or professional bodies should insist on clear explanation of theories and theoretical linkages that underpin journals submitted by AF modelling authors.
- Management**,** auditors, regulators, and AF modellers should explore the reasoning

[63] Chapter 4

underpinning the additional theoretical lenses (e.g., Dynamic Capabilities and Knowledge Based Theories). AF modellers should consider how the limitations highlighted in this thesis (in Chapter 4) about the traditional AF model (developed by Simunic,1980) can provoke improvements to the typical AF model.

10.3.1.2: Objectives 5: Theoretical Research Recommendations

- That, management should always anticipate, and hence budget for likely increases in AF, just before rotation of auditors in MAR regime; especially when a bid is not anticipated from the incumbent auditor.
- That management and AC members should not necessarily consider the discounting of fees by incumbent auditors close to the year of audit tendering as essentially beneficial (as this might well be underpinned by self-interest). Cameran *et al.* (2015) finds that in MAR, the new audit firm appears to discount the audit fee, despite incurring more hours on the audit, likely due to low-balling (a self-interested gesture as in AT). The author suggests that audit quality then lowers in the three years following a change of auditor and discounts are usually subsequently recovered.
- That, management should understand that AF charged by the successor auditors can be positively related to the length of the prior auditor's tenure. Therefore, in a MAR regime, successor auditors associate higher risks with clients having longer tenure with their previous auditors (Kealey *et al*. 2007). It is likely that auditors associate economic bonding hypothesis with previous auditors that have long tenures (Obasi & Okoye.2012).

10.3.2: Objectives 2 - 4: Empirical Research Recommendations

The results of the **empirical** results offer some avenues for recommendations.

10.3.2.1 Objectives 2 - 4: Empirical Research Recommendations

- That, management conduct a study of their own entities based on similar regressions every 3 to 5yrs while benchmarking against those of similar sized sectoral sets or indices.
- That, management should continue to pay attention to specific significant determinants as a means of attempting to understand the behaviour of AF and apply this knowledge when fixing the AF for future engagements.
- That, some avenues for a change/improvement in management approach to governance (as offered by the results/findings) be given some prominence. For instance, in OBJ2, the **main** models and **sector-wise** models indicate that the most positively significant factors are size (total assets), complexity (number of subsidiaries) and business sector **v**ariables. Therefore, the utilisation of assets must be optimised in relation to number/size of assets (including inventories and receivables) including the branches/subsidiaries to ensure that all additions/expansions are necessary. This is because any increases to these variables tend to increase AF. Therefore, any level of utilisation that is not optimal could waste resources.
- That also, firms must be very selective as to the nature of assets held, since this also determines the complexity of the assets and the type/ amount of audit work to be performed. It may be that as much focus as necessary should also be placed on assets that are highly amenable to electronic verification and audit, as this could facilitate audit procedures and reduce AF.
- That, Management should consider a more aggressive pricing approach in terms of premia being paid to Big4 as the audit quality does not appear to be significantly responsive to premia earned by the Big4.

10.3.2.2: Objectives 2: Empirical Research Recommendation

- That, stakeholders such as AF modellers, regulators and auditors should conduct similar studies on the sectoral sets regularly using different (reduced or expanded) number of NCGVs.
- That, relevant auditors of the FTSE 250 should understand the explanations offered for the impact of the NCGVs and compare these with the bases with which they actually assess the significance of the particular variables in practice.

10.3.2.3: Objectives 3: Empirical Research Recommendations

- That, AF modellers employ as many different proxies as possible for both NCGVs and CGVs in future research.
- That management & AF modellers should re-appraise the link between AF premia and the investment towards the competence of audit committees and audit quality so as to identify CGVs that are significant to AF within the firm.
- That Auditors of the FTSE 250 sectoral sets should compare the significantly enhanced variables with those that actually respond significantly to increased corporate governance in practice.

10.3.2.4: Objectives 4: Empirical Research Recommendations

- That AF modellers should focus on achieving a **generally acceptable** opinion on the common treatment of Big4 as a homogenous unit on the basis of clients' AF determinants.
- That, management should consider assessing the Big4 auditors individually when engaging any of them, rather than on the simple assumption that they are part of the Big4.

10.3.2.5: Recommendations for Future Research.

There are further avenues that could be explored in terms of future research

- **Timeline** - Since the research timeline was specifically chosen to match the year the ARD (2014) came into force (2014) and when it took effect (2016), further AF modellers could extend their research timeline beyond three years.
- **Primary research –** Since this research is based on secondary research, future AF modellers of the FTSE250 should consider the inclusion of primary data in their investigations. This was not feasible during this research and is mentioned under Limitations below - within this section.
- **Empirical testing of MAR -** After 2026 (but preferably after 2036), AF modellers should explore the **empirical** testing of the influence of MAR regime on AF in the FTSE 250. 2026 will be 10 years after year of implementation of MAR and 2036 will be 20 years later. This is because auditors should mandatorily be rotated within 10 years (subject to a maximum of 20 years). Allowing maximum time (after 2016) before empirical testing gives time for very many companies to rotate auditors under MAR rules before empirically testing. Some companies that rotated earlier than 2016 are entitled to certain transition arrangements which extend their deadlines for rotation beyond 2016 (ARD,2014).
- **Audit Premia and Lowballing -** Due to indications of audit premia and lowballing (as already referenced above) it is recommended that further research is encouraged by AF modellers, journal publishers and regulators (e.g., FRC (later ARGA) or Competition and Markets Commission) to confirm whether lowballing is prevalent within the audit industry in terms of the FTSE 250 and how it could be minimised. Discounting initial engagements could encourage auditors to reduce audit quality and amount of audit work (Moraes & Martinez, 2015).

- **Key Considerations in the Future of Audit** – Future researchers should consider how issues such as Brexit , Covid , Climate Change and Artificial Intelligence (AI) may have affected AF so far and how much more they could potentially affect it. Although these are recommendations to future researchers, some additional information is provided in ***Appendix 8.***

10.4. Research Limitations

Despite all the models in this thesis being highly significant and with essentially high explanatory power, there have been limitations.

- The results may have been driven by the number of the selected firms (83) and the maximum number of observations over the 3-year period (3yrs x 83 = maximum of 249). The FTSE 250 companies are assessed quarterly and therefore the composition in terms constituent companies do change frequently.
- The number of selected firms was further reduced because the selected firms had to satisfy the research requirements (e.g., be within the FTSE 250 and essentially have the number of the same variables, throughout the three years of observation),
- Consistent with several AF modelling studies[64] focus was placed on commercial firms at the exclusion of institutions such as typical banks and insurance companies - which also minimises the number of selected companies.
- Furthermore, the results may have been influenced by the nature and the number of variables adopted**,** including the categorical variables. Categorical variables (e.g., for auditors, location, and industry variables) may not have totally captured the intended effect of the variables. Hence, broader issues relating to operationalisation of variables may also have impacted this study.

[64] Chapter 7

- This research is based on **secondary** research, although the opinions of some of my fellow academics in Accounting, Auditing and Corporate Governance in general (in Higher Education) and one accessible company director were sought as a form of validation, after completion of the thesis,.
- Not having access to opinions of some key stakeholders (e.g., directors/audit committee members of FTSE 250 or their auditors, due to insurmountable difficulties) may have excluded relevant qualitative contribution of such stakeholders. Therefore, the data is exclusively secondary and should therefore be interpreted with that in mind.
- **The theories** tested in this research (principally AT and ST) based on the traditional AF model (Simunic 1980), suffer from limitations already discussed in Chapter 4. Moreover, AT (the main facilitating theory) assumes that external auditors reduce the agency problem (of asymmetry of information between shareholders and the Board) by an independent examination of the financial and other statements. In practice, there is also asymmetry of information between the **auditor** and other stakeholders including management, audit committees or regulators and also the general public which limit the degree of usefulness and purpose of AT and audit in general (DBIS, 2006).
- In this study, the **assumptions required for the OLS** analysis were fulfilled, and no noteworthy issues arose. However, if these assumptions were not met, it could suggest potential inaccuracies or biases in the findings. Such challenges may have led the researcher to employ more robust techniques (e.g., bootstrapping which create reliable confidence intervals and significance tests for the model's parameters, even in cases where assumptions might be violated) (Field, 2017).

  To make the analysis more sophisticated, more advanced robustness tests such as the introduction of both fixed and random effects (mixed-effects models or hierarchical models) . They allow for accounting for both within-group variation (fixed effects) and

between-group variation (random effects), providing a more comprehensive understanding of the relationships between variables (Field,2017). In the latter case, the Hausman test would have been conducted to differentiate between fixed effects model and random effects models.

Others, include the White test (on whether or not the error term is homoscedastic), overidentification test (to evaluate the existence of more parameters in the models than are required to appropriately specify the relationships between the variables of interest) and re-running models (with additional variables) (Huntington-Klein (2019 n.p.). However, audit (and hence AF) falls within Behavioural Science which is a branch of Social science and Corporate Governance. While a high level of statistical robustness is important in some studies, it is not critical within the latter domains (and hence this thesis) because the focus is on the behaviours rather than on absolute statistical validity. Thus, the intensity of the quality of statistical validity required is not very high or exhaustive.

- **Potential articles** emanating from this thesis, focus on theory and some aspects of research which have been of less focus in AF modelling as follows:

  i) Audit Fee Modelling with Governance: A theory-based Review of Relevant Literature (Linked to Objective 1 of this thesis) (in the *International Journal of Auditing)* .

  ii) Exploration of a Corporate Auditors' Profession: A review of the Statutory Audit Model (in *Accounting and Business Analysis (FABA) or Journal of Business Finance Accounting Finance)*.

iii) The impact of Mandatory Audit Rotation on Audit Fees: Evidence from the FTSE 250 UK (2018 - 2023) (in *Accounting and Business Analysis (FABA) or Journal of Business Finance Accounting Finance)*.

10.5: Further Thoughts

This thesis is primarily motivated by the absence of a direct quantitative research into the FTSE250 and/or its sectoral sets. Even at the end of this research journey, the researcher still ponders over how an index launched as far back as 12 October 1992 and which '*has long been seen as a useful gauge of the health of the UK economy'* (Hunter 2017, n.p.) appears to be much underresearched, quantitaively, in terms of AF determination. On the supply side, the main puzzle appears to be how the Big 4 auditors can be so dominant in the audit market while (at times) still charge AF premia despite several scandals (Sikka, 2019; Hrazdil *et al.,*2020).

Indeed, the expectation of different users of information (including the auditors) is still very diverse; thus increasing the expectation gap. In the case of Carilion, KPMG chairman claimed, '*the audit work we did was appropriate and responsible.' ... it is **'not correct that an unmodified audit report gives a company a "clean bill of health"'*** and the auditors blamed it on the *'expectation gap'* which subsists in connection with the purpose and nature of an audit (The Guardian,2018 n.p.). This opinion further complicates the argument about the level of **trust** to be placed on auditors and hence the extent to which potential shareholders should make investments on the basis of audit reports.

Considering the function of audit generally, the emphasis being placed on diversity of stakeholders (including the environment) and their objectives, the scope of audit is expected to be further broadened with implications for increased AF. Appropriately, the new

Professional Body (Corporate Auditing Profession (CAP)) to be created under ARGA with existing auditors and others, that have appropriate level of education and authorisation (e.g. Environment Social and Governance (ESG) auditors and Cyber security auditors) would change the Statutory model of Audit (Brydon, 2019). In recent times, the progress being made technologically in terms of AI is likely to affect the way audit is performed regulated and charged, (***Appendix 8*** provides additional information).

Taking all the above issues (especially the move towards broader stakeholder-interests, the future of audit appears to be moving from audit of historical financial information towards that of Assurance (which includes non-financial information - such as environmental impact and sustainability), occasioned by AI (for which additional information is also provided in ***Appendix 8).***

BIBLIOGRAPHY

- **Abbott, L. J., Parker, S., Peters, G. F., & Raghunandan, K. (2003).** 'The Association between Audit Committee Characteristics and Audit Fees.' Auditing*: A Journal of Practice & Theory,* 22(2), 17-32.

- **Abbott, L. J., Parker, S., & Peters, G. F. (2004).** 'Audit Committee Characteristics and Restatements.' Auditing*: A Journal of Practice and Theory*, 23(1), 69-87.

- **Abdullah, A.M., Naser, K., & Al-Enazi, N. (2017).** An empirical investigation of factors affecting audit fees: evidence from Kuwait. International Advances in Economic Research, 23(3), 333-347.

- **Abid, G., Ahmed, A. (2014).** 'Failing in Corporate Governance and Warning Signs of a Corporate Collapse'. *Pakistan Journal of Commerce and Social Sciences* 2014, Vol. 8 (3), 846-866.

- **Abid, A. Shaique, M. and Anwar ul Haq, M. (2018).** 'Do Big Four Auditors Always Provide Higher Audit Quality?' Evidence from Pakistan'. *International Journal of Financial Studies*. 2018, 6, 58.

- **Acar R. and Acar, F. (2020). '**Effect of Auditor Characteristics on Audit Fees.' [Online] Available at: https://www.researchgate.net/publication/339000711_effect_ of_auditor_characteristics_on_audit_fees. [Accessed 20 July 2020].

- **ACCA (2011).** 'Audit under fire: a review of the post-financial crisis inquiries.' [Online] Available at: http://www.accaglobal.com/content/dam/ acca/global /PDF-technical/audit-publications/pol-af-auf.pdf [Accessed: 5th July 2016].

- **ACCA (2011). '**Comments from ACCA to the Public Company Accounting Oversight Board (PCAOB) 2011.' Available at: https://www.accaglobal.com/uk/en/technical-activities/ technical-resources-search/2011/december/pcoab-concept-release.html. [Accessed 20 July 2020].

- **ACCA (2015).** [Online] Available at: https://www.accaglobal.com/uk/en.html [Accessed: 4th May 2016].

- **ACCA (2019).** 'Closing the Expectation Gap in Audit.' [Online] Available at: https://www.accaglobal.com/content/dam/ACCA_Global/professional-insights/Expectation-gap/pi-closing-expectation-gap-audit.pdf. [Accessed 1st July 2020].

- **ACCA (2020).** 'Think Ahead.' [Online] Available at: https://yourfuture.accaglobal.com/ global/en.html?ds_medium=cpc&gclid=Cj0KCQjwm6KUBhC3ARIsACIwxBgnShWLLKq YP1aJdGg_5C1hEnKdP4GIxu4cXQG1wfDpb6UlMsQZ9kAaAgVdEALw_wcB&gclsrc=aw .ds [Accessed 1st July 2020].

- **Accountancy Age (2019).** 'Top Accounting Scandals in 2018.' [Online] Available at:

https://www.accountancyage.com/2019/03/20/a-summary-of-the-cases-of-financial-scandals-of-2018/. [Accessed 1st January 2019].

- **Accounting Weekly (2014**). 'Professional Accounting Bodies in South Africa -Who is Who in the Zoo?' [Online] Available at: https://accountingweekly.com/professional-accounting-bodies-in-south-africa-who-is-who-in-the-zoo/ [Accessed on 20th January 2020].

- **Adelopo, I. (2010).** 'The Impact of Corporate Governance on Auditor Independence: A Study of Audit Committees in UK Listed Companies.' PhD Thesis, De Montfort University, Leicester [Online] Available at: https://www.dora.dmu.ac.uk/bitstream/handle/2086/3836/Ismail%20Adelopo%20thesis.pdf?sequence=1 [Accessed 4th July 2016].

- **Ahmed, R. A. and Abdullah, H. A. (2016).** 'A Proposed Framework of Audit Fees Determinants in Kurdistan Region.' *European Journal of Business and Management* Vol.8, No.12, 2016.

- **Alareeni, B.A. (2019).** 'The Associations Between Audit Firm Attributes and Audit Quality-Specific Indicators: A Meta Analysis.' *Managerial Auditing Journal*, Vol. 34 Issue: 1, pp.6-43.

- **Al-Baidhani, A.M. (2019**) 'The Role of Audit Committee in Corporate Governance.' [Online] Available at: https://www.researchgate.net/publication/336994834 [Accessed 14th November 2021].

- **Albrecht, S.W. and Sack, R.J. (2000). '**Accounting Education: Charting the Course Through a Perilous Future.' *The American Accounting Association,* Sarasota, FL.

- **Alberti, S. (2021). '**Accountancy Standards Profile : ICAEW President William Brooks.' Accountancy Age 28th June 2021. [Online] Available at: https://www.accountancyage.com/2021/06/25/profile-icaew-president-william-brooks/

- **Alves, S. (2013**). 'The Impact of Audit Committee Existence and External Audit on Earnings Management: Evidence from Portugal.' *J. Finance. Rep. Acc*. 11 (2), 143–165. http://dx.doi.org/10.1108/JFRA-04-2012-0018.

- **Al Mutairi, A. Naser, K. & Al Enazi, N. (2017).** 'An Empirical Investigation of Factors Affecting Audit Fees: Evidence from Kuwait.' *International Advances in Economic Research*, 23, 333-347. https://doi.org/10.1007/s11294-017-9649-5.

- **Amarullah, F., Siregar S. V., Viska Anggraita, V. (2016).** 'Impact of Abnormal Audit Fee to Audit Quality: Indonesian Case Study.' *American Journal of Economics* 2016, 6(1): pp.72-78.

- **American Institute of Chartered Public Accountants (2019).** [Online] Available at: https://www.aicpa.org/interestareas/centerforauditquality/resources/sec.html [Accessed 4th December 2019].

- **Anderson, T., and D. Zeghal (1994).** 'The Pricing of Audit Services: Further Evidence from the Canadian Market.' *Accounting and Business Research* 24 (Summer): 195-207.

- **Andre, P., Broye, G., Pong, C.K.M and Shatt A. (2011).** 'Audit Fees, Big Four Premium and Institutional Settings: The Devil is in the Details!'. ResearchGate [Online] Available at: https://www.researchgate.net/publication/228247864_Audit_Fees_Big_Four_Premium_and_Institutional_Settings_The_Devil_is_in_the_Details/citations. [Accessed 20 July 2020].

- **André, P., Broye, G., Pong, C., & Schatt, A. (2016).** 'Are Joint Audits Associated with Higher Fees?' *European Accounting Review*, *25*(2), 245–274. https://doi.org/10.1080/09638180.2014.998016

- **Ang, S.H. (2014).** 'Research Design for Business and Management.' London: Sage Publications Ltd.

- **Applied Corporate Governance (2015).** 'The importance of Corporate Governance: Why do we have to take Corporate Governance seriously?' [Online] Available at: https://www.applied-corporate-governance.com/definition-of-corporate-governance/# [Accessed 7th March 2021].

- **Armstrong, C.S., Guay, W.R., Weber, J.P. (2010). '**The Role of Information and Financial Reporting in Corporate Governance and Debt Contracting.' *Journal of Accounting and Economics*, 50, pp. 179-234.

- **Aronmwan, E.J. & Okafor C.A. (2015).** Auditee characteristics and audit fees: An analysis of Nigerian quoted companies.' *Journal of Social and Management Sciences, 10(2), 68-79.*

- **Ashbaugh, H., R. LaFond, and B.W. Mayhew (2003)**. 'Do Non-audit Services Compromise Auditor Independence?' *The Accounting Review* 78: 611-639.

- **Audit Regulation and Directive (2014).** 'Directive 2014/56/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2006/43/EC on statutory audits of annual accounts and consolidated accounts Text with EEA relevance.' [Online] Available at**:** http://data.europa.eu/eli/dir/2014/56/oj [Accessed 20th June 2016].

- **Audousset-Coulier, S. (2015).** 'Audit Fees in a Joint Audit Setting.' *European Accounting Review,* 24:2, 347-377. [Online]. Available at: https://www.tandfonline.com/doi/full/10.1080/09638180.2014. [Accessed: 5th December 2015].

- **Axen, L. (2020).** 'Determinants of Audit Fees and the Management of Corporate Disclosures.' PhD Thesis, Department of Management & Engineering, Linkoping University, SE-581 83 Linkoping [Online] Available at: http://liu.diva-portal.org/smash/nget/diva2 :1390734/FULLTEXT01 [Accessed 10th January 2022].

- **Azami, Z. and Salehi, T. (2016).** 'The relationship between Audit Report Delay and Investment Opportunities.' [Online] Available at: https://www.researchgate.net/publication/312205788_The_relationship_between_audit_report_delay_and_investment_opportunities/citation/download [Accessed 2nd March 2020].

- **Bakre, O. M. (2007).** 'The Unethical Practices of Accountants and Auditors and the Compromising Stance of Professional Bodies in the Corporate World: Evidence from Corporate Nigeria.' *Accounting Forum*, 31(3): 277-303.

- **Bandyopadhyay, S. P., & Kao, J. L. (2001).** 'Competition and Big 6 Brand Name Reputation: Evidence from the Ontario Municipal Audit Market.' *Contemporary Accounting Research,* 18, 27-64.

- **Bajra, U., Cadez, S. (2017).** 'The Impact of Corporate Governance Quality on Earnings Management: Evidence from European Companies Cross-Listed in the USA.' *Australian Accounting Review* 28, no. 2: 152–66.

- **Bajra, U. and Čadež, S. (2018).** 'Audit Committees and Financial Reporting Quality: The 8th EU Company Law Directive perspective.' *Economic Systems* 42 (2018) 151–163.

- **Bandyopadhyay, S.P., Chen C. and Yu, Y. (2014).** 'Mandatory Audit Partner Rotation, Audit Market Concentration, and Audit Quality: Evidence from China.' *Advances in Accounting, incorporating Advances in International Accounting* 30 (2014): pp. 18–31.

- **Bahsin, M.L. (2013).** 'Corporate Accounting Fraud: A Case Study of Satyam Computers Limited.' *Open Journal of Accounting*, 2013, 2, 26-38

- **Basioudis, I.G. and Francis, J.R. (2007).** 'Big 4 Audit Fee Premiums for National and Office-Level Industry Leadership in the United Kingdom.' *Auditing*: *A Journal of Practice & Theory*, 26, 143-166.

- **Basioudis, L.G., Gul, F. A. and Ng, A. C. (2012).** 'Non-Audit Fees, Auditor Tenure, and Auditor Independence.' [Online] Available at SSRN: http://ssrn.com/ abstract=204331 [Accessed on 12th October 2019]

- **Bates, S. (2010).** 'How Polly Peck went from hero to villain in the City.' [Online]Available at: https://www.theguardian.com/business/2010/aug/26/polly-peck-business-asil-nadir [Accessed: 23rd July 2015].

- **Bauman, M. Ratzinger-Sakel, N. V.S. and Tiedemann, T. (2019**). 'Pricing Strategies in the Light of Audit Tendering.' [Online] Available at: SSRN: http://dx.doi.org/ 10.2139/ ssrn.3342408.

- **Beattie, V., Goodacre, A., Pratt, K., and Stevenson J. (2001).** 'The Determinants of Audit Fees: Evidence from the Voluntary Sector.' *Accounting and Business Research*.,31(4): pp. 243-274.

- **Bell, T., Marrs, F., Solomon, I., Thomas, H. (1997).** 'Auditing Organizations Through a Strategic Lens, the KPMG Business Measurement Process.' Montvale, NJ, Peat Marwick LLP.

- **Bendickson, J., Muldoon, J., Liguori, E., & Davis, P. E. (2016).** 'Agency theory: The Times, they are 'a changing.' *Management decision,* 54(1), 174-193.

- **Benito, A. (1999).** 'The Economics of Audit Quality: Private Incentives and the Regulation of Audit and Non-Audit Services.' *Pompeu Fabra University*, Barcelona.

- **Berle, A. A., and G. C. Means (1932).** 'The Modern Corporation and Private Property.' [1932] 1968, New York, Harcourt, Brace and World.

- **Bills, K. L., Jeter D. C. and Stein, S. E. (2014).** 'Auditor Industry Specialization and Evidence of Cost Efficiencies in Homogenous Industries.' *The Accounting Review* 90 (5): 1721-1754, Vanderbilt Owen Graduate School of Management Research Paper No. 2321741, Available at: SSRN: http://dx.doi.org/10.2139/ssrn.2321741.

- **Bills, K. L., Lisic, L. L., & Seidel, T. A. (2017).** 'Do CEO Succession and Succession Planning Affect Stakeholders' Perceptions of Financial Reporting Risk?' Evidence from Audit Fees. *Accounting Review*, *92*(4), 27–52. https://doi. org/10.2308/accr-51567

- **Birjandi, H. Mansoorabady, A and Fathi, Z. (2017)'.** Investigating Effective Factors on Audit Fees with an Emphasis on Stickiness of Audit Costs.' *Research Journal of Finance and Accounting* Vol.8, No.9, 2017.

- **Bizcommunity (2019).** '21% of JSE-Listed Companies Have Changed Their Auditors Ahead of MAFR Deadline.' 7th October 2019 [Online] Available at https://www.irba.co.za/news-headlines/press-releases/21-percent-of-jse-listed-companies-have-changed-their-auditors-ahead-of-mafr-deadline [Accessed 2nd January 2010].

- **Blackburn, V. (2019).** 'Top Accounting Scandals in 2018.' Accountancy Age, 20th March 2019. [Online] Available at: https://www.accountancyage.com/2019/03/20/a-summary-of-the-cases-of-financial-scandals-of-2018/ [Accessed 6th March,2019].

- **Bloomberg (2007).** 'Crisis at Northern Rock.' [Online]. Available at: http://www.bloomberg.com/news/articles/2007-09-14/crisis-at-northern-rockbusinessweek-business-news-stock-m.,arket-and-financial-advice [Accessed: 3rd July 2016].

- **Boland, V. (2008).** 'The Saga of Parmalat's Collapse.' [Online] Available at: https://www.ft.com/content/c275dc7c-cd3a-11dd-9905-000077b07658 [Accessed 20th August 2019].

- **Booth, J. (2019).** 'Big Four Client Numbers Fall but FTSE100 Stranglehold Remains.' CITY A.M., Monday 2 December 2019 12:01am. [Accessed 20th August 2020].

- **Bouwens, J. (2016). '**What Practitioners and Academics Want to Know About Audit Quality.' [Online] Available at**:** file:///Users/odjeodje/Desktop/MAB-special-issue-What-do-we-know-about-audit-quality-September-2016.pdf

- **Brierley, A., Price, R. and Prior, C. (BPP) (2021).** 'ACCA Strategic Business Leader.' 4th edition, London, BPP Learning Media.

- **Brinn, T., Peel, M., Roberts, R. (1994).** 'Audit Fee Determinants of Independent and Subsidiary Unquoted Companies in the UK - An Explanatory Study.' *British Accounting Review*, 26(2): pp.101-121.

- **Bronson, S.C., Ghosh, A., and Hogan, C.E. (2016).** 'Audit Fee Differential, Audit Effort and Litigation Risk: An Examination of ADR Firms.' [Online] Available at: https://onlinelibrary.wiley.com/doi/full/10.1111/1911-3846.12238. [Accessed 20 July 2020]

- **Brown, D.L., Shu, S. Z., Soo, B. S. and Trompeter (2013).** 'The Insurance Hypothesis: An Examination of KPMG's Audit Clients around the Investigation and Settlement of the Tax Shelter Case Auditing'. *A Journal of Practice & Theory* Vol. 32, No. 4 November 2013 pp. 1–24

- **Brydon, D. (2019).** 'Assess, assure and inform: Improving audit quality and effectiveness: Report of the independent review into the quality and effectiveness of audit.' [Online] Available at: file:///Users/odjeodje/Downloads/brydon-review-final-report.pdf [Accessed 11th January 2021].

- **Bryman, A. and Bell, E. (2011).** *'Business Research Methods.'* 3rd ed. Oxford: University Press

- **Bryman, A. and Cramer, D. (2011).** *'Quantitative Data Analysis with IBM SPSS 17, 18 & 19: A Guide for Social Scientists.'* 1st ed. Hove: Routledge.

- **Bueno, G., Marcon, R., Pruner-da-Silva, A.L. and Ribeirete, F. (2018).** 'The Role of the Board in Voluntary Disclosure.' *Corporate Governance,* Vol. 18 No. 5, pp. 809-838.

- **Bunney J. (2018). '**Kingman Review Calls for Abolition of FRC as Audit Regulator.' [Online] Available at: https://www.accountancydaily.co/kingman-review-calls-abolition-frc-audit-regulator [Accessed 11th Novemeber 2021].

- **Burrell, G. and Morgan, G. (2016).** 'Sociological Paradigms and Organisational Analysis.' Abingdon: Routledge (originally published by Heinemann 1979).

- **Business Insider (2020). '**The Biggest South Africa Business Scandals Over the Past Decade.' [Online] Available at:https://www.businessinsider.co.za/the-top-south-african-business scandals-the-past-decade-2020-1[Accessed 7th May 2020].

- **Buthelezi (2019).** 'Spike in JSE-Listed Firms Rotating Auditors' Business Day, 1st April 2019.' [Online] Available at: https://www.businesslive.co.za/bd/companies/financial-services/2019-04-01-spike-in-jse-listed-firms-rotating-auditors/ [Accessed 21st January 2020].

- **Butler, S. (2019).** 'Patisserie Valerie Falls into Administration as Bank Talks Fail.' [Online] Available at: https://www.theguardian.com/business/2019/jan/22/patisserie-valerie-administration-cafe-chain [Accessed 21st January 2020].

- **Cadbury, Committee (1992),** 'Report of the Committee on the Financial Aspects of Corporate Governance', London: Gee & Co. Ltd.

- **Cameran, M. (2005).** 'Audit fees and the large auditor premium in the Italian market.' International Journal of Auditing, 9(2), 129-146. https://doi.org/10.1111/j.1099-1123.2005.00205.x

- **Cameran, M., Francis, J., Marra, A. & Pettinicchio, A**. **(2015),** "Are There Adverse Consequences of Mandatory Auditor Rotation? Evidence from the Italian Experience", Auditing - A Journal of Practice & Theory, vol. 34, no. 1, pp. 1-24.

- **Cameran, M., Prencipe, A. & Trombetta, M. (2016)**, "Mandatory Audit Firm Rotation and Audit Quality", European Accounting Review, vol. 25, no. 1, pp. 35-58.

- **Campa, D. (2013).** 'Big 4 Fee Premium and Audit Quality: Latest Evidence from UK Listed Companies.' *Managerial Auditing Journal,* Vol.28 No.8, pp. 680-707 [Online] Available at: https://doi.org/10.1108/MAJ-11-2012-0784 [Accessed 23rd December 2021].

- **Cantoni, E., D'Silva, K., Isaacs, M. (2011).** 'The Determinants of Audit Fees: Further Evidence from the UK Charity Sector.' Working Paper No. 2-10, Centre for International Business Studies (CIBS), London Southbank University, London.

- **Carcello, J.V., Hermanson, D. R., Neal, T. L., & Riley Jnr, R. A. (2002). '**Board characteristics and audit fees.' *Contemporary Accounting Research*, 19(3), 365-384.

- **Carmona, P., Momparler A. and Lassala C. (2015).** 'The Relationship Between Non-Audit Fees and Audit Quality: Dealing with the Endogeneity Issue.' [Online] Available at: https://www.researchgate.net/publication/283478674.

- **Carson, E., Fargher, N., Simon D. T., Taylor M. H. (2004).** 'Audit Fees and Market Segmentation-Further Evidence on How Client Size Matters within the Context of Audit Fee Models,' International Journal of Auditing, 8(1): pp. 79-91.

- **Castillo-Merino, D., Garcia-Blandon, Joseph., and Martinez-Blasc, M. (2019).** 'Auditor Independence, Current and Future NAS Fees and Audit Quality: Were European Regulators Right?.'[Online] Available at: https://www.researchgate.net/publication/ 331217835_Auditor_Independence_Current_and_Future_NAS_Fees_and_ Audit_Quality_Were_European_Regulators_Right [Accessed 11th March 2022].

- **Castro, W. B. D. L., Peleias, I. R., & Silva, G. P. D. (2015).** 'Determinants of Audit Fees: A Study in the Companies Listed on the BM&FBOVESPA, Brazil.' Revista Contabilidade & Finanças 26.69 (2015): 261-273.

- **CBI (2012).** 'Reform of the Audit Market.' CBI position paper, January 2012. [Online]. Available at: http://www.cbi.org.uk/media/1299735 /cbi_position_ paper_-_reform_of_the_audit_market__january_2012.pdf [Accessed 21st July 2016].

- **Chadegani, A. A. (2011).** 'Review of Studies on Audit Quality.' International Conference on Humanities, Society and Culture IPEDR Vol.20 (2011) IACSIT Press, Singapore.

- **Chambers, A. D. (2013).** 'Is Audit Failing the Global Markets.' *International Journal of Disclosure and Governance* (2013) 10, 195–212.

- **Chambers, A. D. (2013).** 'Reflections on GCC Corporate Governance.' Chambers, A.D. (2013) Reflections on Gulf Corporate Governance, *The Hawkamah Journal*, ISBN 978-0-9899694-0-6, 1 (2), pp. 33-42.

- **Chambers, A. D. (2020). '**Chambers' Corporate Governance Handbook' 8th ed. West Sussex, Bloomsbury Publishing.

- **Chan, P., Ezzamel, M. and Gwilliam, D. (1993).** 'Determinants of Audit Fees for Quoted UK Companies.' *Journal of Business Finance & Accounting,* 20(6): pp.765-786.

- **Charles, S. L., Glover, S. M., & Sharp, N. Y. (2010).** 'The Association Between Financial Reporting Risk and Audit fees Before and After the Historic Events Surrounding SOX.' *Auditing: A Journal of Practice & Theory*, 29(1), 1-15.

- **Chatterjee, B., & Mir, M. Z. (2008)**. 'The Current Status of Environmental Reporting by Indian Companies.' *Managerial Auditing Journal*, 23(6), 609-629.

- **Che-Ahmad, A., and Houghton K. A. (1996), '**Audit Fee Premiums of Big Eight Firms: Evidence from the Market for Medium-Size U.K. Auditees.' *Journal of International Accounting & Taxation,* 5(1):53-72.

- **Cheffins, B. R. (2012).** 'The History of Modern U.S. Corporate Governance: Introduction.' Edward Elgar's Corporate Governance in the New Global Economy Series, 2011, *University of Cambridge Faculty of Law Research Paper* No. 29/2012, Available at SSRN: https://ssrn.com/abstract=2192151.

- **Chen, C. (2003).** 'On The Shoulders of Giants 'in book Mapping Scientific Frontiers: The Quest for Knowledge Visualization [135-166]' [Online] Available at: https://www.researchgate.net/publication/ 295253741_On_the_Shoulders_of_Giants [Accessed 1st August 2022]

- **Chi, W. (2010).** 'An Overlooked Effect of Mandatory Audit–Firm Rotation on Investigation Strategies.' *OR Spectrum*, 2011, Volume 33, Number 2, Page 265.

- **Chiang, H. (2013).** 'Agency conflicts and choice of specialist audit firms and audit partners: signalling or substantial monitoring?'. *Corporate Ownership & Control /* Volume 10, Issue 3, Spring 2013.

- **Cho, M., Kwon S.Y. and Krishnan G.V. (2020).** 'Audit Fee Lowballing: Determinants, Recovery, and Future Audit Quality.' [Online] Available at: https://www.researchgate.net/publication/346514613_Audit_fee_lowballing_Determinants_recovery_and_future_audit_quality [Accessed 30th December 2021].

- **Choi, Y.K., Han, S.H., Lee, S., (2014).** 'Audit Committees, Corporate Governance, and Shareholder Wealth: Evidence from Korea.' *J. Acc. Public Policy* 33 (5), 470–489.

- **Chung, D.Y. and Kallapur, Y. (2003).** 'Client Importance, Non-audit Fees and Abnormal Returns.' *The Accounting Review*, 78 (4): pp.931-955

- **Clarke, A. (2021).** 'Strengthening Audit for the Benefit of Stakeholders, the Environment, and Society.' Available at: https://luminategroup.com/posts/blog/strengthening-audit-for-the-benefit-of-stakeholders-the-environment-and-society [Accessed 21st September 2021].

- **Clatworthy, M.A. and Peel, M.J. '**The Effect of Corporate Status on External Audit Fees: Evidence from the UK.' Cardiff Business School, Cardiff University, Cardiff. UK.

- **Cohen, L. Manion L. and Marison, K. (2007).** 'Research Methods in Education.' 6th ed. Abingdon: Routledge.

- **Cohen, L. Manion L. and Marison, K. (2018).** 'Research Methods in Education.' 8th ed. New York: Routledge

- **Companies Act (1989).** [Online]. Available at: https://www.legislation.gov.uk /ukpga/1989 /40/contents [Accessed: 23rd December 2015].

- **Companies Act (2006).** [Online] Available at: http://www.legislation.gov.uk/ukpga/2006/46/ contents [Accessed: 3rd Jan 2016].

- **Competition and Markets Authority (2018).** 'Statutory Audit Services Market Study.' Available at : https://assets.publishing.service.gov.uk/media/5c17cf2ae5274a4664fa777b/ Audit_update_paper_S.pdf [Accessed on 2nd December 2019].

- **Competition and Markets Authority (2019).** 'CMA Recommends Shake-up of UK Audit Market.' [Online]. Available at: https://www.gov.uk/government/news/cma-recommends-shake-up-of-uk-audit-market. [Accessed on 2nd February 2019].

- **Connett, D. (2016).** 'Big Four Audit Firms Never Examined Over Illegal Tax Plans.' The Independent, 18th January 2016. [Online]. Available at: http://www.independent.co.uk/ news/uk/crime/emb-0000-big-four-audit-firms-never-examined-over-illegal-tax-plans-a6818126.html : [Accessed: 20th January 2016].

- **Contessotto, C., Knechel, W.R., Moroney, R. (2021).** 'How do audit team industry and client specific experience impact audit effort and audit fees**.'** International Journal of Auditing 2021; 25:249-268.

- **Coram, P., Ng, J., & Woodliff, D. R. (2004**). 'The Effect of Risk of Misstatement on the Propensity to Commit Reduced Audit Quality Acts Under Time Budget Pressure.' *Auditing: A Journal of Practice & Theory*, 23(2), 159–167. https://doi.org/10.2308/aud.2004.23.2.159.

- **Corbella, S., Florio, C., Gotti, G., Mastrolia S.A. (2015).** 'Audit Firm Rotation, Audit fees and Audit Quality: The experience of Italian public companies. *Journal of International Accounting, Auditing and Taxation* 25 (2015): pp.46–66.

- **Craswell, A. T., Francis, J. R., & Taylor, S. L. (1995).** 'Auditor Brand Name Reputations and Industry Specialization.' *Journal of Accounting and Economics*, 20, 297-322. http://dx.doi.org/10.1016/0165-4101(95)00403-3

- **Creswell, J.W. (2009).** 'Research Design: Qualitative, Quantitative, and Mixed Methods and Approaches.' 3rd ed. London: Sage.

- **Creswell, J.W and Creswell J.D. (2018).** 'Research Design: Qualitative, Quantitative, and Mixed Methods and Approaches.' 5th ed. London: Sage.

- **Creswell**, **J.W., Creswell, J. D. (2023)**. Research Design: Qualitative, Quantitative, and Mixed Methods and Approaches.' 6th ed. London: Sage. Kindle Edition.

- **Croner-i (2019).** [Online] Available at: https://library.croneri.co.uk/cch_ uk/iast miscconceptualfram2018camending-201803/ [Accessed 15th December 2019].

- **Croner-I (2022), '**What are the Audit Regulations.' [Online] Available at: https://library. croneri.co.uk/cch_uk/naagm-02/ac1-1[Accessed 25th September 2022].

- **Croner-I (2022**), 'Threats and Safeguards.**'** [Online] Available at: https://library.croneri.co. uk/cch_uk/naagm-02/ac2-3-5 [Accessed 25th September 2022].

- **Crucean, A. (2019).** 'The information content of audit opinion for users of financial statements.' *Oradea Journal of Business and Economics*. 4. 10.47535/1991ojbe081.

- **Cullinan, C.P. Du, H., Zheng, X. (2016).** 'Size Variables in Audit Fee Models: An Examination of the Effects of Alternative Mathematical Transformations.' *Auditing: A Journal of Practice & Theory* (2016) 35 (3): 169–181.

- **Cunningham, T. (2017).** 'Why the FTSE 250 Hit a Record High and it's still the Best Qauge of Domestic Sentiment?' Available at: https://www.telegraph.co.uk/business/2017/02/15/has-ftse-250-hit-record-high-still-best-gauge-domestic-sentiment/ [Accessed 6th June 2019]

- **Davies, P.L. (2015).** 'Shareholders in the United Kingdom.' Law Working Paper European Corporate Governance Institute, No 280/2015. [Online]. Available at: http://ssrncom/abstract 2557680. [Accessed: 5th December 2016].

- **Davies, R. (2016).** 'Regulator to Investigate Accountants Over BHS and HBOS Failures.' [Online] Available at: https://www.theguardian.com /business/2016/ jun/27/regulator-to-investigate-pwc-audit-bhs-philip-green [Accessed: 22nd July 2016].

- **Davies, R. (2018). '**KPMG Singled out in Critical Report on Audit Industry.' The Guardian, 18th June 2018 [Online] Available at: https://www.theguardian.com/business/2018/ jun/18/kpmg-singled-out-in-critical-report-on-audit-industry [Accessed: 12th January 2019].

- **Davies, R. (2018).** 'Carillion: Accountants Accused of 'Feasting' on Company, The Guardian, 13th February 2018.' [Online] Available at: https://www.theguardian.com/business/2018/ feb/ 13/carillion-accountants-accused-of-feasting-on-company [Accessed 22nd January 2020].

- **Department for Business Innovation and Skills (2011).** [Online] Available at: http://www.bis.gov.uk/insolvency/Companies [Accessed: 3rd July 2016].

- **DeAngelo, L. (1981).** 'Auditor independence, "low-balling" and disclosure regulation.' *Journal of Accounting and Economics* 3: pp. 113-127.

- **Deegan, C., Unerman, J. (2011).** 'Financial Accounting Theory.' 2nd European ed. Berkshire: McGraw-Hill Education.

- **DeFond, M. L., Wong T.J., Li, S. (2000).** 'The Impact of Improved Auditor Independence on Auditor Market Concentration in China.' *Journal of Accounting and Economics* 28 (2000) 269-305.

- **Deloitte (2016).** 'New EU Audit Legislation,' [Online] Available at: https://www2.deloitte.com/content/dam/Deloitte/dk/Documents/governance-risk-compliance/Revisionsudvalg_New_EU_legislation_eng(005).pdf [Accessed 20th February 2022].

- **Deloitte (2022).** 'Guidance on Audit Committees'. [Online] Available at: https://www.iasplus.com/en-gb/standards/corporate-governance/audit-committee-guidance [Accessed 6th March 2022].

- **Department For Business, Energy & Industrial Strategy (BEIS) (2021).** 'Restoring Trust in Audit and Corporate Governance**: Consultation** on Government's Proposals.' [Online] Available at: https://www.gov.uk/government/publications/restoring-trust-in-audit-and-corporate-governance [Accessed: 6th June 2021].

- **Department for Business, Innovation and Skills (DBIS) (2006).** 'Competition and Choice in the UK Audit Market-April 2006.' [Online]. Available at: http://www. bis.gov.uk/files/file28529.pdf. [Accessed: 6th July 2016].

- **Department for Business, Innovation and Skills (DBIS) (2011).** [Online]. Available at: http://www.bis.gov.uk/insolvency/Companies, [Accessed: 3rd July 2016].

- **Department for Business, Innovation and Skills (DBIS) (2014).** [Online]. Available at: https://www.gov.uk/government/publications/company-directors-disqualification-act-small-business-enterprise-and-employment-bill-amendments [Accessed: 3rd July 2016].

- **Department for Business, Innovation & Skills. (DBIS) (2015).** [Online]. Available at: 'EU Audit Directive and Regulation: Implementation update.' [Online]. Available at: https://www.gov.uk/government/ publications/eu-audit-directive-and-regulation-implementation-update. [Accessed: 3rd January 2016].

- **Department for Business, Innovation and Skills (DBIS) (2015).** 'Audit Regulation.' [Online]. Available at::https://assets.publishing.service.gov.uk/government/uploads/ system/uploads/ attachment_data/file/522305/bis-16-246-summary-of-responses-and-govt-response.pdf [Accessed 1st December 2019].

- **Dibra, R. (2016).** 'Corporate Governance Failure: The Case of Enron and Parmalat.' *European Scientific Journal* June 2016 edition, vol.12, No.16 ISSN: 1857 – 7881 (Print) e - ISSN 1857-7431.

- **Dickins, D.E., Higgs J. L., and Skantz T. R. (2008).** 'Estimating Audit Fees Post SOX.' *Current Issues in Auditing American Accounting Association,* Volume Two 2008 Pages A9–A18.

- **Donaldson, T. & Preston, L (1995).** 'The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications.' *Academy of Management Review*, 20, 65-91.

- **Donnelly, L. (2018).** 'Calls Mount to Split Auditing Firms.' Mail & Guardian 20th April 2018 [Online] Available at: https://mg.co.za/article/2018-04-20-00-calls-mount-to-split-auditing-firms.

- **D'Silva, K. and Khan, Y. (2010).** 'Auditing Fee Modelling & Corporate Governance in a South Asian Context.' [Online] in South Bank University website, Available at: https://www.researchgate.net/publication/228188595_Audit_Fee_Modelling_Corporate_Governance_in_a_South_Asian_Context [6th June 2016]

- **D'Silva, K.E.J. (1992). '**External Auditor Independence: Selected Group Perceptions.' PhD Thesis: Department of Accounting and Finance, City University Business School, Frobisher Crescent, Barbican Centre, London, England.

- **Dudovskiy, J. (2018).** 'The Ultimate Guide to Writing a Dissertation in Business Studies: A Step-by-Step Assistance,' [Online] Available at: https://research-methodology.net/about-us/ebook/ [Accessed 5th June 2021]

- **Dunleavy, P. (2015).** 'Authoring a PhD': How to Plan, Draft, Write and Finish a Doctoral Theis or Dissertation.' 2nd ed. London. Palgrave MacMillan Publishers Limited.

- **Ebbes, P., Papies, D. and van Heerde H. J. (2016).** 'Dealing with Endogeneity: A Nontechnical Guide for Marketing Researchers.' [Online] in ResearchGate/Available at: https://www.researchgate.net/publication/318150715_Dealing_with_Endogeneity_A_Nontechnical_Guide_for_Marketing_Researchers [Accessed 27th October 2019].

- **Economia (2013).**'Intelligence and Insight for ICAEW Members: FRC warns over Audit Fee Pressure.' [Online]Available at: http://economia.icaew.com/news/may-2013/frc-report-highlights-risk-of-audit-fee-pressure [Accessed: 22nd December 2015].

- **Eilifsen, A., Messier Jnr., F. W. J., Glover, S.M. and Prawitt F.D. (2014).** 'Auditing and Assurance.' 3rd ed. Berkshire. McGraw-Hill Education.

- **Elder, R. J., Beasley, M.S., Hogan, C.E. and Arens, A.A. (2020).** 'Auditing and Assurance Services: International Perspectives.' 17th ed. London: Pearson.

- **El-Gammal, W. (2012).** 'Determinants of audit fees: Evidence from Lebanon.' *International Business Research*, 5(11), p136.

- **Ettredge, M., Fuerherm, E. E. & Chan, L. (2014).** 'Fee Pressure and Audit Quality.' *Accounting, Organizations and Society,* 39(4), 247–263. https:// doi.org/ 10.1016/j.aos. 2014.04.002

- **Evans Jr., L., Schwartz, J. (2014).** 'The Effect of Concentration and Regulation on Audit Fees: An Application of Panel Data Techniques.' *Journal of Empirical Finance* 27 (2014): 130 -144.

- **EY Global Financial Services Institute (2014).** 'The Audit Mandatory Rotation Rule: The state of the art.' *The Journal of Financial Perspectives* July 2015, Volume 3, Issue 2.

- **Fafatas, S.A. and Jialin Sun, K (2010**). 'The Relationship between Auditor Size and Audit Fees: Further Evidence from Big Four Market Shares in Emerging Economies.' Tsamenyi,

M. and Uddin, S. (Ed.) *Research in Accounting in Emerging Economies,* Vol. 10, Emerald Group Publishing Limited, Bingley, pp. 57-85.

- **Fama, E. and Jensen, M. (1983**). 'Separation of ownership and control.' *Journal of Law and Economics*, 26: pp. 301-326.

- **Farlex Financial Dictionary (2020).** 'Audit Fee.' [Online] Available at: <ahref="https://financial-dictionary.thefreedictionary.com/Audit+Fee">AuditFee [Accessed: 22nd December 2016].

- **Farooq, M.U., Taunsvi, M.U., Irfan, K. Latif, I. (2018).** 'Corporate Governance and Audit Fees: Evidence from a Developing Country.' *Pakistan Journal of Commerce and Social Sciences* (PJCSS)', ISSN 2309-8619, Johar Education Society, Pakistan (JESPK), Lahore, Vol. 12, Iss. 1, pp. 94-110.

- **Fauziah, W., Yusoff1, W. and Alhaji, I. A. (2012).** 'Insight of Corporate Governance Theories.' Faculty of Technology Management and Business, *University Journal of Business & Management Volume* 1, Issue 1 (2012), 52-63 ISSN 2291-1995 E-ISSN 2291-2002.

- **Ferguson, A., Francis, J.R. and Stokes**, **D.J. (2003). '**The Effects of Firm-Wide and Office-Level Industry Expertise on Audit Pricing.' *The Accounting Review*, April 2003 Vol. 78, No. 2 (April 2003) pp. 429-448.

- **Ficenec, J. (2015).** 'Big four accountants enjoy record fees despite new rules.' The Telegraph (Finance Supplement), 1st February 2016, (no page number). [Online]. Available at: http://www.telegraph.co.uk/finance/newsbysector/banksandfinance /11 381243/Big-Four-accountants-enjoy-record-fees-despite-new-rules.html. [Accessed 5th February 2016].

- **Field, A. (2013)** 'Discovering Statistics Using IBM SPSS Statistics.' London. SAGE Publications.

- **Field, A. (2017)** 'Discovering Statistics Using IBM SPSS Statistics.' London. SAGE Publications.

- **Field, A. (2018)** 'Discovering Statistics Using IBM SPSS Statistics.' London. SAGE Publications. Kindle Edition.

- **Financial Conduct Authority (2019).** 'Market Abuse Regulation.' [Online]. Available a https://www.fca.org.uk/markets/market-abuse/regulation [Accessed on 25 January 2020]

- **Financial Reporting Council (n.d.).** 'FRS 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland.'[Online] Available at**:** https://www.frc.org.uk/accountants/accounting-and-reporting-policy/uk-accounting-standards/standards-in-issue/frs-102-the-financial-reporting-standard-applicabl [Accessed 11th November 2021].

- **Financial Reporting Council (n.d.). '**Oversight of Audit.' [Online]. Available at: https://www.frc.org.uk/auditors/professional-oversight/oversight-of-audit [Accessed 11th November 2021].

- **Financial Reporting Council (2010).** [Online]. Available at: https://www.frc.org.uk/Our-Work/Publications/FRC-Board/FRC-Annual-Report-2010-11.pdf. [Accessed 3rd June 2016].

- **Financial Reporting Council (2014).** 'True and Fair.' London. Financial Reporting Council Limited.

- **Financial Reporting Council (2016).** 'Revised UK Corporate Governance Code.' [Online]. Available at: https://www.frc.org.uk/news/april-2016/revised-uk-corporate governance-code,-guidance-on [Accessed 3rd June 2016].

- **Financial Reporting Council (2017).** 'International Standard on Auditing (UK) 330 (Revised July 2017) The Auditor's Responses to Assessed Risks.' Available at: https://www.frc.org.uk/getattachment/809bc664-12ea-402b-ab8e-632c9bd4cd41/ISA-(UK)-330_Revised-July-2017.pdf. [Accessed 29th October 2021].

- **Financial Reporting Council (2018).** 'Key Facts and Trends in The Accounting Profession.' [Online] Available at: https://www.frc.org.uk/getattachment/27725654-8bd9-4623-a410-ef1661a69649/Key-Facts-and-Trends-2018.pdf. [Accessed 14th November 2019].

- **Financial Reporting Council (2019).** 'Audit Quality: Practice aid for audit committees.' [Online] Available at: https://www.frc.org.uk/getattachment/68637e7a-8e28-484a-aec2-720544a172ba/Audit-Quality-Practice-Aid-for-Audit-Committees-2019.pdf _[Accessed: 5th July 2020].

- **Financial Reporting Council (2019).** 'Big Four Increase their Market Share of UK audit.' [Online] Available at: https://www.frc.org.uk/news/october-2019/big-four-increase-their-market-share-of-uk-audit [Accessed: 29th August 2020].

- **Financial Reporting Council (2019).** 'Post Implementation Review of the 2016 Auditing and Ethical Standards: Next Steps Position Paper.' [Online] Available at: https://www.frc.org.uk/getattachment/7335d389-dbd0-4c4d-b265-1278ce9af5bb/Position-Paper-post-implementation-review-audit-ethical-standards-next-steps-(March-2019).pdf [Accessed: 25th May 2020].

- **Financial Reporting Council (2019).** 'Key Facts and Trends in The Accounting Profession.' [Online] Available at: https://www.frc.org.uk/getattachment/109373d4-abc2-424f-84d0-b80c2cec861a/Key-Facts-and-Trends-2019.pdf [Accessed: 29th March 2020].

- **Financial Reporting Council (2019).** 'Developments in Audit.' [Online] Available at: https://www.frc.org.uk/getattachment/5d176788-3330-4b62-b18e-276c678d3d2c/ Developments-in-Audit-Final-Screen.pdf [Accessed: 29th March 2020].

- **Financial Reporting Council (2019).** 'International Standard on Auditing (UK) 250 (revised November 2019): Section a — Consideration of Laws and Regulations in an Audit of Financial Statements.' https://www.frc.org.uk/getattachment/41a0fc4d-c50e-45d4-afb2-a4803e24480f/ISA-(UK)-250A_Revised-November-2019_Updated-With-Covers.pdf [Accessed: 29th March 2020].

- **Financial Reporting Council (2019). ‘**FRC slates 'Ineffective' Transparency Reporting at Audit Firms.’ [Online] Available at: https://www.accountancydaily.co/frc-slates-ineffective-transparency-reporting-audit-firms [Accessed on 3rd March 2021].

- **Financial Reporting Council (2019).** ‘Description of the Auditor’s Responsibilities for the Audit of the Financial statements.’ [Online] Available at: https://www.frc.org.uk/auditors /audit-assurance/auditor-s-responsibilities-for-the-audit-of-the-fi/description-of-the-auditor%E2%80%99s-responsibilities-for [Accessed 20th May 2022].

- **Financial Reporting Council (2020).** ‘Sanctions Against Deloitte and Two Audit Partners in relation to Autonomy Corporation Plc.’[Online] Available at: https://www.frc.org.uk/news/september-2020-(1)/sanctions-against-deloitte-and-two-audit-partners [Accessed 21st January 2020].

- **Financial Reporting Council (2020). ‘**ISA (UK) 315 (revised July 2020**):** Identifying and Assessing the Risks of Material Misstatement.’ [Online] Available at: https://www.frc.org.uk/getattachment/a23392ac-9063-4f13-a064-23b879f5321c/ISA-(UK)-315-Jul-2020.pdf [Accessed 29th October 2021].

- **Financial Reporting Council (2021**). ‘Taskforce on Climate-relate Financial Disclosures (TCFD): Ahead of Mandatory Reporting-Developing Practice.’ [Online] Available at: https://www.frc.org.uk/getattachment/09b5627b-864b-48cb-ab53-8928b9dc72b7/FRCLab-TCFD-Report_October_2021.pdf [Accessed 28th October 2021].

- **Financial Reporting Council (2021). ‘**Climate Scenario Analysis**:** Current Practice and Disclosures Trends.’ [Online] Available at: https://www.frc.org.uk/getattachment/0d28d5e8-ff89-4028-88a8-49e837db6022/FRC-Climate-Scenario-Analysis-in-Corporate-Reporting_October-2021.pdf [Accessed 28th October 2021].

- **Financial Reporting Council (2021) ‘**Developments in Audit 2021.’[Online] Available at: https://www.frc.org.uk/getattachment/c5580fd0-64f3-4abd-b57a-b05f01dc9841/FRC-Developments-in-Audit-_November-2021.pdf [Accessed 6th March 2022].

- **Financial Reporting Council (2021) ‘**Challenger firms increase their share of the FTSE 250 audit market.’[Online] Available at: https://www.frc.org.uk/news/july-2021/challenger-firms-increase-their-share-of-the-ftse [Accessed 6th March 2022].

- **Financial Times (2017).** ‘Accounting Scandals Put the Big Four on the Spot.’ Financial Times 4th May 2017. London, Financial Times Limited.

- **Financial Times (2019).** ‘Higher Audit Costs Are A Price Worth Paying For the Big Four.’ London, Financial Times 30th July 2019. Sine loco: Financial Times Limited.

- **Firth, M. (1985),** ‘An Analysis of Audit Fees and their Determinants in New Zealand.’ *Auditing: A Journal of Practice and Theory*, Vol.4, No. 2, Spring 1985:23-37.

- **Firth, M. (1997). ‘**The Provision of Non-audit Services and the Pricing of Audit Fees.’ *Journal of Business Finance & Accounting*, 24(3), 511-525. http://dx.doi.org/10.1111/1468-5957.00118

- **Fleming, D., Hee, K., Romanus R. N. (2014).** 'Auditor Industry Specialization and Audit fees Surrounding Section 404 implementation.' *Review of Accounting and Finan*ce, 13(4), pp.353.

- **Fowler, J. (2015).** 'No Simple Matter: Audit Rule Changes Are Forcing Firms to Consider Whether the Public Interest Entity Market Place Is Really for Them.' Accountancy, December 2015. p.69.

- **Francis, J. R. and Stokes, D. J. (1986),** 'Audit Prices, Product Differentiation and Scale Economies: Further Evidence from the Australian Market.' *Journal of Accounting Research,* Vol.24 (2), Autumn: pp.383-393.

- **Francis, J. R. and Simon, D.T. (1987).** 'A Test for Audit Pricing in the Small –Client Segment of the US Audit Market.' *The Accounting Review* (January): pp.145-157.

- **Francis, J., LaFond R., Olsson, P. and Schipper, K**. **(2005)** 'The Market Pricing of Accruals Quality.' *Journal of Accounting and Economics,* Volume 39, Issue 2,2005, Pages 295-327, https://www.sciencedirect.com/science/article/pii/S016541010500025X?via%3Dihub.

- **Freeman, R.E. (1984).** 'Strategic Management: A Stakeholder Approach.' Reprint. Cambridge, Cambridge University, 2010.

- **Ganesan, Y., Narayanan, R., Haron H., Pitchay A. A. (2019).** 'Does Audit Fees and Non-Audit Fees Matter in Audit Quality?' in FGIC 2nd Conference on Governance and Integrity 2019*, KnE Social Sciences*, pages 1074–1083.Page 1074 DOI 10.18502/kss.v3i22.5112

- **García-Benau, M. A. and Humphrey C. (1992).** 'Beyond the Audit Expectation Gap: Learning from the Experiences of Britain and Spain.' *European Accounting Review*, 1 (2): 303-331.

- **Gendron, Y., Bédard, J. (2006).** 'On the Constitution of Audit Committee Effectiveness.' *Accounting, Organizations and Society* 31 (2006) 211–239.

- **Gerakos, J. and Syverson, C. (2015).** 'Competition in the Audit Market: Policy Implications.' Working Paper, University of Chicago Booth School of Business and NBER, Chicago.

- **Gerrard, I., Houghton, K. and Woodliff, D.(1994)** 'Audit Fees**:** The Effects of Auditee, Auditor and Industry Differences.' *Managerial Auditing Journal,* Vol. 9 No. 7, 1994, pp. 3-11

- **Ghadhab, A.K., Matrood, A.K., & Hameed, A.M. (2019**). Factors affecting the quality of external auditor performance: An analytical study of the opinions of auditors working in iraqi audit firms and companies.' Academy of Strategic Management Journal, 18(1), 1-27.

- **Ghafran C.M. (2013).** 'Audit Committees and Financial Reporting Quality.' PhD Thesis, Management School University of Sheffield, Sheffield. [Online]. Available at: [Accessed 22nd July 2016].

- **Ghafran, C. and O'Sullivan, N. (2017).** 'The impact of audit committee expertise on audit quality: Evidence from UK audit fees.' *The British Accounting Review*, 49(6), 578-593.

- **Ghazali, N. A. M. (2007).** 'Ownership Structure and Corporate Social Responsibility Disclosure: Some Malaysian Evidence. *'Corporate Governance*, 7(3), 251-266.

- **Goddard F. Schmidt. (2021)** 'Exploratory insights into audit fee increases: A field study into board member perceptions of auditor pricing practices.' [Online] Available at: https://onlinelibrary.wiley.com/doi/full/10.1111/ijau.12242 [Accessed 5th August 2022].

- **Gold, A. and Heilman, M. (2019).** 'The consequences of disclosing key audit matters (KAMs): A review of the academic literature.' *Maandblad voor Accountancy en Bedrijfseconomie* 93(1/2) (2019): 5–14.

- **Gonthier-Besacier, N. and Schatt, A. (2006).** 'Determinants of Audit Fees for French Quoted Firms.' Working Paper, University of Grenoble.

- **Goodley, S. (2019).** 'Top Auditors 'Loss-Leading on Fees' and Undercutting Rivals, MPs Say.' The Guardian, 1st April 2019. [Online] Available at: [Accessed13th May 2020]. https://www.theguardian.com/business/2019/apr/01/big-four-accountancy-firms-cost-overruns-audits#:~:text=3%20years%20old ,Top%20auditors%20'loss%2Dleading% 20on%20fees',and%20undercutting%20rivals%2C%20MPs%20say&text=The%20big%20four%20accounting%20firms%20are%20failing%20to%20charge%20some,to%20scrutinise%20leading%20businesses%20properly.

- **Goodwin-Stewart, J. and Kent, P. (2006). '**Relation Between External Audit Fees, Audit Committee Characteristics and Internal Audit.' *Accounting and Finance* 46(3), 387-404.

- **Gopal, V. K., Mark, S. M. and Yan, W. (2015) '**Do auditors with a deep pocket provide a high-quality audit?' Department of Accounting & Taxation, Kogod School of Business American University Washington, DC 20016.

- **Gov.je (2002) '**Trade, Investment and Growth Framework.' [Online]Available at: https://www.gov.je/ news /2022/Pages/index.aspx [Accessed 30th July 2022].

- **Grace-Martin, K. (2022)**. 'The Analysis Factor.' [Online] Available at: https://www.theanalysisfactor.com/strategies-dummy-coding/ [Accessed 15th June 2022].

- **Gray, I., Mason, S., and Crawford. L. (2015).** 'The Audit Process: Principles, Practice and Cases.' 6th ed. Hampshire: Cengage Learning EMEA.

- **Gray, I., Mason, S., and Crawford. L. (2019).** 'The Audit Process: Principles, Practice and Cases.' 7th ed. Hampshire: Cengage Learning EMEA.

- **Griffin, A. P., Lont, D. H. and Sun, Y. (2009).** 'Agency Problems and Audit Fees: Further Tests of the Free Cash Flow Hypothesis.' *Working Paper*, University of California.

- **Griffin, A.P. and Lont, D. H. (2007). '**An Analysis of Audit Fees Following the Passage of Sarbanes-Oxley.' *Asia-Pacific Journal of Accounting & Economics*, 14:2, 161-192.

- **Guénin-Paracini, H. And Gendron, Y. (2010).** 'Auditors as Modern Pharmakoi: Legitimacy Paradoxes and the Production of Economic Order.' *Critical Perspectives on Accounting,* 21 (2): 134-158.

- **Gul, F.A., Jaggi, B.L. and G. V. Krishnan (2007)**.'Auditor Independence: Evidence on the Joint Effects of Auditor Tenure and Nonaudit Fees.' Auditing: A Journal of Practice & Theory, 26(2,) pp. 117-142

- **Gunn, J. L., Kawada, B. S., and Michas P.N. (2019).** 'Audit Market Concentration, Audit Fees, and Audit Quality: A Cross-Country Analysis of Complex Audit Clients.' [Online]. Available at: https://www.sciencedirect.com/science/article/pii/S0278425419301413 [Accessed13th May 2020).

- **Habbash, M. (2010).** 'The Effectiveness of Corporate Governance and External Audit on Constraining Earnings Management Practice in the UK, Durham Theses, Durham University.' Available at Durham E-Theses Online: http://etheses.dur.ac.uk/448/ [Accessed 30th December 2021].

- **Hackenbrack, K. and Knechel, W. R. (1997),** 'Resource Allocation Decisions in Audit Engagements.' *Contemporary Accounting Research*, Vol. 14: pp.481-499.

- **Hackston, D., & Milne, M. J. (1996).** 'Some Determinants of Social and Environmental Disclosures in New Zealand Companies.' *Accounting, Auditing & Accountability Journal*, 9(1), 77-108.

- **Haladni, H. (2016).** 'A Proposed Framework of Audit Fees Determinants in Kurdistan Region.' *European Journal of Business and Management*, .8(12), 2016 ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online).

- **Hallack, R.T.P., Carvalhal da Silva, A.L. (2012)** .'Determinants of Audit and Non-Audit Fees Provided by Independent Auditors in Brazil.' R. *Cont. Fin. – USP, São Paulo*, v. 23, n. 60, p. 223-231, set. /out. /nov. /dez. 2012.

- **Hambly, G. (2020).** 'The Future of Audit is here.' PQ Magazine. 8th February 2020, p.18.

- **Hammond, M. and Wellington, J. (2013).** 'Research Methods: The Key Concepts.' Abingdon: Routledge.

- **Haque, M. A. (2014).** 'Accountability for public expenditure in Bangladesh: the principal-agent problem and role of the Office of the Comptroller and Auditor General.' *Asia Pacific Journal of Public Administration,* 36:4, 249-260.

- **Harber, M. and Marx, B. (2019).** 'An analysis of the possible impact of mandatory audit firm rotation on the transformation and market concentration of the South African audit industry.' *Journal of Economic and Financial Sciences* ISSN: 2312-2803, (Print) 1995-7076.

- **Harris, C. K (2007).** 'The Association Between Corporate Governance and Audit Fees' (2007). Business and Economics Faculty Publications. 32.

- **Hashanah, I. and Mazlina, M. (2005).** 'Case of Public Reprimands'. FEPO Seminar, 2005. [Online] Available at: http://citeseerx.ist.psu.edu/showciting?cid=46955954 [Accessed: 2 December 2019].

- **Hassan, Y.M. & Naser, K. (2013).** 'Determinants of Audit Fees: Evidence from an Emerging Economy.' *International Business Research*; 6 (8), 2013 ISSN 1913-9004.

- **Hay, D. C., Knechel, W. R. & Wong, N. (2006a).** 'Audit Fees: A Meta-analysis of the Effect of Supply and Demand Attributes.' *Contemporary Accounting Research*, 23: pp.141- 191.

- **Hay, D., Knechel, W. R. & Li, V. (2006b).** 'Non-Audit Services and Auditor Independence: New Zealand Evidence.' *Journal of Business Finance & Accounting*, Vol. 33, No. 5–6, pp. 715–34.

- **Hay, D., Knechel, W. & Ling, J. (2008).** 'Evidence on the Impact of Internal Control and Corporate Governance on Audit fees.' *International Journal of Auditing*, Vol. 12, No. 1, pp. 9–24.

- **Hay, D. C. (2010).** 'The Accumulated Weight of Evidence in Audit Fee Research.' *Working paper*. *Department of Accounting & Finance, University of Auckland Business School,* Auckland, New Zealand.

- **Hay, D. (2012).** 'Further Evidence from Meta-Analysis of Audit Fee Research.' (April 18, 2012). *International Journal of Auditing* [Online]. Available at: SSRN: https://ssrn.com/abstract=1918501 or http://dx.doi.org/10.2139/ssrn.1918501 [Accessed: 2 December 2019].

- **Hay, D. (2018).** 'The Potential for Greater Use of Meta-Analysis in Archival Auditing Research.' [Online]. Available at: https://www.researchgate.net/publication/329855145 _The_potential_for_greater_use_of_meta-analysis_in_archival_auditing_research [Accessed: 2 December 2019].

- **Herath S. K. Tori P. (2018).** 'A literature review on auditor independence' *The Business and Management Review,* Volume 9 Number 3 April 2018. 7th International Conference on Business and Economic Development (ICBED), 9-10 April 2018, NY, USA 404.

- **Heskett, J. (2003). '**Are conditions Right for the Next Accounting Scandal.' [Online]. Available at: http://hbswk.hbs.edu/item/are-conditions-right-for-the-next-accounting-scandal [Accessed: 29th November 2015].

- **Hoitash, R., Markelevich, A., & Barragato, C. A. (2007).** 'Auditor fees and audit quality.' *Managerial Auditing Journal,* 22(8), 761.

- **HomeServe (2020).** '2019 Annual Report' Available at: https://www.annualreports.com /HostedData/AnnualReportArchive/h/LSE_HSV_2019.pd [Accessed 25th May 2022].

- **Horvat, T., Travner, U., Skoko, H., Bobek V. (2020) '**The influence of profit, revenues and debt on audit prices in large companies: insights from Slovenia.' [Online] Available at:

https://www.tandfonline.com/doi/full/10.1080/1331677X.2021.1934057. [Accessed 25th May 2022].

- **Hoskin, P. (2017).** 'HBOS Audit Revelation Raises Heat on Regulator.' [Online] Available at: https://www.thetimes.co.uk/article/hbos-audit-revelation-raises-heat-on-regulator-xtzn7t2nf [Accessed: 29th Nov 2018].

- **Hossein, S.B. and Mahesh, R. (2016).** 'The Lesson from Enron Case - Moral and Managerial Responsibilities.' *International Journal of Current Research,* 8, (08), 37451-37460.

- **House of Lords (2010a)**. 'Auditors: Market Concentration and Their Role.' Call for Evidence, House of Lords, London. Available at: www.parliament.uk/documents/lords-committees/economic-affairs/auditors/cfeauditors20100727.pdf. [Accessed 5th August 2022].

- **House of Lords (2010b).** 'Auditors: Market Concentration and Their Role.' Call for Evidence, House of Lords, London Available at:www.publications.parliament.uk/pa/ ld201011/ ldselect/ldeconaf/119/119.pdf. [Accessed 5th August 2022].

- **House of Lords (2010c).**'Auditors: Market Concentration and Their Role.' Written Evidence, House of Lords, London. Available at: www.parliament.uk/documents/lords-committees/economic-affairs/auditors/auditorswe.pdf. [Accessed: 29th Nov 2018].

- **House of Lords (2011).** 'Select Committee on External Affairs Second Report of Session 2010-11, Auditors: Market concentration and Their Role.' Vol.2 Evidence. HL Paper 119-11. [Online]. Available at: https://publications.parliament.uk/pa/ld201011/ldselect/ ldeconaf/ 119/119.pdf [Accessed: 29th Nov 2015].

- **Hrazdil, K., Simunic, D.A. and Suwanyangyuan, N. (2020).** 'Are the Big 4 audit firms homogeneous? Further Evidence from Audit Pricing.' [Online] Available at: https://onlinelibrary.wiley.com/doi/full/10.1111/ijau.12198 [Accessed 23rd December 2021]

- **Huang, H., Chih-Chen L., Rose-Green, E. (2010). '**The Association between Audit Fees and Subsequent Client Litigation.' [Online] Available at: *Journal of Forensic & Investigative Accounting* Vol. 2, Issue 2. http://web.nacva.com.s3.amazonaws .com/JFIA/Issues/JFIA-2010-2_5.pdf. [Accessed 10th January 2022].

- **Hunter M. (2017).**'Performance Since Brexit Vote Tests FTSE 250 'UK Barometer' Tag.' [Online] Available at: https://www.ft.com/content/3cc1ddde-f503-11e6-95ee-f14e55513608 [Accessed 20th September 2017].

- **Huntington-Klein N. C. (2019)** 'Robustness Tests: What, Why, and How'. Online. Available at: https://www.nickchk.com/ [Accessed 27January,2024].

- **Ibrahim, H., & Zulkafli, A. (2016).** 'Corporate Governance, HRM Practices and Organizational Performance. Socio-Economic Problems and the State.'14 (1), 30- 40.

- **ICAEW (2005). '**Audit Quality: Agency and The Role of Audit.' [Online].Available at: https://www.icaew.com/-/media/corporate/files/technical/audit-and-assurance/audit-

quality/audit-quality-forum-fundamentals/fundamentals-agency-theory-and-the-role-of-audit.ashx [Accessed: 2nd November 2016].

- **ICAEW (2006).** 'Audit Quality: Fundamentals - Audit Purpose.' [Online] Available at: https://www.icaew.com/-/media/corporate/files/technical/audit-and-assurance/audit-quality/audit-quality-forum/meeting-notes-2006/july-2006-audit-purpose.ashx?la=en [Accessed 20th September 2017].

- **ICAEW (2008). '**Evolution: Stakeholder Expectations of Audit.' [Online] Available at: https://www.icaew.com/-/media/corporate/files/technical/audit-and-assurance/audit-quality/audit-quality-forum-evolution/evolution-stakeholder-expectations-of-an-audit.ashx [Accessed 20th September 2017].

- **ICAEW (2019).** [Online] Available at: https://www.icaew.com/. [Accessed 23rd January 2019].

- **ICAEW (2019).** 'More Work Needed on Inconsistent Audit Quality.' [Online] Available at: https://www.icaew.com/technical/audit-and-assurance/audit/quality-control/more-work-needed-on-inconsistent-audit-quality [Accessed 15 May 2020].

- **ICAEW (2020).** 'Knowledge Guide to UK Accounting Standards.' [Online] Available at: https://www.icaew.com/library/subject-gateways/accounting-standards/knowledge-guide-to-uk-accounting-standards [Accessed 21st January 2020].

- **ICAEW (2020).** 'Membership Regulation.'[Online] Available at: https://www.icaew.com/regulation/membership [Accessed 15 August 2020].

- **ICAEW (2020).** 'The Essential Guide to Audit Tech: Explore and Access the Potential of Audit Tech for your Firm.' [Online] Available at: https://www.icaew.com/technical/ technology/ tech-faculty/tech-essentials-guides/tech-essentials-audit [Accessed 29th October 2021].

- **ICAEW (2020).** 'ICAEW Code of Ethics.' [Online] Available at: https://www.icaew.com/technical/ethics/icaew-code-of-ethics/icaew-code-of-ethics [Accessed 12th November 2021]

- **ICAEW, ICAS & ICAI (2020).** 'Audit Regulations and Guidance.'[Online] Available at: audit-regulations-and-guidance-effective-from-1-january-2020.ashx (icaew.com) [Accessed 20th February 2022].

- **ICAEW (2021).** 'Principles versus Rules Debate.' [Online] Available at: https://www.icaew.com/technical/ethics/ethics-in-business/business/principles-versus-rules-debate [Accessed 12th November 2021].

- **ICAEW (2021).** 'The future of Audit.' [Online] Available at: https://www.icaew.com/-/media/corporate/files/technical/audit-and-assurance/the-future-of-audit/audit-how-to-raise-the-bar.ashx [Accessed 15th August 2021].

- **ICAS (2017).** [Online]Available at: https://www.icas.com/technical-resources/audit-exemption-update-what-are-the-new-rules. [Accessed on 3rd July 2017].

- **IFAC (2021).** 'Exploring the IESBA Code.' [Online] Available at**:** https://www.ifac.org/ knowledge-gateway/ building-trust-ethics/discussion/exploring-iesba-code [Accessed 12th November 2021].

- **Independent Regulatory Board for Auditors (2019).** 'South African Auditing Practice Statement: Illustrative Reports.' [Online] Available at: https://www.irba.co.za/guidance-to-ras/technical-guidance-for-auditors/auditing-standards-and-guides/south-african-standards-and-practice-statements. [Accessed on 13th January 2020].

- **International Auditing and Assurance Standards Board (IAASB) (2014).**[Online] Available at: https://www.ifac.org/system/files/publications/files/A-Framework-for-Audit-Quality-Key-Elements-that-Create-an-Environment-for-Audit-Quality.[Accessed on 20th January 2019].

- **Inman, P. (2018). '**World Economy at Risk of Another Financial Crash says IMF.'[Online] Available at: https://www.theguardian.com/business/2018/oct/03/world-economy-at-risk-of-another-financial-crash-says-imf. [Accessed on 10 January 2019].

- **INSIDE Public Accounting (2019). '**WSJ: Former Partner at KPMG Faces Trial in PCAOB Scandal.'[Online] Available at: http://blog.insidepublicaccounting.com/2019/02/wsj-former-partner-at-kpmg-faces-trial-in-pcaob-scandal/ [Accessed on 10 January 2019].

- **Insolvency Act (1986).** [Online]. Available at: https://www.legislation.gov.uk/ukpga/ 1986/45/contents 2nd December 2015].

- **Institute for Management Development (n.d.). '**The Four Tiers of Conflict of Interest Faced by Board Directors.' [Online] . at: https://www.imd.org/research-knowledge/articles/the-four-tiers-of-conflict-of-interest-faced-by-board-directors. [Accessed on 20 January 2020].

- **International Ethics Standards Board for Accountants (2018). '**Professional Scepticism - Meeting Public Expectations.' [Online] Available at: https://www.ifac.org/system/files/ publications/files/Professional-Skepticism-Meeting-Public-Expectations-Consultation-Paper.pdf [Accessed on 8th November 2021].

- **Iuliana, I.P. (2012).** 'The Evolution and the Perspectives of the Audit.' *International Journal of Academic Research in Business and Social Sciences* April 2012, Vol. 2, No. 4 ISSN: 2222-6990.

- **Ittonen, K. (2010).** 'A Theoretical Examination of The Role of Auditing and The Relevance of Audit Reports.' [Online] Available at: https://www.univaasa.fi/materiaali/pdf/isbn_978-952-476-298-4.pdf [Accessed 21st August 2019].

- **Jacob, J., Desai, N., Agarwalla, S.K. (2015).** 'Are Big 4 Audit Fee Premiums Always Related to Superior Audit Quality? Evidence from India's Unique Audit Market.' Working Paper. no. 2015-03-1, Indian Institute of management Ahmedabad, India.

- **Jacques du Plessis, J., Hargovan, A., Bagaric M., and Harris, J. (2015).** 'Principles of Contemporary Corporate Governance.' 3rd ed. Port Melbourne: Cambridge University Press.

- **Januarti, I., & Wiryaningrum, M.S. (2018).** The effect of size, profitability, risk, complexity, and independent audit committee on audit fee.' *Journal Dinamika Akuntansi*, 10(2), 136-145.

- **Januarti, I., Charini, A. Darsono, A. (2020).** 'The Relationship between Audit Committee Effectiveness and Audit Fees: Insights from Indonesia.' [Online] Available at: https://www.researchgate.net/publication/343346373_The_Relationship_between_Audit_Committee_Effectiveness_and_Audit_Fees_Insights_from_Indonesia [Accessed 20th February 2022].

- **Jensen, M. C. and Meckling, W. H. (1976).** 'Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure.' *Journal of Financial Economics*, 3 (4): pp. 305-360.

- **Jensen, K. L. and Payne, K. L. (2003). '**Audit Pricing and Audit Quality: The Influence of the Introduction of Price Competition.' [Online] Available at: http://ssrn.com/abstract=451500 [Accessed: 23 July 2016].

- **Jerin, M. (2015**). 'Deloitte replaces PwC as Tesco Auditors, Following Accounting Scandal.' Inter*national Business Times*, May 12, 2015,07:38 BST. [Online] Available at:http://www.ibtimes.co.uk/legally-enforceable-smart-contracts-debated-london-fintech-week-2016-1572084 [Accessed: 23 July 2016].

- **Jewers, C. (2020).** 'Brydon and the Audit Gap: Expectations, Definitions and Fraud.' [Online] Available at: https://www.accountancyage.com/2020/01/15/brydon-and-the-audit-gap-expectations-definitions-and-fraud/ [Accessed 23rd November 2020].

- **Jewers, C. (2019).** 'PwC Bosses to Face Questions from MPs Over Thomas Cook.' Accountancy Age, 21st October 2019. [Online] Available at: https://www.accountancyage.com/ 2019/10/21/pwc-bosses-to-face-questions-from-mps-over-thomas-cook/ [Accessed 23rd January 2020].

- **Jiang, L., Jeny, A., & Audousset-Coulier, S. (2012).** 'Who are Industry Specialist Auditors?' Concordia University. France. Presented In CAAA Annual Conference.

- **Johnstone, K. M., Bedard, J. C. & Ettredge, M. L. (2004).** 'The effect of competitive bidding on engagement planning and pricing.' *Contemporary Accounting Research*, 21(1), 25–54.

- **Jolly, J. (2019). '**Decline in Quality': Auditors Face Scrutiny Over String of Scandals.' [Online] Available at: https://www.theguardian.com/business/2019/feb/01/decline-in-quality-auditors-face-scrutiny-over-string-of-scandals [Accessed 23rd August 2020].

- **Jones, C., Temouri, Y., Cobham, A. (2018).** 'Tax Have Networks and the Role of the Big 4 Accountancy Firms.' *Journal of World Business,* Volume 53, Issue 2, February 2018, Pages 177-193.

- **Jong, B., Hijink, S., Veld, L. (2020).** 'Mandatory Audit Firm Rotation for Listed Companies: The Effects in the Netherlands.' *European Business Organization Law Review* (2020) 21:937 – 966.Available at: https://link.springer.com/article/10.1007%2Fs40804-020-00193-w [Accessed 23rd August 2022].

- **Joshi, P. L. and AL-Bastaki, H. (2000).** 'Determinants of Audit Fees: Evidence from the Companies Listed in Bahrain.' *International Journal of Auditing*, 4: pp.129-138.

- **Joshi, P. L. and Salleh, M. Z. (2014).** 'Determinants of Audit Fees in Malaysia Top Listed Companies: An Empirical study.' *International Journal of Strategic Decision Sciences*., 5(4) Oct 2014: pp.79-98.

- **Kahn, J. (2020). '**Wirecard Shows Auditing is Broken: Here's why—and how to fix it.' [Online] Available at:https://fortune.com/2020/06/25/wirecard-auditing-is-broken-fintech-ey-ernst-and-young/ [Accessed 10th August 2020].

- **Kanakriyah, R. (2020).** 'Model to Determine Main Factors Used to Measure Audit Fees.' [Online] Available at: https://www.researchgate.net/publication/340742733_model_to_determine_main_factors_used_to_measure_audit_fees. [Accessed 15th April 2022]

- **Kapoor, M. and Iacone, M. (2020**). 'How U.K. Audit Scandals Pushed Big Four Toward Split.' Bloomberg 17 July 2020. [Online] Available at: https://www.bloomberg.com/news/articles/2020-07-17/how-u-k-audit-scandals-pushed-big-four-toward-split-quicktake [Accessed 15th April 2021].

- **Kealey B.T, Lee H. Y., and Stein M. T. (2017**). 'The Association between Audit-Firm Tenure and Audit Fees Paid to Successor Auditors: Evidence from Arthur Andersen.' Auditing: *A Journal of Practice & Theory* Vol. 26, no. 2 November 2007 pp. 95–116.

- **Keay, A. (2012).** 'The Enlightened Shareholder Value Principle and Corporate Governance.' [Online] Available at: https://www.researchgate.net/publication/287279647_The_enlightened_shareholder_value_principle_and_corporate_governance.[Accessed 10th February 2020].

- **Keenan, M., Riches S., and Allen V. (2013).** 'Business Law.' 11th ed. Harlow. Pearson.

- **Kikhia, H. Y. (2014).** 'Determinants of Audit Fees: Evidence from Jordan.' *Accounting and Finance Research* 4(1): 2015.

- **Kilgore, A. and Martinov-Bennie, N. (2014).** 'The Drivers of Audit Quality: Auditors' Perceptions.' Report of the ACCA and Macquarie University International Governance and Performance Research Centre. [Online] Available at: http://www.accaglobal.com/content/dam/acca/global/PDF-technical/audit-publications/pol-tp-daq2(auditors).pdf [Accessed 25th August 2017].

- **Kim H. (2013) '**Statistical notes for clinical researchers: assessing normal distribution (2) using skewness and kurtosis.' In Open Lecture on Statistics RDE: ISSN 2234-7658 (print) [Online] Available at: http://dx.doi.org/10.5395/rde.2013.38.1.52. [Accessed 5th July 2017].

- **Kim, J., Choi, J. and Zang, Y. (2010).** 'Do Abnormally High Audit Fees Impair Audit Quality?' Auditing: *A Journal of Practice and Theory, Forthcoming* [Online] Available at Forthcoming, Available at SSRN: https://ssrn.com/abstract=1586306. [Accessed 25th August 2019].

- **Kimeli, E. E. (2016).** 'Determinants of Audit Fees Pricing: Evidence from Nairobi Securities Exchange (NSE).' *International Journal of Research in Business Studies and Management'* Volume 3, Issue 1, January 2016, 23-35.

- **Kinder, T. (2019).** 'Big Four Lift UK Market Share as Audit Reform Concerns Grow.' Financial Times 28 October. [Online] Available at: https://www.ft.com/content/96d4b090-f973-11e9-a354-36acbbb0d9b6. [Accessed 23rd February 2020].

- **Kingman, J. (2018)** 'Independent Review of the Financial Reporting Council.'[Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/ system/ uploads/attachment_data/file/767387/frc-independent-review-final-report.pdf [Accessed 25th August 2019].

- **Knechel, R.W and Wilkens, M. (2006). '**The Role of Risk Management and Governance in Determining Audit Demand.' *Journal of Business Finance and Accounting Vol 33, Issue 9-10, Nov/Dec 2006, 1344, -1367*.

- **Knoops, C.D., Bouwens, J. M. F.G., Bik, O.P.G and Wallace (Eds). (2016).** 'What Do We know About Audit Quality?'. *Maandlab voor accountancy en bedrijfseconomie*: MAB,90 (2016) (9),337-377. [Online] Available at: http://hdl.handle.net/1765/94446 [Accessed 23rd February 2020].

- **Koh, Kevin, Shiva Rajgopal, and Suraj Srinivasan (2013).** 'Non-Audit Services and Financial Reporting Quality: Evidence from 1978–1980.' *Review of Accounting Stud*ies 18, no. 1 (March 2013): 1–33.

- **Köhler, A. G., Ratzinger-Sakel, N. V. S. (2012).** 'Audit and Non-Audit Fees in Germany: The Impact of Audit Market Characteristics.' *Journal of Economic Literature*, SBR 64: pp. 281-307.

- **Kothari, A. and Ghosh, A. (2020),**'The IL&FS Fiasco and the Lessons Learnt.' [Online] Available at: https://www.researchgate.net/publication/343450793_The_ILFS_Fiasco_and _the_ Lessons_ Learnt [Accessed 16th May 2022]

- **KPMG (2016).** 'EU Audit Reform: Two Observations About Audit Committee Composition.' [Online] Available at: https://home.kpmg/content/dam/kpmg/pdf/2016/04/aci-eu-audit-reform.pdf [Accessed 28th September 2019].

- **KPMG (2016)**'EU Audit Reform: What you need to know.' Available at: https://assets.kpmg/content/ dam/kpmg/xx/pdf/2016/10/nas-factsheet-oct-2016.pdf [Accessed 20th May 2022].

- **KPMG (2023)'**All Eyes On: Transforming the Audit with AI.' [Online] Available at:

https://kpmg.com/xx/en/blogs/home/posts/2023/02/all-eyes-on-transforming-the-audit-with-ai.html [Accessed 31st July 2023]

- **Krishnan, G. V., & Visvanathan, G. (2008).** 'Does the SOX Definition of an Accounting Expert Matter?' The Association between Audit Committee Directors' Accounting Expertise and Accounting Conservatism', *Contemporary Accounting Research*, 25, 827e857.

- **Krishnan, G. V., Ma, S.M., Yan, W. (2015).** 'Do Auditors with A Deep Pocket Provide A High-Quality Audit?' [Online] Available at: https://www.uts.edu.au/sites /default /files/Gopal %20Krishnan_2016%20Summer%20Conference.pdf. [Accessed 23rd February 2020].

- **Kutan, A.M. (2010).** 'Future of capitalism: Is it failing?' *Economic Systems,* Volume 34, Issue 1,2010, Pages 1-2.

- **Kwon, S. D., Lim, Y. D. and Simnett, R. (2014**). 'Mandatory Audit Firm Rotation and Audit Quality: Evidence from the Korean Audit Market.' Auditing: *A Journal of Practice and Theory*, 33 (4): pp.167-196.

- **Larcker, D. F. and Richardson, S. A. (2004).** 'Fees Paid to Audit Firms, Accrual Choices, and Corporate Governance.' *Journal of Accounting Research*, 42 (3): pp. 625-658.

- **Larcker, D. and Tayan, B. (2011).** 'Corporate Governance Matters: A Closer Look at Organisational Choices and their Consequences.' New Jersey: FT Press.

- **Lawrence, A., Minutti-Meza, M. and Zhang, P. (2010).** 'Can Big 4 Versus Non-Big 4 Differences in Audit-Quality Proxies be Attributed to Client Characteristics?' *Accounting Review,* .86 (1); pp 259-288 [Online]. Available at SSRN: http://ssrn.com/abstract=1640111 [Accessed: 2nd February 2016].

- **Leavy, P. (2017).**'Research Design: Quantitative, Qualitative, Mixed Methods, Arts Based and Community Based Participatory Research Approaches.' New York: The Guildford Press.

- **Lee, T., & Parker, R. (Eds.). (1979). '**Evolution of Corporate Financial Reporting.' (RLE Accounting). London Routledge. Available at: https://doi.org/10.4324/9781315881591 [Accessed 23rd February 2020].

- **Leggett, T. (2015).** 'India Satyam Computers: B Ramalinga Raju jailed for fraud.' [Online] Available at: https://www.bbc.co.uk/news/world-asia-india-32229847 [Accessed 14th August 2016].

- **Lei, J. Y., & Guo, Q. (2007).** 'Empirical Research on the Impact of Firm Size and Organization Form on Audit Fees—Evidence from Shanghai and Shenzhen in 2005.' *Communication of Finance and Accounting* (Academy Version), 12, 104-106.

- **Lennox, C. (2014).** 'Auditor Tenure and Rotation.' In: Hay D., Knechel W. R., and Willekens M. (eds) *The Routledge Companion to Auditing*. Oxon, UK: Routledge.

- **Lennox, C.S., Wu, X., and Zhang T. (2014).** 'Does Mandatory Rotation of Audit Partners Improve Audit Quality?' *The Accounting Review* 89 (5):1775-1803.

- **Leshem, S. and Trafford, V. (2007).** 'Overlooking the Conceptual Framework.' *Innovations in Education and Teaching Internationa*l, 44 (1), February 20017: pp. 93 -105.

- **Li, S. (2020)** 'A Review of the Relationship between Agency Cost and Corporate Investment Efficiency.' *American Journal of Industrial and Business Management*, **10**, 734-748 Available at: https://www.scirp.org/journal/paperinformation.aspx?paperid=99484 [Accessed 2nd June 2022].

- **Lim, C. and Tan, H. (2007).** 'Non-audit service fees and audit quality: The impact of auditor specialization.' [Online] Available at SSRN: http://ssrn.com/abstract=1003331 [Accessed : 2nd February 2016].

- **Lim, C. and Tan, H. (2009).** 'Does auditor tenure improve audit quality? Moderating Effects of Industry Specialization and Fee Dependence.' Singapore Management University School of Accountancy Research Paper No 2014-7.

- **Lin Z. J., Liu M.(2009)** 'The impact of corporate governance on auditor choice: Evidence from China'. *Journal of International Accounting, Auditing and Taxation 18 (2009) 44–59.*

- **Liu, B., Ye, J. Z., & Liao, Y. Y. (2003).** 'Empirical Research on the Influencing Factors of Auditing Costs of Chinese Listed Companies - Empirical Evidence from Shenzhen and Shanghai 2001 Annual Reports.' *Audit Research*, 1, 44-47.

- **Liu, S. (2017).** 'An Empirical Study: Auditors' Characteristics and Audit Fee.' *Open Journal of Accounting*, **6**, 52-70.

- **Lo Bue R.M**. **(2006).** 'Agency Assurance: The Role of the Audit Committee in Corporate Governance.' PhD Thesis at Graduate School of Business Administration, Economics, Law and Social Sciences, The University of St. Gallen. St. Gallen, U.S.A.

- **London Stock Exchange (2020). '**FTSE 250.' **[**Online] Available at: https://www.londonstockexchange.com/indices/ftse-250?lang=en [Accessed 2nd January 2020].

- **Lv, Z. D., & Song, C. (2007).** 'Research on the Scale Premium of Accounting Firms.' *Journal of Shanxi Finance and Economics Universit*y, 12, 113-119.

- **Lyubimov, A. (2013).** 'Regulation and The Audit Profession.' PhD Thesis: Department of Accounting in the College of Business at the University of Central Florida, Orlando, Florida.

- **Makortoff, K. (2019).** 'Separate Scandal-Hit UK Audit Sector from Accountings, Says Report.' [Online] Available at: https://www.theguardian.com/business/2019/dec/18/uk-audit-sector-needs-urgent-reform-to-restore-confidence-review [Accessed 23rd February 2020].

- **Mallin, C.A. (2019).** 'Corporate Governance.' 6th ed. Oxford :Oxford University Press.

- **Mansur, H., Rahman, A. A. A., Azzam, M., Meero A., Alqudah A., Alrabba H. (2021). '**The Perceptions of External Auditors about the Influential Factors on Audit Fees: an empirical study from Jordan.' *Journal of Legal, Ethical and Regulatory Issues* Volume 24, Special Issue

1, 2021.Available at: https://www.abacademies.org/articles/the-perceptions-of-external-auditors-about-the-influential-factors-on-audit-fees-an-empirical-study-from-jordan-11927.html [Accessed 27th January 2022].

- **Martinez, A.L. and Moraes, A.J. (2015)** 'Audit Fees and Audit Quality in Brazil.' [Online] Available at: https://www.researchgate.net/publication/280610195 [Accessed 25th August 2022].

- **Martinov – Bennie, N. (2014).** 'Driving Audit Quality.' *Accountancy Futures*, 8th ed. London, The Association of Chartered Certified Accountants pp. 71-73.

- **Masters, T. (2019). '**Higher Audit Costs are a Price Worth Paying for The Big Four.' Financial Times 30 July. [Online] Available at: https://www.ft.com/content/6862b468-b1da-11e9-8cb2-799a3a8cf37b [Accessed 1st December 2021].

- **McHugh, G. and Stamp, B. (1992).** 'Financial Reporting in Ireland Meeting the Expectation of Users.' *European Accounting Review*, 1 (2): 427-436.

- **McMeeking, K.P. (2000).** 'An Empirical Analysis of The Level and Changes of UK Audit and Non-Audit Service Fees.' PhD Thesis, University of Lancaster [Online]. Available at: http://ethos.bl.uk/DownloadOrder.do?orderNumber=THESIS01288648. [Accessed 3rd June 2017].

- **McMeeking, K. (2009).** 'Competition, Choice and Governance in the UK Audit Market: Interview Evidence.' Institute of Chartered Accountants of Scotland: Edinburgh.

- **Menon, K. and Williams, D. D. (2001).** 'Long-Term Trends in Audit Fees.' *A Journal of Practice & Theory*: March 2001, Vol. 20, No. 1, pp. 115-136.

- **Merlin Entertainments (2020)** 'Welcome to Merlin Entertainment: Creating Magical and Memorable Experiences.' [Online] Available at: https://www.merlinentertainments.biz/ [Accessed 25th August 2022].

- **Miles, J. A. (2012).** 'Management and Organization Theory'. 1st ed. San Francisco: Joss-Bass.

- **Miles, S.(2015).** ' Stakeholder Theory Classification: A Theoretical and Empirical Evaluation of Definitions.' *Journal of Business Ethic,* Volume 142, Issue 3, pp 437–459.

- **Millichamp, A., Taylor, J. (2018).** 'Auditing.' 11th ed. Andover: Cengage.
- **Mitra, A., Hossain, M., & Deis, D. R. (2007).** 'The empirical relationship between ownership characteristics and audit fees. Review of Quantitative Finance and Accounting.' 28(3), 257-285.

- **MohammedRizaei, F., Mohd-Saleh, N. and Ahmed, K. (2018).** 'Audit Firm Ranking, Audit Quality and Audit Fees: Examining Conflicting Price Discinminating Views.' [Online] Available at: https://0-wwwsciencedirectcom.lispac.lsbu.ac.uk/science/article/ pii/ S0020706318303170 [Accessed 6th March 2022].

- **Moon, J., Shipman, J., Swanquist, Q. and Whited, R. (**2019). 'Do clients get what they pay for? Evidence from auditor and engagement fee premiums.' *Contemporary Accounting Research*, **36**, 629– 665.

- **Moraes, A. J., & Martinez, A. L. (2015**). 'Audit fees and audit quality in Brazil.' Controladoria e Contabilidade, 15.

- **Moran, C. (2023)** 'ChatGPT is making up fake Guardian articles: Here's how we're responding'.[Online] Available at **:** https://www.theguardian.com/commentisfree/2023/apr/06/ai-chatgpt-guardian-technology-risks-fake-article [Accessed 2th July 2023].

- **Morck, R. and Steier, L. 2005).** 'The Global History of Corporate Governance: An introduction.' In: R. Morck (Ed.), *A History of Corporate Governance Around The World*: Family Business Groups to Professional Managers, Chicago: University of Chicago Press.

- **Moxley, P. and Berendt A. (2013).** 'Creating Value Through Governance: Towards a New Accountability.' [Online] Available at: www.accaglobal.com/ creating-value [Accessed: 5th December 2017].

- **Mundy, S. (2018).** 'PwC hit with 2-year India Audit Ban for Satyam Case.' Financial Times 11th Janaury ,2018. [Online] Available at : https://www.ft.com/content/c1231f40-f695-11e7-88f7-5465a6ce1a00 [Accessed 9th April 2020].

- **Munusami, V. (2005),** 'Determinants of Audit Fees in Small Public Quoted London Companies', MSc. Literature Review, London South Bank University, London England.

- **Musah, A. (2017).** 'Determinants of Audit fees in a Developing Economy: Evidence from Ghana.' *International Journal of Academic Research in Business and Social Sciences* 2017, Vol. 7, No. 11 ISSN: 2222-699.

- **Muzatko, S., & Teclezion, M. (2016).** 'The Relationship between Audit Fees and Earnings Quality of Financial Institutions'. *Journal of Accounting & Finance* (2158-3625), 16(5), 20-31.

- **Naser, K., Abdullhameed, H. & Nuseibeh, R. (2007).** Determinants of Audit Fees: Empirical Evidence from Emerging Economy.' *Scientific Journal of Administrative Development,Vol.5 IAD 2007.*

- **Naser, K., & Nuseibeh, R. (2008).** Determinants of Audit Fees: Empirical Evidence from an Emerging Economy.' *International Journal of Commerce and Management*, 17(3), 239-254. http://dx.doi.org/10.1108/10569210710833635

- **Naser, K. & Hassan, Y. M. (2016).** Factors Influencing External Audit Fees of Companies Listed on Dubai Financial Market.' *International Journal of Islamic and Middle Eastern Finance and Management*, 9(3), 346-363. https://doi.org/10.1108/IMEFM-01-2015-0007.

- **Naser, K., Al, H. A., Al-Kwari, D., & Nuseibeh, R. (2006**). 'Determinants of Corporate Social Disclosure in Developing Countries.' The Case of Qatar. *Advances in International Accounting,* 19, 1-23.

- **National Express (2022)** [Online] '2022 Half Year Results.' Available at: https://www.nationalexpressgroup.com/ [Accessed 25th August 2022].

- **Neate, R. and Davis, R. (2020).** 'Carillion Collapse: Two Years on, Government Has Learned Nothing.'[Online] Available at: https://www.theguardian.com/business/2020/jan/15/ carillion-collapse-two-years-on-government-has-learned-nothing. [Accessed 21 August 2020].

- **Ng, W. and Coakes, E. (2014).** 'Business Research: Enjoy Creating Developing and Writing Business Project.' London, Kogan Page Limited.

- **Njeri, J. (2013).** 'Mid-Tier Muscle.' [Online] Available at: http://www.thecfome.com/ uncategorized/mid-tier-muscle/ [Accessed 5th December 2017].

- **Nordberg, D. (2011).** 'Corporate Governance: Principles and Issues.' London: SAGE Publications Limited.

- **Numan, W. A., & Willekens, M. M. T. A. (2012).** 'An empirical test of spatial competition in the audit market.' *Journal of Accounting and Economics,* 531(1-2),450-465. [Online] Available at: https://doi.org/10.1016/j.jacceco.2011.10.002. [Accessed on 11th January 2020]

- **Obasi, R. and Okoye, E. (2012) '**Knowledge Spillover Versus Economic Bonding Theories: The Inclinations of the Nigerian Auditing Firms.' [Online] Available at: https://www.researchgate.net/publication/256015523_Knowledge_Spillover_Versus_Econo mic_Bonding_Theories_-_The_Inclinations_of_the_Nigerian_Auditing_Firms [Accessed 25th September 2022].

- **O'Connell M., Ward A.M. (2020).** 'Shareholder Theory/Shareholder Value.' In: Idowu S., Schmidpeter R., Capaldi N., Zu L., Del Baldo M., Abreu R. (eds) *Encyclopaedia of Sustainable Management*. Springer, Cham. [Online] Available at: https://doi.org/10.1007/978-3-030-02006-4_49-1 [Accessed 14th November 2021]

- **Odje, N.O. (2016).** 'Main Determinants of Audit Fees: Evidence from the AIM UK: 2009 - 2011.' Deutschland: Lambert Academic Publishing.

- **Ojo, M. (2006).** 'Eliminating the Audit Expectations Gap: Reality or Myth.' [Online]. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id =1407199 [Accessed: 3rd November 2012].

- **Ojo, M., (2013).** 'Sarbanes Oxley, Non-Audit Services (NAS) and the Mandatory Rotation of Audit Firms.' *North-West University*, South Africa, Munich Personal RePE'c Archive [Online] Available at: https://mpra.ub.uni-muenchen.de/52073/.

- **O'Keefe, T. B., Simunic, D. A. and Stein, M. (1994).** 'The Production of Audit Services: Evidence from a Major Accounting Firm.' *Journal of Accounting Research*, 32: pp.241-261.

- **Okike, E. (2015)** 'How Can I Measure Perceived Audit Quality?' [Online] Available at: https://www.researchgate.net/post/How-can-I-measure-perceived-audit-quality [Accessed 25th May 2022].

- **Oliver, C. (1997).** 'Sustainable Competitive Advantage: Combining Institutional and Resource-based Views.' *Strategic Management Journal*, 9(18), 697-713.

- **Onwuegbuzie, A. J., and Collins, K.M.T. (2007).** 'A Typology of Mixed Methods Sampling Designs in Social Science Research.' *The Qualitative Report*, 12(2), 281-316. [Online] Available from https://nsuworks.nova.edu/tqr/vol12/iss2/9 [Accessed:12th September 2019].

- **O'Reilly (2020).** 'ISA300 (redrafted) planning an audit of financial statements.' [Online]Available at: https://www.oreilly.com/library/view/interpretation-and application/9781119973782/OEBPS/9781119973782_epub_ch_12.htm[Accessed 8th November 2020].

- **O'Sullivan, N. (2000).** 'The Impact of Board Composition and Ownership on Audit Quality: Evidence from Large UK Companies.' *British Accounting Review*, 32, (December): 397–414.

- **Otusanya, J.O. and Lauwo, S. (2010).** 'The Role of Auditors in the Nigerian Banking Crisis.' *Accountancy Business and the Public Interest,* Vol. 9, 2010.

- **Owolabi, S.A., Olajumoke, J. and Ajodeji, A. (2016).** 'Evolution and Development of Auditing.' [Online] Available at: https://www.researchgate.net/publication/304115143 [Accessed 8th July 2017].

- **Owusu, G. M. Y. and Bekoe R.A. (2019).** 'Determinants of audit fees: The perception of external auditors.' *Journal of Research in Emerging Markets JREM*, 2019, Vol. 1, No. 4, ISSN: 2663-905X [Online] Available at: online at http://publications.ud.ac.ae/index.php/jrems [Accessed 7th November 2021].

- **PageGroup Plc. (2020).** 'Annual Report and Accounts.' **[**Online] Available at: https://www.page.com/sites/page-group-v3/files/Homepage/annualreport-2020-v1.pdf [Accessed 10th March 2022].

- **Pai, K. and Tolleson, T. D. (2012).** 'The Capture of Government Regulators by the Big 4 Accounting Firms: Some Evidence.' *Journal of Applied Business and Economics* 13(1) 2012.

- **Pallant, J. (2020). '**SPSS Survival Manual: A Step by Step Guide to Data Analysis Using IBM SPSS.' 7th ed. London England:Open University Press.

- **Patel, A. and Prasad, P. (2013).** 'Auditor Independence, Audit Fees Lowballing, And Non-Audit Services: Evidence from Fiji.' *Accounting & Taxation*, 5 (2) 2013.

- **Parlak, K. (2023**) 'Artificial Intelligence in Auditing? Pros and Cons Reviewed'.[Online] Available at: https://www.linkedin.com/pulse/artificial-intelligence-auditing-pros-cons-reviewedkorayparlak#:~:text=To%20discover%20possible%20hazards%20and,higher%20risk%20of%20material%20misstatement. [Accessed 31st August 2023].

- **Paul, S., Bhowmik P.K., Islam, R.M. Baser, A.A. (2021). '**Reasons for Low Audit Fees: Evidence from Bangladesh**.'** [Online] Available at**:** https://www.researchgate.net/publication/352561258_Reasons_for_Low_Audit_Fees_Evidence_from_Bangladesh [Accessed 8th November 2021].

- **PCAOB (2011).** 'Concept Release on Auditor Independence and Audit Firm Rotation.' [Online] Available at: https://pcaobus.org/Rulemaking/Docket037/Release_2011-006.pdf [Accessed 3rd June 2018].

- **PCAOB (2017).** 'Auditing Standard No.1015.: Due Professional Care in the Performance of Work.' [Online]. Available at: https://pcaobus.org/Standards/Auditing/Pages/AS1015.aspx [Accessed 20th September 2017].

- **PCAOB (2021).** [Online] Available at: https://pcaobus.org/about [Accessed 3rd June 2015].

- **Peel, M. J. (2013)**.'The Pricing of Initial Audit Engagements by Big 4 And Leading Mid-Tier Auditors.' *Accounting and Business Research*, 43(6), pp. 636-659, 2013.

- **Perrin, S. (2016).** 'Moving Parts.' Accountancy, January 2016, pp.68-71.

- **Perrin, S. (2019).** 'Audit Methodology: Is it fit for Purpose?' [Online] Available at: https://www.accountancydaily.co/audit-methodology-it-fit-purpose [Accessed: 4th February 2019].

- **Pham, L. (2018).** 'Qualitative Approach to Research. A Review of key paradigms: positivism, interpretivism and critical inquiry.' [Online] Available at: https://www.researchgate.net/publication/324486854_A_Review_of_key_paradigms_positivism_interpretivism_and_critical_inquiry [Accessed 25th January 2019]

- **Pickard J. (2018).** 'Grant Thornton US to Pay $100m in Damages Over Tax Shelter.'[Online] Available at: http://www.internationalaccountingbulletin.com/News/grant-thornton-us-to-pay-100m-in-damages-over-tax-shelter-6902922 [Accessed 20th January 2019].

- **Pickard J. (2019).** 'Gupta Auditors to Face Sanctions in South Africa.' [Online] Available at: http://www.internationalaccountingbulletin.com/News/gupta-auditor-to-face-sanctions-in-south-africa-6994619 [Accessed: 14th March 2019].

- **Pong, C. M., Whittington, G. (1994).** 'The Determinants of Audit Fees: Some Empirical Models.' *Journal of Business Finance & Accounting,* 21(8): pp1071-1095.

- **Porter, B. (2009). The Audit Trinity : '**The Key to Securing Corporate Accountability.' **[Online]** Available at**:** https://www.researchgate.net/publication/227429828 _The audit_ trinity the key to securing_corporate_accountability.

- **Porter, B., Simon, J. and Haterly, D. (2014).** 'Priciples of External Auditing'. 4th ed. Sussex, UK : John Wiley & Sons.

- **PwC (2012).** 'Point of View: Competition and Choice in the Audit Market.' [Online] Available at: https://docplayer.net/14593550-Point-of-view-competition-and-choice-in-the-audit-market.html [Accessed on 12th December 2019].

- **PwC (2023).** 'Understanding Mandatory Audit Rotation in South Africa.' [Online] Available at: https://www.pwc.co.za/en/publications/understanding-mafr.html [Accessed 20 July 2023].

- **Rainsbury, E. A., Bradbury, M., & Cahn, S. F. (2009).** 'The impact of audit committee quality on financial reporting quality and audit fees.' *Journal of Contemporary Accounting and Economics,* 5(1), 20e33.

- **Rathod, L. (2019).** 'Brexit and UK Corporate Governance.' [Online] Available at: https://diligent.com/en-gb/blog/brexit-and-uk-corporate-governance/ [Accessed 3rd March 2019].

- **Ratkowsky, D. A. 1990**. 'Handbook of Nonlinear Regression Models.' Marcel Dekker, Inc. New York.

- **Ratzinger-Sakel, N., Audousset-Coulier, S. Kettunen, J. Lesage, C. (2012).** 'What Do We Know About Joint Audit?' [Online]. Available at :_file 70004/7672/58-What-Do-We-Know-About-Joint-Audit-ICAS.pdf.

- **Redmayne, N. B. (2010).** 'Audit Quality - An Academic's Perspective: Research Can Give Us Insights into Audit Quality.' [Online] Available at: http://www.nzica.com/News /Archive/2013 /August/Audit-quality-an-academics-perspective.aspx [Accessed: 3rd June 2017].

- **Reidenbach, M. (2018)** 'Audit Firm Industry Sector Leader Geographic Location and its Association with Audit Fees.' *The International Journal of Business and Finance Research* · Vol. 12, No. 2, 2018, pp. 117-130.

- **Remenyi, D. and Bannister, F. (2012**). 'Writing up Your research for a Dissertation or Thesis.' 1st ed. Reading, England: Academic Publishing International Ltd.

- **Rewczuk K. and Modzelewski P. (2019).** 'Determinants of Audit Fees: Evidence from Poland.' *Central European Economic Journal,* Vol.6 (Issue 53), pp. 323-336. https://doi.org/10.2478/ceej-2019-0020.

- **Ronen, J. (2003).** 'Financial Statements Insurance.' *Journal of Forensic Accounting*, IV (1) January – June 2003.
- **Ronen, J. (2010).'**Corporate Audits and How to Fix Them.' *Journal of Economic Perspectives*, Volume 24, Number 2, Spring 2010.

- **Rong, Q. (2017).** 'Mandatory Audit Firm and Audit Partner Rotation.' Honors Theses and Capstones. 351. [Online] Available at: https://scholars.unh.edu/honors/351. [Accessed: 31st July 2019].

- **Roos, M. & Stainbank, L. (2017).** 'Accounting and Auditing Practices in Africa.'[Online] Available at: https://books.google.co.uk/books?id=BYYpDwAAQBAJ&printsec= frontcover&source =gbs_ge_summary_r&hl=en#v=onepage&q=cornerstone%20&f=false [Accessed 21st January 2019].

- **Ruddock, C., Taylor, S., Taylor, S., (2006**). 'Non-audit services and earnings conservatism: is auditor independence impaired?' *Contemp. Acc. Res*. 23 (3), 701– 746.

- **Ryan, S.G., Herz, R.H., Lannaconi, T.E., Maines, L.A., Palepu, K., Schrand, C.M., Skinner, D.J. and Vincent, L. (2001).** 'SEC auditor requirements.' *Accounting Horizon*s, Vol. 15 No. 4, pp. 373-386.

- **Saidin**, **S.Z. (2014**). 'Does Reliance on Internal Auditors' Work Reduce the External Audit Cost and External Audit Work?' *Procedia - Social and Behavioural Sciences* 164 (2014) 641 – 646. Available at: https://reader.elsevier.com/reader/ sd/pii/S18770428 14059783? token= DC675C4B9EC364AAD58787FDBEF53E157003E B42A 80783520342ABC6F6EA4C6 CD9F05EDA9D59BE FFFCF3D46DF355DAFC &origin Region=eu-west-1&originCreation=20220301105610 [Accessed 20th February 2022].

- **Samsuri,A.S.B., Arifin, T.R.B.T. (2018).** 'Determinants of Audit Fees: A Conceptual View of Audit Quality Characteristics.' International *Journal of Advanced Scientific Research and Management,* Vol. 3 Issue 5, May 2018.

- **Sandra, W. M., & Patrick, P. H. (1996).** 'The Determinants of Audit Fees in Hong Kong: An empirical Study.' Asian Review of Accounting, 4 (2), 32-50.

- **Sankaraguruswamy, S. and Whisenant, S. (2009).** 'Pricing Initial Audit Engagements: Empirical Evidence Following Public Disclosure of Audit Fees.' *Working Paper, University of Houston,* Houston: C.T Bauer College of Business.

- **Sarbanes-Oxley (2002).** [Online] Available at: http://www.soxlaw.com/ [Accessed 20th August 2016].

- **Saunders, M., Lewis, P. and Thornhill, A. (2019).** 'Research Methods for Business Students.' 8h ed. Essex: Pearson Education Limited.

- **Saunders, M., Lewis, P. and Thornhill, A. (2023).** 'Research Methods for Business Students.' 9h ed. Essex: Pearson Education Limited.

- **Savills Plc. (2019).** 'Annual Report and Accounts'. [Online] Available at: https://www.annualreports.com/Company/savills-plc [Accessed 11th January 2022].

- **Scott-Moncrief Business Advisers and Accountants (2017).** [Online] Available at: http://www.scott-moncrieff.com [Accessed 3rd July 2017].

- **Shah, A. (2015).** 'The Time Has Come to Investigate KPMG for Audit Failure at HBOS'. Richard Murphy's News log (n.d.).' '*Tax Research U.K: Tax, accounting, and political economy',* [Online] Available at: https://www.taxresearch.org.uk/Blog/2015/12/14/the-time-has-come-to-investigate-kpmg-for-audit-failure-at-hbos/. [Accessed 3rd July 2017].

- **Shi, W., Connelly. L., Hoskisson R.E. (2017).** 'External Corporate Governance and Financial Fraud: Cognitive Evaluation Theory Insights on Agency Theory Prescriptions.' [Online] Available at: https://onlinelibrary.wiley.com/doi/full/10.1002/smj.2560 [Accessed 15 August 2020].

- **Shoaib, A. (2018).** 'Carillion Inquiry: Missed Red Flags, Aggressive Accounting and The Pension Deficit.' Accountancy Age, 26th February 2018. [Online] Available at:

https://www.accountancyage.com/2018/02/26/carillion-inquiry-missed-red-lights-aggressive-accounting-pension-deficit/ [Accessed 6th March,2019].

- **Shoaib, A. (2018). '**FRC reports an 'unacceptable deterioration' in KPMG audit quality.' Accountancy Age, 19th June 2018 [Online] Available at: https://www.accountancyage.com /2018/06/19/frc-reports-an-unacceptable-deterioration-in-kpmg-audit-quality/ [Accessed 6th March,2019].

- **Shockley, R. A., & Holt, R. N. (1983).** 'A Behavioural Investigation of Supplier Differentiation in the Market for Audit Services.' *Journal of Accounting Research*, *21*(2), 545–564.

- **Siddiqui, J., Zaman, M., and Khan, A. (2013).** 'Do Big 4 Affiliates Earn Audit Premiums in Emerging Markets.' *Advances in Accounting* 29 (2),332-342.

- **Sikka, P. and Willmott, H. (1995).** 'The Power of Independence: Defending and Extending the Jurisdiction of Accounting in the UK.' *Accounting Organisation and Society*, 20 (6): 547-581.

- **Sikka, P. (2009).** 'Financial Crisis and the Silence of the Auditors.' *Accounting, Organisations and Society*, 34: 868-873.

- **Sikka, P., Liew, P. and Filling S. (2009).** 'The Audit Crunch: Reforming Auditing.' *Managerial Auditing Journal* Vol. 24 No. 2, 2009 pp. 135-155.

- **Sikka, P. *et al*. (2018).** 'Reforming the Auditing Industry.'[Online] Available at: http://visar.csustan.edu/aaba/LabourPolicymaking-AuditingReformsDec2018.pdf [Accessed 4th February 2019].

- **Sikka, P. *et al*. (2019).** 'Regulatory Architecture to Enhance Democracy and Business Accountability.' [Online] Available at: http://visar.csustan.edu/aaba/LabourPolicymaking-RegulatoryArchitectureReportJan2019.pdf [Accessed 12th February 2019].

- **Sikka, P. (2019).** 'The Big Four Auditors are Failing – and the Watching's Report Won't Change that.' [Online] Available at: https://www.theguardian.com/commentisfree/2019 /apr/18/big-four-auditors-failing-watchdog-not-fit [Accessed 2nd August 2020].

- **Silva, A. S.V.C., Inácio H.C. and Vieira. E. F. S. (2020).** 'Determinants of Audit Fees for Portugal and Spain.' [Online] Available at https://www.researchgate.net/publication /346199511_Determinants_of_Audit_Fees_for_Portugal_and_Spain [Accessed 23rd December 2021]

- **Simunic, D. A. (1980).** 'The Pricing of Audit Services: Theory and Evidence.' *Journal of Accounting Research* 18(1) (Spring 1980): pp.161-190.

- **Simunic, D. and M. Stein (1996).** 'The Impact of Litigation Risk on Audit Pricing: A review of the economics and the evidence.' Auditing: *A Journal of Practice and Theory Supplement 15:119–34.*
- **Singh, H. and Van der Zahn, M. (2010)** 'Auditor Attributes and their Association with Audit Fees in Australia: An Empirical Study' School of Accounting, Curtin University,

Perth, Western Australia.

- **Singh, A., Singh, H., Sultana, N., Evans, J. (2019).** 'Independent and joint effects of audit partner tenure and non-audit fees on audit quality.' *Journal of Contemporary Accounting and Economics* 15 (2019) 186–205.

- **Siregar, S.V., Amarullah, F. Wibowo, A. and Anggraita, V. (2012**). 'Audit Tenure, Auditor Rotation, and Audit Quality: The Case of Indonesia.' *Asian Journal of Business and Accounting*, 5(1), 2012, 55-74. ISSN 1985-4064.

- **Skoulding, L. (2018).** 'FRC Investigating Grant Thornton's Sports Direct audits.' Available at: https://www.accountancyage.com/2018/09/13/frc-investigating-grant-thorntons-sports-direct-audits/# [Accessed 2nd January 2019].

- **Smith, P. (2014).** 'Who runs the AC.' Accountancy, July 2014. pp.65-67.

- **Smith P. (2014).** 'A Business Cost Like all Others.' Accountancy, December 2014. [Online]. Available at: https://www.cchdaily.co.uk/audit-tenders-business-cost-all-others. [Accessed: 5th April 2014].

- **Smith, P. (2015). '**Slow off the Mark. 'Accountancy', May 2015 pp.14-24.

- **Smith, P. (2017). '**FTSE 250 Auditors Survey: Sting in the Tail as Audit Fees Rise.' [Online] Available at: https://www.accountancydaily.co/ftse-250-auditors-survey-2017-sting-tail-audit-fees-rise [Accessed 10th March 2022].

- **Smith, P. (2018).** 'Big Four Alumni: Who's Working at the Audit Regulator?' Croner-1 Accountancy Daily 17 Dec: [Online]. Available at: https://www.accountancydaily.co/big-four-alumni-2018-whos-working-audit-regulator. [Accessed 2nd January 2019].

- **Smith, P. (2019). '**FTSE 250 Audit Fees Exceed £200m For First Time.' Croner-1 Accountancy Daily 3rd June: [Online]. Available at: https://www.accountancydaily.co/exclusive-ftse-250-audit-fees-exceed-ps200m-first-time [Accessed 2nd December 2019].

- **Smith, P. (2019).** 'FTSE 250 Auditors Survey 2019.' Croner-1 Accountancy Daily, 3rd June. [Online]. Available at: https://www.accountancydaily.co/ftse-250-auditors-survey-2019. [Accessed 22nd August 2020].

- **Smith, P. (2019).** 'FTSE 100 Auditors Survey 2019.' Croner-1Accountancy Daily,4th November [Online]. Available at: https://www.accountancydaily.co/ftse-100-auditors-survey-2019 [Accessed 22nd August 2020].

- **Smith, P. (2020).** 'FTSE 250: Firms in Fees Bonanza Amid Regulatory Scrutiny.' Croner-1 Accountancy Daily 20th July 2020 [Online] Available at: https://www.accountancydaily.co/ ftse-250-firms-fees-bonanza-amid-regulatory-scrutiny [Accessed 2nd March 2021].

- **Soiferman, L. K. (2010).** 'Compare and Contrast Inductive and Deductive Research Approaches.' Working *Paper*, *University of Manitoba*.

- **Solomon, A. (2020)** 'Negotiation: A Literature Review of Theories, Practice, Problems and Cultural Influences.' Available at: https://www.researchgate.net/publication/ 340444505 Negotiation_A_Literature_Review_of_Theories_Practice_Problems_and _Cultural Influences [Accessed 26th May 2022].

- **Solomon, J. (2007).** 'Corporate Governance and Accountability.' 2nd ed. Chichester: John Wiley & Sons Limited.

- **Soltani, B. (2014).** 'The Anatomy of Corporate Fraud: A Comparative Analysis of High Profile American and European Corporate Scandals.' *Journal of business ethics*. 120(2), 251- 274.

- **Soltani, B., Rekik, C. and Casta, J. (2011).** 'Factors affecting audit fees in Europe: France, Germany, and the UK.' [Online]Available at: https://www.researchgate.net/publication/ 277152805_Factors_affecting_audit_fees_in_Europe_France_Germany_and_the_UK. [Accessed 31st March 2022].
- **Soltani, L. (2016)** 'Determinants of Audit Opinion After the Scandals of Enron: Empirical Validation in the French Context.' Faculty of Law, Economics and Management, University of Jendouba, Tunisia.

- **Spina, J. (2019)** 'Information Asymmetry and the Recent Financial Crisis.' [Online] Available at SSRN: https://ssrn.com/abstract=3474479 or http://dx.doi.org/10.2139/ssrn.3474479.

- **Stanley, J. D. and DeZoort, T**. **(2007) '**Audit Firm Tenure and Financial Restatements: An Analysis of Industry Specialization and Fee Effects' (March 1, 2007). Journal of Accounting and Public Policy, Vol. 26, No. 2, 2007, Available at SSRN: https://ssrn.com/abstract=1159786

- **Statista (2021).** 'Audit/Accounting firms - the Big Four - Statistics & Facts.' [Online] Available at:https://www.statista.com/topics/1260/audit-accounting-firms-big-four/#topicHeader __wrapper [Accessed 12th November 2021].

- **Stewart, I. (2011).** 'Selected Insights into Corporate Governance in FTSE Tech Mark Companies (2003-2007): A Theoretical and Empirical Analysis in the UK.' PhD Thesis at Department of Accounting and Finance, London Southbank University. London, England.

- **Stewart, J., Kent, P. and Routledge, P. (2016). '**The Association Between Audit Partner Rotation and Audit Fees: Empirical Evidence from the Australian Market.' *A Journal of Practice & Theory*: February 2016, Vol. 35, No. 1, pp. 181-19.

- **Stewart, J., Munro, L. (2007).** 'The Impact of Audit Committee Existence and Audit Committee Meeting Frequency on the External Audit: Perceptions of Australian Auditors.' Int. J. Auditing 11 (1), 51–69.

- **Stigler G. J. (1971).** 'The Theory of Economic Regulation Author(s).' Reviewed work(s): *The Bell Journal of Economics and Management Science,* 2 (1) (Spring, 1971), pp. 3-21.
- **Stokes, P. (2011),** *'Key Concepts in Business and Management Research Methods'*, 1st ed. Hampshire: Palgrave Macmillan.

- **Storbeck, O. (2021).** 'Accounting Watchdog Told Wirecard It Did 'Not Want' to Investigate fraud.' Financial Times 11th February. [Online] Available at: https://www.ft.com/content/89685295-06ae-4653-bfbf-fa9de64f61a4 [Accessed on 23 December 2021].

- **Sukraj, P. (2015).** 'Auditors to Consider Whether Profitability is Impacting Audit Quality.' [Online] Available at: https://www.accountancydaily.co/auditors-consider-whether-profitability- [Accessed on 23 December 2021].

- **Suryanto, T. (2014).** 'Determinants of Audit Fee Based on Client Attribute, Auditor Attribute, and Engagement Attribute to Control Risks and Prevent Fraud: A Study on Public Accounting Firms in Sumatra-Indonesia*.' International Journal in Economics and Business Administration* Volume II, Issue 3, 2014.

- **Suwaidan, M. S. & Qasim, A. (2010).** 'External Auditors' Reliance on Internal Auditors and Its Impact on Audit Fees: An empirical investigation.' *Managerial Auditing Journal,* 25(6), 509 – 529.

- **Svanström, T. (2013**) 'Non-audit Services and Audit Quality: Evidence from Private Firms.' *European Accounting Review, 22:2, 337-366,* DOI: 10.1080/09638180.2012.706398

- **Sweet, P. (2014).** 'Treasury MPs Take Aim at KPMG over Co-op Auditing.' [Online] Available at: https://www.cchdaily.co.uk/treasury-mps-take-aim-kpmg-over-co-op-auditing. [Accessed 3rd July 2016].

- **Sweet, P. (2018).** 'Carilion Report 'Watershed' for Auditors.' [Online] Available at: https://www.accountancydaily.co/carillion-report-watershed-auditors. [Accessed 8th November 2021.

- **Tabachnick, B.G. & Fidell**, **L.S. (2013).** 'Using multivariate statistics.' 6th ed. Boston: Pearson Education.

- **Tabassum, N., Singh S. (2020).** 'Theories, Models and Mechanisms. In: Corporate Governance and Organisational Performance.' Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-48527-6_2 [Accessed 8th November 2021.

- **Taffler, R. J. and Ramalingam, K. S. (1982).** 'The Determination of Audit Fees in the UK: An Exploratory Study.' Working Paper Series, City University Business School, London.

- **Tagesson, T., Blank, V., Broberg, P., & Collin, S. O. (2009).** 'What Explains the Extent and Content of Social and Environmental Disclosures on Corporate Websites: A study of Social and Environmental Reporting in Swedish Listed Corporations.' *Corporate Social Responsibility and Environmental Management, 16(6), 352-364.*

- **Tanyi, P. N., & Smith, D. B. (2015**). 'Busyness, Expertise, and Financial Reporting Quality of Audit Committee Chairs and Financial Experts.' *Auditing: A Journal of Practice and Theory*, 34, 59-89.

- **Taylor, M. H. and Simon, D. T. (1999).** 'Determinants of Audit Fees: The Importance of Litigation, Disclosure, and Regulatory Burdens in Audit Engagements in 20 Countries.' *The International Journal of Accounting*, 34 (3): pp.375-388.

- **Tchouassi, G. and Nosseyamba, B. O. (2011).** 'Corporate Governance and Maximization of Shareholder Value: Theoretical analysis from Francophone countries in Africa.' *Journal of Public Administration and Policy Research,* 3(6): pp.198-206.

- **The Accountant (2019).** 'NFRA to Emulate PCAOB to Boost Audit Transparency in India.' [Online] Available at: https://www.theaccountant-online.com/News/nfra-to-emulate-pcaob-to-boost-audit-transparency-in-india-7398318?s=NFRA.

- **The Economic Times (2019).** 'SAT Quashes Sebi Order of Banning PwC for Two Years from Auditing.' [Online] Available at:https://economictimes.indiatimes.com/industry/services/consultancy-/-audit/sat-quashes-sebi-order-of-banning-pwc-for-two-years-from-auditing/articleshow/71044512.cms?from=mdr [Accessed 9th January 2020].

- **The Gateway (2017).** 'Choosing an Accounting Firm to Work For.' [Online] Available at: http://thegatewayonline.com/accounting/which-are-the-best-professional-service-firms-to-work -for. [Accessed 11th September].

- **The Guardian (2018).** 'The Guardian View on Carillion's Collapse: A Question of When, Not If.'16th May 2016. [Online] Available at: https://www.theguardian.com/commentisfree/2018/may/15/the-guardian-view-on-carillions-collapse-a-question-of-when-not-if [Accessed 21 January 2019].

- **The International Financial Reporting Standards (IFRS) Foundation (2021).**'IFRS Foundation announces International Sustainability Standards Board, Consolidation with CDSB and VRF and Publication of Prototypes Disclosure Requirements.' [Online] Available at: https://www.ifrs.org/news-and-events/news/2021/11/ifrs-foundation-announces-issb-consolidation-with-cdsb-vrf-publication-of-prototypes/ [Accessed 6th December 2021].

- **The South African Institute of Chartered Accountants (1994),** 'The Chartered Accountants Designation (Private) Act, 67 of 1993.'[Online] Available at: https://saicawebprstorage.blob.core.windows.net/uploads/CADesignationAct-1.pdf. [Accessed 16th May 2022].

- **The UK Corporate Governance Code (2018**). [Online] Available at: https://www.frc.org.uk/getattachment/88bd8c45-50ea-4841-95b0-d2f4f48069a2/2018-UK-Corporate-Governance-Code-FINAL.PDF. [Accessed 21st May 2018].

- **The United Nations (2019).** 'World Economic Situation Prospects.' [Online] Available at: https://www.un.org/development/desa/dpad/wp-content/uploads/sites/ 45/ WESP2019_ BOOK-ANNEX-en.pdf [Accessed 21 January 2019].

- **Tiwari, R., K. and Debnath, J. (2021),** 'Joint Provision of Non- audit Services to Audit Clients: Empirical Evidence from India.' *The Journal for Decision Makers* 46(3) 153–165, 202.

- **Tran, M., Pham, T., Phan, T., Hoang, T., Do, D., & Dinh, T. (2019).** 'Factors Influencing Independent Audit Fees: multi-group analysis PLS-SEM and moderate model.' *Management Science Letters*, *9*(10), 1599-1608.

- **Trimble, M. (2017) .**'The Historical and Current Status of IFRS Adoption around the World.'[Online] Available at: https://www.researchgate.net/publication/328668312_ The Historical_ and_ Current Status of IFRS Adoption around the World [Accessed 12th November 2021].

- **Trotman, A. J., & Trotman, K. T. (2015).** 'Internal Audit's Role in GHG Emissions and Energy Reporting: Evidence from Audit Committees, Senior Accountants, and Internal Auditors.' *Auditing: Journal of Practice & Theory, 34*(1), 199-230.

- **Tugman, L and Leka, L. (2019).** '5 Key Factors to Enhance Audit Committee Effectiveness.' [Online] Available at: https://www.ifac.org/knowledge-gateway/supporting-international-standards/discussion/5-key-factors-enhance-audit-committee-effectiveness [Accessed 20th February 2022].

- **Turpen, R.A. (1995).** 'Audit fees - What Research Tells Us.' (Auditing)' [Online] Available at: http://archives.cpajournal.com/old/16349305.htm. [Accessed 3rd June 2016].

- **UN Climate Change Conference UK (2021).** '31st Oct -12 Nov 2021Glasgow Cop 26 in Partnership with Italy.' [Online] Available at: https://ukcop26.org/. [Accessed 29th October 2021].

- **University of Bath (2019).** 'Definition of Research Integrity.' [Online] Available at: https://www.bath.ac.uk/corporate-information/definition-of-research-integrity/ [Accessed 20th October 2019].

- **University of Warwick (2016).** 'What is Critical Realism.' [Online] Available at: https://warwick.ac.uk/fac/soc/ces/research/current/socialtheory/maps/criticalrealism/ [Accessed: 2nd July 2020].

- **Vafeas, N., and Waegelein, J. (2007).** 'The Association Between Audit Committees, Compensation Incentives and Corporate Audit Fees.' *The Review of Quantitative Finance and Accounting,* 28(3), 241e255.

- **Velte, P. and Stiglbauer, M. (2012). '**Audit Market Concentration and It's Influence on Audit Quality.' *International Journal of Economics and Finance* Vol. 3, No. 5; October 2011.

- **Vu, D. H. T. (2012**). 'Determinants of Audit Fees for Swedish Listed Non-Financial firms in NASDAQ.' The Department of Business Administration, School of Management and Economics, Lung University, OMX Stockholm.

- **Walliman, N. (2011).** 'Research Methods: The Basics.' Abingdon: Routledge.
- **Walliman, N. (2018).** 'Research Methods: The Basics.' 2nd ed. Abingdon: Routledge.

- **Watts, R & J. Zimmerman (1986).** 'The Demand of and Supply for Accounting Theories.' *The Accounting Review* 54:2, 273–305.

- **Watts, R & J. Zimmerman (1986).** 'Positive Accounting Theory'. Englewood Cliffs, New Jersey: Prentice-Hall.

- **West S.G., Finch J.F., Curran P.J. (1996)**, 'Structural equation models with nonnormal variables: problems and remedies.' In RH Hoyle (Ed.). Structural equation modelling: Concepts, issues, and applications. Newbery Park, CA: Sage; 1995. p56-75.

- **Wharton, U. (2002).** 'Today's Financial Scandals Have Roots in Management Incentives of the High-Flying 1980's.' [Online]. Available at: http://knowledge. wharton.upenn.edu / article.cfm?articleid=653 [Accessed: 2nd November 2015].

- **Whisenant, S., Sankaraguruswamy S., Raghunandan K. (2003).** 'Evidence on the Joint Determination of Audit and Non-audit Fees.' Journal *of Accounting Research*, 41 (4) (2003), pp. 721-744

- **White, S. (2019).** 'AQI 2019: Lack of Improvement in Audit Quality 'Disappointing'.' Accountancy Age, 10, July 2016.

- **White, S. (2020).'**Ex Big Four Staff Chair Majority of Audit Committees.' [Online] Available at: https://www.accountancydaily.co/ex-big-four-staff-chair-majority-audit-committee[Accessed 21st August 2020].

- **White S. (2021).** AQI 2021: 'Lack of Improvement in Audit Quality Despite Reforms Plans.' [Online] Available at https://www.accountancydaily.co/aqi-2021-lack-improvement-audit-quality-despite-reform-plans# [Accessed 8th March 2022].

- **Whittington O.R. and Pany, K. (2019).** 'Principles of Auditing and Other Assurance Services.' 21st Edition, New York, McGraw-Hill Higher Education Kindle Edition.

- **Widmann, M., Foller, F., Wolz M. (2020).** 'What is it going to cost? Empirical evidence from a systematic literature review of audit fee determinants.' [Online] Available at: https://doi.org/10.1007/s11301-020-00190-w [Accessed 23rd December 2021].

- **Wisker, G. (2009**), *'The Undergraduate Research Handbook.'* 1st ed. Basingstoke: Palgrave Macmillan.

- **Witte, R.S and Witte J.S (2017)** *'Statistics'* 11th ed. New Jersey: John Wiley & Sons Inc.

- **Woolf, E. (2020). '**Woolf: radical proposal for state sponsored audit body.' [Online] Available at: https://www.accountancydaily.co/woolf-radical-proposal-state-sponsored-audit-body [Accessed 25 August 2020].

- **Wooten, C. (2003).** 'Research about audit quality.' *The CPA Journal*, 2003, January: 103-48.

- **Wu, X. (2012).** 'Corporate Governance and Audit Fees: Evidence from Companies Listed on the Shanghai Stock Exchange.' *China Journal of Accounting Research* 5 (2012) 321–342.

- **Wu, Y. (2018).** 'Environmental risk and audit fees: Evidence from Monitoring of PM2. 5.' *Open Journal of Business and Management*, *6*(02), 291.

- **www.parliament.uk (2018).** 'Parliamentary Business: Carillion.' [Online] Available at: https://publications.parliament.uk/pa/cm201719/cmselect/cmworpen/769/76904.htm [Accessed 22nd January 2020].

- **www.parliament.uk (2019). '**Ensuring Independence, Challenge and Professional scepticism.' [Online]Available at: https://publications.parliament.uk/ pa/cm201719 /cmselect/cmbeis/1718/171809.htm [Accessed 8th November 2021].

- **Yasar, B., Martin, T., and Kiessling T. (2020)** 'An empirical test of signalling theory.' Management Research Review Vol. 43 No. 11, pp. 1309-1335.

- **Yatim, P., Kent, P., & Clarkson, P. (2006).** 'Governance structures, ethnicity, and audit fees of Malaysian listed firms.' *Managerial Auditing Journal, 21*(7), 757-782. doi:http://dx.doi . org/10.1108/02686900610680530 [Accessed 25 April 2020].

- **Ye, X. (2020).** 'Literature Review on Influencing Factors of Audit Fees. Modern Economy.' 11, 249-260. [Online] Available at: https://doi.org/10.4236/me.2020.112022 [Accessed 25 April 2020].

- **Yuan, X. Lopez D.M. and Forgione D. A. (2012).** 'An empirical investigation of audit fees in the US for-profit healthcare sector'. *Journal of Public Budgeting, Accounting & Financial Managemen*t, 24 (4), 639-659.

- **Yuniarti, R. (2011).** 'Audit firm size, audit fee and audit quality'. *Journal of Global Management*, 2(1), 84-97.

- **Yusoff, W.F.W and Alhaji I. A. (2012).** 'Insight of Corporate Governance Theories'. Journal of Business & Management Volume 1, Issue 1 (2012), 52-63 ISSN 2291-1995 E-ISSN 2291-2002.

- **Zhang, Y. (2011).** 'The Analysis of Shareholder Theory and Stakeholder Theory'. [Online] Available at: https://www.researchgate.net/scientificcontributions/2026709190_Yanru_Zhang [Accessed 25 August 2020].

- **Zikmund, G.W., Babin, B.J. Carr J.C, Griffin, M. (2013)** 'Business Research Methods' .9th edition, Hampshire, Cengage Learning.

- **Zimmerman, A.B., Bills, K.L. and Causholli, M. (2018)** 'The Market Premium for Audit Partners with Big 4 Experience'. [Online] Available at: https://papers.ssrn.com/ sol3/papers.cfm?abstract_id=3084770. [Accessed 27th July 2022].

APPENDICES

Appendix 1: Data Form, Source, Collection, Integrity, and Analysis.

Objective 1: Data form, source, collection, integrity, and analysis

OBJ1	Non-numeric data	Numerical data
Form of Data	Corporate Governance **(CG),** other theories and literature underpinning AF modelling especially AT and ST.	Specific Variables used by prior authors in AF modelling are appraised (subjectively) for relationship to elements of CG and/ or other theories/literature (Thematic Analysis - details in relevant Literature Review / Methodology sections in Chapters 4 and 7)
Data Example	**Variables that link:** **CG and other theories/literature relating - issues such as minimisation of risk/ asymmetry of information.** Management of risk-related variables (e.g., PBT) Inefficient Audit – e.g., Financial Crisis -Enron (Sikka,2019) Simunic (1980) seminal AF Model; mainly. **C.G. and other theories –** **Focused on AT and ST.** **Gaps in AF modelling principles.** Log transformation of variables Use of Post-mortem asset values. Imperfections of AT and ST	**Example of annual accounts figures in prior studies :** Audit Fee Total Assets Current Ratio (Short term debt, Inventories & Receivables). Number of Subsidiaries
Source of Data	These include **Textual information** in academic archives such as **Science Direct, Business Source Complete Academic Search Complete, Taylor and Francis, Science Direct, Social Science Research Network (SSRN), Wiley and Professional Newspapers.**	These include **Non-Textual information** in academic archives such as **Science Direct, Business Source Complete Academic Search Complete, Taylor and Francis, Social Science Research Network (SSRN),** FTSE 250 companies' annual reports /FAME/Companies House/London Stock Exchange LSE)Exchange.
Means of Obtaining Data	Through **Survey Analysis** of **qualitative information on** Audit Fee Modelling, and CG articles.	Through **Survey Analysis** of **numerical variables used in AF** modelling in different settings.
Ensuring Data Integrity	**Evidence of Expertise in Analysis Methods** Identifying and securing (**qualitative)** data necessary for thematic linkage to concepts such as Risk Minimisation, Profitability, Accountability. Checking themes against prior literature to identify the nature & extent of prior knowledge, any convergent or contrary opinions and gaps in literature./Appraising the appropriateness of procedures with my supervisors. **Pre-Planning Data Analysis (PPDA)while planning collection.** Associating themes/theories /CG concepts with variables used in AF Modelling Risk-related CG connection Accountability-related CG connection Competitiveness-related CG connection **Data Gathering** Identification and gathering of relevant articles containing thematic data. Confirming alignment of datatype and theme with prior research on AF Modelling and relevant CG theories. Discussing appositeness of data collected with supervisors and ensuring proper match with the CG research concepts.	**Evidence of Expertise in Analysis Methods** - Ensuring selected variables exhibit the characteristics associated with the CG. Concepts/theories under consideration - Discussing the appropriateness of the research procedures and findings with supervisors. **PPDA while planning collection.** - Exploring the CG implications of numerical variables used in **Seminal study (Simunic (1980**) of AF Modelling under expected themes/theories/ CG concepts - Seeking consistency (or otherwise) in the application of Simunic's (1980) approach by subsequent authors. **Data Gathering *:*** Identification and gathering of relevant journals and other articles in a database containing numerical data. Confirming alignment of **numerical variables** with **relevant theories** and CG concepts e.g., Risk Minimisation, Accountability Competitiveness. Discussing variable-theory linkage with supervisors
Means of analysing data	Thematic Analysis of themes/patterns that can be associated with corporate governance and other theories/literature that help to explain AF modelling	Numerical information relating to variables from **Seminal study of AF modelling (Simunic (1980)** and some other authors which require to be associated to relevant concepts, theories of literature that help to explain AF modelling

Source: Author (2023)

Objective 2: Data Form, Source, Collection, Integrity, and Analysis.

<table>
<tr><th>OBJ 2</th><th>Non-numerical data</th><th>Numerical data</th></tr>
<tr><td>Form of Data</td><td>Minimal and descriptive</td><td>Specific numeric variables used by prior authors in AF modelling based on a set of 83 FTSE250 companies within four business sectors. These relate to the relationship between AF and Client Firm Characteristics (NCGVs)</td></tr>
<tr><td>Data Example</td><td>Description of proxies or levels of measurement</td><td><u>Illustrations</u> of data include:
<table>
<tr><th>Variables</th><th>Description</th><th>Variable Type</th><th>Example of Proxy information</th></tr>
<tr><td>AFE</td><td>Audit Fee</td><td>Continuous</td><td>402</td></tr>
<tr><td>TAS</td><td>Client’s size</td><td>Continuous</td><td>110000</td></tr>
<tr><td>SUB</td><td>Client’s Complexity</td><td>Continuous</td><td>125</td></tr>
<tr><td>PBT/CRA</td><td>Client’s risk</td><td>Continuous</td><td>724</td></tr>
<tr><td>SEC</td><td>Client’s Business sector</td><td>Nominal /Categorical</td><td>1 for Yes; 0 for No</td></tr>
<tr><td>LOC</td><td>Client’s Location</td><td>Nominal /Categorical</td><td>1 for Yes; 0 for No</td></tr>
<tr><td>AUF</td><td>Client’s Auditor (Only Big4)</td><td>Nominal /Categorical</td><td>1 for Yes; 0 for No</td></tr>
</table></td></tr>
<tr><td>Source of Data</td><td>Same as in next column</td><td>Principally obtained from annual accounts of individual FTSE 250 companies which reside in their websites and FAME. The details were triangulated by information from LSE and Companies House.</td></tr>
<tr><td>Means of Obtaining Data</td><td>Reviewing downloaded information</td><td>Data containing relevant variables for all FTSE250 cases for period of study (2014-16) were downloaded from FAME and uploaded into Excel spreadsheet. This was followed by manual collection and analysis on Excel spreadsheet. Data was subsequently uploaded to SPSS software for final statistical analysis.</td></tr>
<tr><td>Ensuring Data Integrity</td><td>Checking descriptions against previous literature and supervisors’ opinions.</td><td>- Triangulating numerical values of variables/proxies obtained from FAME against those in annual accounts (Company websites) Companies House and LSE.
- Reviewing figures for reasonableness where they are appearing very unusual
o Reviewing the notes to the accounts to detect any issues with unusual trends.
Identifying and reconciling the bases of presentation of financial figures in FAME, annual accounts, and LSE e.g., rounding up of thousands or number of decimals.
o Discussing the bases of any reconciliation with Supervisors.</td></tr>
<tr><td>Means of Analysing Data</td><td>N/A</td><td>Data analysis was implemented using Excel and SPSS software.

Dummy coding rules were applied to categorical variables AUF,LOC and SEC <u>(Field,2017 p.509, Grace-Martin, 2022)</u></td></tr>
</table>

Source: Author

Objective 3: Data Form, Source, Collection, Integrity, and Analysis.

<table>
<tr><th>OBJ3</th><th>Non-numerical data</th><th>Numerical data</th></tr>
<tr><td>Form of Data</td><td>Minimal and descriptive</td><td>Essentially comprising of specific numerical variables that were downloaded/constructed by the researcher from the financial /non-financial information in annual reports of identified 83 FTSE250 within four business sectors. These relate to the relationship between AF and Client Firm Characteristics (Combination of NCGVs and CGVs (AUQ and ACC).</td></tr>
<tr><td>Data Example</td><td>Description of proxies or levels of measurement</td><td>Illustrations of data include:
<table>
<tr><th>Variable</th><th>Description</th><th>Variable Type</th><th>Example of Proxy information</th></tr>
<tr><td>AFE</td><td>Audit Fee</td><td>Continuous</td><td>402</td></tr>
<tr><td>ACC</td><td>ACC (CGV)</td><td>Continuous</td><td>1.25</td></tr>
<tr><td>AUQ</td><td>AUQ(CGV)</td><td>Continuous</td><td>0.6129</td></tr>
<tr><td>TAS</td><td>Client’s size (NCGV)</td><td>Continuous</td><td>110000</td></tr>
<tr><td>SUB</td><td>Client’s Complexity (NCGV)</td><td>Continuous</td><td>125</td></tr>
<tr><td>PBT/CRA</td><td>Client’s risk ((NCGV)</td><td>Continuous</td><td>724</td></tr>
<tr><td>SEC</td><td>Client’s Business sector (NCGV)</td><td>Nominal /Categorical</td><td>1 for Yes; 0 for No</td></tr>
<tr><td>LOC</td><td>Client’s Location (NCGV)</td><td>Nominal /Categorical</td><td>1 for Yes; 0 for No</td></tr>
<tr><td>AUF</td><td>Client’s Auditor (Only Bg4) (NCGV)</td><td>Nominal /Categorical</td><td>1 for Yes; 0 for No</td></tr>
</table></td></tr>
<tr><td>Source of Data</td><td>Same as in next column</td><td>Principally obtained from annual accounts of individual FTSE 250 companies which reside in their websites and FAME. The details were triangulated by information from LSE and Companies House.

While the continuous variables of NAF/AF (for AUQ) were obtained directly from the financial information in annual accounts of individual FTSE 250 companies which reside in their websites and FAME., those relating to ACC variable were initially obtained from textual information relating to Audit Committees (Non-Executive Director (NEDs), Independent Directors (ID) directors having CAAA.</td></tr>
<tr><td>Means of Obtaining Data</td><td>Reviewing downloaded information</td><td>Data containing all relevant variables were downloaded from FAME and uploaded into Excel spreadsheet. These include annual accounts of all the FTSE250 companies online which were also downloaded and followed by manual collection and analysis on Excel spreadsheet.
Numerical values were obtained for ACC variable by subjecting relevant textual data to content analysis after applying a subjective coding in relation to proportion of NEDs/ independent directors in the audit committees of the sampled 83 FTSE 250 and directors having CAAA.

Data was subsequently uploaded to SPSS software for final statistical analysis Data was subsequently uploaded from to SPSS software for final statistical analysis.</td></tr>
<tr><td>Ensuring Data Integrity</td><td>Checking descriptions against previous literature and supervisors’ opinions.</td><td><u>Ensuring data integrity</u>
- Triangulating numerical values of variables/proxies obtained from FAME against those in annual accounts
(Company websites) Companies House and LSE.
- Reviewing figures for reasonableness where they are appearing very usual
o Reviewing the notes to the accounts to detect any issues with unusual trends.
o Identifying / reconciling the bases of presentation of financial figures in FAME, annual accounts, and LSE e.g., rounding up of thousands and decimal places.
o Discussing the bases of any reconciliation with my supervisors.</td></tr>
<tr><td>Means of analysing data</td><td>N/A</td><td>Data relating to AC variable was obtained by content analysis as indicated on Section 6.3.2 using the proportion of NEDs and directors having CAAA.
Final analysis was implemented using Excel and SPSS software:
Dummy coding rules were applied to categorical variables AUF,LOC and SEC <u>(Field,2017 p.509, Grace-Martin, 2022)</u></td></tr>
</table>

Source: Author

Objective 4: Data Form, Source, Collection, Integrity, and Analysis

<table>
<tr><th>OBJ4</th><th>Non-Numerical Data</th><th>Numerical data</th></tr>
<tr><td>Form of Data</td><td>Same as in next column</td><td>Essentially comprising of specific numerical variables that were downloaded/constructed by the researcher from the financial /non-financial information in annual reports of the sample of 83 FTSE250 companies within four industry sectors. These relate to the direction of influence and approximate levels of significance of the selected AF determinants across the Big4 audit firms.</td></tr>
<tr><td>Data Example</td><td>Description of proxies or levels of measurement</td><td>Illustrations of data include:
<table>
<tr><th>Variable</th><th>Description</th><th>Variable Type</th><th>Example of Proxy information</th></tr>
<tr><td>AUF</td><td>1-PWC
2-Deloitte
3-EY
4-KPMG</td><td>Nominal/Categorical
Nominal/ Categorical
Nominal /Categorical
Nominal /Categorical</td><td>1 for Yes and 0 for No
1 for Yes and 0 for No
1 for Yes and 0 for No
1 for Yes and 0 for No</td></tr>
<tr><td>SIZE</td><td>Client’s size</td><td>Continuous</td><td>110000</td></tr>
<tr><td>COMP</td><td>Client’s Complexity</td><td>Continuous</td><td>125</td></tr>
<tr><td>RISK</td><td>Client’s Risk</td><td>Continuous</td><td>724</td></tr>
<tr><td>SEC</td><td>Client’s Business sector</td><td>Nominal /Categorical</td><td>1 for Yes; 0 for No</td></tr>
<tr><td>LOC</td><td>Client’s Location</td><td>Nominal /Categorical</td><td>1 for Yes; 0 for No</td></tr>
<tr><td>ACC</td><td>Audit Committee Competence</td><td>Continuous</td><td></td></tr>
<tr><td>AUQ</td><td>Audit Quality</td><td>Continuous</td><td></td></tr>
</table></td></tr>
<tr><td>Source of Data</td><td>Same as in next column</td><td>Principally obtained from annual accounts of individual FTSE 250 companies which reside in their websites and FAME. The details were triangulated by information from LSE and Companies House. Clients of Big4 were obtained from textual information</td></tr>
<tr><td>Means of Obtaining Data</td><td>Reviewing downloaded information</td><td>Data containing variables was downloaded from FAME and uploaded into Excel spreadsheet. Annual accounts of the 83 FTSE250 companies online were also downloaded followed by manual collection and analysis on Excel spreadsheet.</td></tr>
<tr><td>Ensuring Data Integrity</td><td>Checking descriptions against relevant prior literature & supervisors’ opinions.</td><td>Ensuring data integrity
- Triangulating numerical values of variables/proxies obtained from FAME against those in annual accounts
(Company websites) Companies House and LSE.
- Reviewing figures for reasonableness where they are appearing very usual
o Review the notes to the accounts to detect any issues with unusual trends.
o Identifying and reconciling the bases of presentation of financial figures in FAME, annual accounts, and LSE e.g., rounding up of thousands and millions.
o Discussing the bases of any reconciliation with Supervisors.</td></tr>
<tr><td>Means of Analysing Data</td><td>N/A</td><td>Data relating to AC variable was obtained by content analysis as indicated on Section 6.3.2 using the proportion of NEDs and directors having CAAA.
Final analysis was implemented using Excel and SPSS software:
Dummy coding rules were applied to categorical variables LOC and SEC (Field,2017 p.509, Grace-Martin, 2022)</td></tr>
</table>

Source: Author (2023)

Objective 5: Data Form, Source, Collection, Integrity, and Analysis

OBJ 5	Non-numerical data	Numerical Data
Form of Data	Specific **textual** information regarding identified 10 FTSE 250 companies that Retendered With Auditor Rotation (RWAR) and 10 with No Audit Retendering (NAR).	Specific **numerical** variables regarding audit fees paid in 2016 and some other comparable data (2013-2015 **and** 2017-2019);) from the annual accounts of 10 selected FTSE 250 companies that conformed with RWAR, and 10 selected FTSE 250 classified as NAR in terms of MAR regulation.
Data Example	Theories such as AT, ST, and Signalling Theories.	Illustration of data include: **Retendering/Rotation** — **Description** — **Example of numerical information (Audit Fees in 000's)** RWAR — **R**e-tendering **W**ith **A**udit **R**otation — 1008
Source of Data	Underlying data leading to the analytical review of figures were obtained **directly** from **textual information** in annual reports of individual FTSE 250 companies which reside in their websites and FAME. These relate to information indicating past and current auditors or plans to tender /rotate the auditor. Some relevant data were also obtained from Professional newspapers, magazines, and **automatic updates** from some **online sources** such as Croner-I, ICAEW, Accountancy Age and FRC.	The **numerical data** leading to the analytical review were obtained **directly** from information in annual accounts (within annual reports) of individual FTSE 250 companies which reside in their websites and FAME. These relate to information relating to 2016 yea-end and comparative figures (2013-2015) **and** (2017-2019). Some relevant data were also obtained from Professional newspapers, magazines, and online sources of Professional Bodies/Regulators such as the ICEAW, ACCA and the FRC. The veracity of a sample of details (e.g., auditor change voted a year in advance) was established by triangulating information with records filed with the Companies House prior to selecting companies and appropriate figures for RWAR and NAR.
Means of Obtaining Data	Relevant textual data relating to retendering/ rotation were accessed from annual reports from FAME and Companies House.	Analytical review of data containing data that were downloaded from FAME and uploaded into Microsoft Word. Annual accounts of each of the sets of 10 (RWAR and NAR companies) online were also downloaded followed by manual collection and analysis on a Table created on Microsoft Word.
Ensuring Data Integrity	Checking descriptions and application of information (including theories) against relevant prior literature & supervisors' opinions	**Ensuring data integrity** - The data which form the basis for numerical variables, (such as date of auditor- change) was obtained from FAME and triangulated against those in annual reports. (Company websites), Companies House, some professional magazines(e.g., relating to change of auditors). - Reviewing the notes to the accounts to clarify /reconcile any relevant pieces of information from FAME, and annual accounts/ Companies House. - Discussing details with Supervisors.
Means of Analysing Data	Analysis is based on relevance of theory or other literature to the consequences of MAR	Analytical review was carried out manually by calculation of percentage differences and visual comparison.

Source: Author (2023)

Appendix 2: Summary of Research Methodology by Objectives

Objectives 1&2: Summary of Research Methodology by Objectives

OBJECTIVE No.	SUB OBJECTIVE No.	PARADIGM	APPROACH	RELEVANT TO	STRATEGY	METHOD OF RESEARCH	TIME HORIZON	KEY VARIABLES/ THEMES	METHOD OF ANALYSIS	ANALYSIS OF THEMES/
1	1.1	Interpretivism	Inductive	Proposition 1	Archival Survey	MONO Qualitative	Longitudinal	Theories & Literature associated with AF modelling	Thematic	Ch. 4
	1.2	Interpretivism	Inductive	Proposition 2	Archival Survey	MONO Qualitative	Longitudinal	Essentially AT and ST	Thematic	Ch. 4
2	2.1	Positivism	Deductive	H2.1a	Archival Survey	MONO Quantitative	Cross Sectional /Longitudinal (CSL)	**NCGVs** and AF within an identified **set of - 83** FTSE250 Using (**U&L**) data.	Statistical	Ch. 8
	2.2	Positivism	Deductive	H2.2a	Archival Survey	MONO Quantitative	CSL	**NCGVs ... set of 32 EII** FTSE250.. . **(U&L)** data.	Statistical	Ch. 8
	2.3	Positivism	Deductive	H2.3a	Archival Survey	MONO Quantitative	CSL	**NCGVs** …**set of 18 R&C REITs FTSE** 250 … **U&L** data	Statistical	Ch. 8
	2.4	Positivism	Deductive	H2.4a	Archival Survey	MONO Quantitative	CSL	**NCGVs** …**set of 17 T &L FTSE** 250 … **U&L** data	Statistical	Ch 8
	2.5	Positivism	Deductive	H2.5a	Archival Survey	MONO Quantitative	CSL	**NCGVs** … **set of 16 SS (**FTSE 250) ...set of **U&L** data	Statistical	Ch. 8

Source: Author (2023)

Objective 3 : Summary of Research Methodology by Objectives

OBJECTIVE No	SUB OBJECTIVE No.	PARADIGM	APPROACH	RELEVANT TO	STRATEGY	METHOD OF RESEARCH	TIME HORIZON	KEY VARIABLES	METHOD OF ANALYSIS	ANALYSIS OF VARIABLES
3	3.1	Positivism	Deductive	H3.1a	Archival Survey	MONO Quantitative	Cross Sectional /Longitudinal	**NCGVs & CVG's and AF within an identified set of -83 FTSE250 companies U&L data.**	**Statistical**	**Ch.8**
	3.2	Positivism	Deductive	H3.2a	Archival Survey	MONO Quantitative	Cross Sectional /Longitudinal	**NCGVs & CVGs … set of - 32 EII FTSE 250 … U&L data**	**Statistical**	**Ch.8**
	3.3	Positivism	Deductive	H3.3a	Archival Survey	MONO Quantitative	Cross Sectional /Longitudinal	**NCGVs & CGVs … set of 18 RCREITs FTSE 250 …U&L data**	**Statistical**	**Ch.8**
	3.4	Positivism	Deductive	H3.4a	Archival Survey	MONO Quantitative	Cross Sectional /Longitudinal	**NCGVs & CGVs … set of 17 T &L FTSE 250 … U&L data**	**Statistical**	**Ch.8**
	3.5	Positivism	Deductive	H3.5a	Archival Survey	MONO Quantitative	Cross Sectional /Longitudinal	**NCGVs &CGVs … set of 16 SS FTSE 250 … U&L data**	**Statistical**	**Ch.8**

Source: Author (2023)

Objective 4: Summary of Research Methodology by Objectives

OBJECTIVE No.	SUB OBJECTIVE No.	PARADIGM	APPROACH	RELEVANT TO	STRATEGY	METHOD OF RESEARCH	TIME KEY HORIZON	VARIABLES	METHOD OF ANALYSIS	ANALYSIS OF VARIABLES
4	**4.1**	Positivism	Deductive	H4.1a	Archival Survey	MONO Quantitative	Cross Sectional /Longitudinal	**AUF1 (PwC)// NCGVs & CGVs**	Statistical	Ch.9
	4.2	Positivism	Deductive	H4.2a	Archival Survey	MONO Quantitative	Cross Sectional /Longitudinal	**AUF2 (Deloitte)/NCGV s & CGVs**	Statistical	Ch.9
	4.3	Positivism	Deductive	H4.3a	Archival Survey	MONO Quantitative	Cross Sectional /Longitudinal	**AUF3 (EY)/ NCGVs & CGVs**	Statistical	Ch.9
	4.4	Positivism	Deductive	H4.4a	Archival Survey	MONO Quantitative	Cross Sectional /Longitudinal	**AUF4 (KPMG)** /NCGVs & CGVs	Statistical	Ch.9

Source :Author (2023)

Objective 5:Summary of Research Methodology by Objectives

OBJECTIVE No.	SUB OBJECTIVE No.	PARADIGM	APPROACH	RELEVANT TO	STRATEGY	METHOD OF RESEARCH	TIME HORIZON	KEY VARIABLES/ THEMES	METHOD OF ANALYSIS	ANALYSIS OF VARIABLES
5	5.1	Interpretivism Positivism	Inductive/Deductive	Proposition 5.1	Archival Survey	Mixed	Cross Sectional /Longitudinal	Percentage changes in AF/ Underpinning Theories & Literature associated with **(MAR -** RWAR**)**	Thematic and Quantitative (Analytical) Review (AR)	Ch.5
	5.2	Interpretivism Positivism	Inductive Deductive	Proposition 5.2	Archival Survey	Mixed	Cross Sectional /Longitudinal	Percentage changes in AF … (**MAR -** NAR)	Thematic and Quantitative AR	Ch.5

Source :Author (2023)

Appendix 3: Further Analyses of Empirical Research Variables.

Dependent Variable & Objective2: Further Analyses of Empirical Research Variables.

OBJ. No.	Variables	Explanation	Variable type and Data Source	Data Form
DEPENDENT VARIABLE				
OBJs 2-4	**AFE**	**AUDIT FEES (AF)** The proxy is the AF in the Annual Accounts (**(AA**) **Simunic (1980)** (Seminal Study), **Kikhia (2014), Owusu (2019)**	**CONTINUOUS VARIABLE:** Available from AA residing in companies' websites; triangulated by Companies House (CH), London Stock Exchange (LSE) and FAME**.**	Natural Log of the absolute value of Audit Fees
CLIENT'S (INDEPENDENT) NCGVs				
OBJ 2	**TAS**	**CLIENT'S SIZE** - Total Assets **(TAS**) per AA. **Gonthier-Besacier and Schatt (2006)**; **Hay *et al.* (2006). Widmann.2020; Horvat,2020**	**CONTINUOUS VARIABLE:** Same as in AFE above	Natural Log of the absolute value of Total Assets
OBJ 2	**SUB**	**CLIENT'S COMPLEXITY** No. of Subsidiaries (**SUBS)** per AA. **Wu (2012); Hassan & Naser, (2013).**	**CONTINUOUS VARIABLE**: Same as in AFE above	Square root of number of subsidiaries
OBJ 2	**PBT CRA**	**CLIENT'S RISK** -Profit Before Tax (**PBT**) **Pong & Whittington (1994); Hay *et al.* (2006); Birjandi *et al*. (2017).** - Current Ratio **(CRA) Huang *et al. (*2010); Silva *et al.* (2020).**	**CONTINUOUS VARIABLE** Same as in AFE above	Natural log of absolutes value of PBT and CRA
OBJ 2	**SEC**	**CLIENT'S SECTOR** -Business Sector **Simunic (1980)** **Tran *et al*. (2019)**	**DICHOTOMOUS VARIABLE** Same as in AFE above	1- Equity Investment Instruments 2 - Residential & Commercial REITs 3 - Travel & Leisure 4 - Support Services 1 for Yes and 0 for No**. Dummy coding rules** applied (Field,2017 p.509, Grace-Martin, 2022)
OBJ 2	**LOC**	**CLIENT'S LOCATION** Geographical location of auditee. **Brin *et al*. (1994) Kanakriyah (2020)**	**DICHOTOMOUS VARIABLE** Same as in AFE above	LOC1-London LOC2- England -Outside London, LOC3-Outside England 1 for Yes and 0 for No **Dummy coding rules** applied (Field,2017 p.509, Grace-Martin, 2022)
OBJ 2	**AUF**	**CLIENT'S AUDITOR Only Big4** **Simunic (1980), Campa (2013), Hrazdil *et al. (*2020)**	**DICHOTOMOUS VARIABLE** Available from FAME and triangulated by information from CH.	Auditors are AUF1(PwC) AUF2(Deloitte) AUF3(EY) AUF4(KPMG) . **Dummy coding rules** as above .applied as required (Field,2017 p.509, Grace-Martin, 2022)

Source: Author (2023)

Objective 3 :Further Analyses of Empirical Research Variables,

OBJ. No.	Variables	Explanation	Variable type and Data Source	Data Form
CLIENT (INDEPENDENT)) NCGVs and CGVs				
OBJ 3	**All NCGV variables in OBJ 2 above**	▪ **Collectively the same as in OBJ2 above**	▪ **Collectively the same as in OBJ2 above**	▪ **Collectively the same as in OBJ2 above**
OBJ 3	**ACC**	**AUDIT COMMITTEE COMPETENCE** (Proportion of NEDS &IDs /Total Number of AC members) **plus** (Proportion of members with CAAA) **Kanakriyah R. (2020), Farooq (2018)**	**CONTINOUS VARIABLE** Constructed using content analysis of textual information available from AA in companies' websites; triangulated by information from CH, LSE, and FAME.	Actual values obtained by addition of the proportions.
OBJ 3	**AUQ**	**AUDIT QUALITY** AF/NAF ratio **Martinov–Bennie (2014)** **Hay (2012)**	**CONTINOUS VARIABLE** Available from AA of companies' websites; triangulated by information from CH, LSE, and FAME.	Natural log of NAF/AF – Fraction of amount of NAF in relation to AF.

Source: Author (2023)

Objective 4 :Further Analyses of Empirical Research Variables.

No.	Variables	Explanation	Variable type and Data Source	Data Form
AUDITOR (INDEPENDENT)VARIABLE				
OBJ 4	**AUF**	**INDIVIDUAL BIG4 FIRM** PWC, Deloitte, EY & KPMG	**DICHOTOMOUS VARIABLE** Available from FAME and triangulated by information from CH	1-PWC 2-Deloitte 3-EY 4-KPMG 1 for Yes and 0 for No **Dummy coding rules** applied ss required (Field,2017 p.509, Grace-Martin, 2022)

Source: Author (2023)

Appendix 4: Analysis of the influence of an outlier

5% Trimmed mean

Descriptive

			Statistic	Std. Error
lnAFE	Mean		5.1812	.09694
	95% Confidence Interval for Mean	Lower Bound	4.9903	
		Upper Bound	5.3722	
	5% Trimmed Mean		5.1564	
	Median		5.4155	
	Variance		2.331	
	Std. Deviation		1.52661	
	Minimum		2.83	
	Maximum		8.29	
	Range		5.46	
	Interquartile Range		3.00	
	Skewness		-.036	.155
	Kurtosis		-1.293	.308
lnTAS	Mean		14.1589	.05310
	95% Confidence Interval for Mean	Lower Bound	14.0543	
		Upper Bound	14.2634	
	5% Trimmed Mean		14.1512	
	Median		14.0522	
	Variance		.699	
	Std. Deviation		.83619	
	Minimum		11.69	
	Maximum		17.91	
	Range		6.21	
	Interquartile Range		1.03	
	Skewness		.440	.155
	Kurtosis		1.301	.308
SUB	Mean		9.7160	.28708
	95% Confidence Interval for Mean	Lower Bound	9.1506	
		Upper Bound	10.2814	
	5% Trimmed Mean		9.4950	
	Median		8.2500	
	Variance		20.439	
	Std. Deviation		4.52095	
	Minimum		1.00	
	Maximum		22.56	
	Range		21.56	
	Interquartile Range		6.46	
	Skewness		.775	.155
	Kurtosis		.121	.308
lnCRA	Mean		.1878	.07640
	95% Confidence Interval for Mean	Lower Bound	.0373	
		Upper Bound	.3382	
	5% Trimmed Mean		.1611	
	Median		.0344	
	Variance		1.448	
	Std. Deviation		1.20314	

	Minimum		-3.22	
	Maximum		4.18	
	Range		7.40	
	Interquartile Range		1.18	
	Skewness		.431	.155
	Kurtosis		1.062	.308
lnPBT	Mean		14.1865	.00569
	95% Confidence Interval for Mean	Lower Bound	14.1753	
		Upper Bound	14.1977	
	5% Trimmed Mean		14.1773	
	Median		14.1613	
	Variance		.008	
	Std. Deviation		.08964	
	Minimum		13.92	
	Maximum		14.57	
	Range		.65	
	Interquartile Range		.07	
	Skewness		1.873	.155
	Kurtosis		4.851	.308
ACC	Mean		1.2846	.01418
	95% Confidence Interval for Mean	Lower Bound	1.2567	
		Upper Bound	1.3125	
	5% Trimmed Mean		1.2832	
	Median		1.2500	
	Variance		.050	
	Std. Deviation		.22325	
	Minimum		.40	
	Maximum		2.00	
	Range		1.60	
	Interquartile Range		.22	
	Skewness		-.096	.155
	Kurtosis		2.043	.308
lnAUQ	Mean		-1.1888	.07713
	95% Confidence Interval for Mean	Lower Bound	-1.3408	
		Upper Bound	-1.0368	
	5% Trimmed Mean		-1.2006	
	Median		-1.0986	
	Variance		1.315	
	Std. Deviation		1.14662	
	Minimum		-3.65	
	Maximum		2.54	
	Range		6.19	
	Interquartile Range		1.52	
	Skewness		.026	.164
	Kurtosis		.074	.326

Source: Author (2023)

Appendix 5: Considerations given to statistical significance

In regression analysis, significance levels (often denoted by alpha (α), usually set at 0.05) are thresholds used to assess the significance of the relationships between variables. These levels help determine if the estimated coefficients (the slopes) of the independent variables in the regression model are statistically significant (Witte & Witte, 2017; Field 2018). Additionally, the null hypothesis (H_0) typically states that there is no relationship between the independent variable and the dependent variable (i.e., the coefficient of the independent variable is zero). For example, in simple linear regression ($Y = \beta_0 + \beta_1 X + \varepsilon$), the null hypothesis would be that β_1 (the slope) equals zero (Witte &Witte (2017).

Th latter authors provide appropriate details of other key issues such as p-value, significance level and their interpretation. Hence all further discussions below are based on their assertions (Witte &Witte (2017).

The p-value is calculated for each coefficient in the regression model. It represents the probability of observing a coefficient as extreme as the one calculated, assuming that the null hypothesis is true. Lower p-values indicate stronger evidence against the null hypothesis.

Significance Level (α) is the predetermined threshold (commonly 0.05) that determines whether the p-value is small enough to reject the null hypothesis. If the p-value is less than the chosen significance level (e.g., $p < 0.05$), the result is considered statistically significant. It suggests that the coefficient is unlikely to be zero and that there is a relationship between the independent and dependent variables. If the p-value is less than the chosen alpha level, it's often concluded that there is enough evidence to reject the null hypothesis. In practical terms, this

means that there's statistical evidence to support the idea that the independent variable has a non-zero effect on the dependent variable.

In this thesis, significance levels were established to evaluate the statistical significance of results. The thresholds utilised were primarily set at $\alpha = 0.05$, indicating a standard level of significance. Additionally, more stringent thresholds of 0.01 and even less than 0.001, were presented, signifying increasingly higher levels of significance. These varying thresholds allowed for a nuanced assessment of statistical significance in the context of the study's analyses. The interpretation of p-values presented in the study are as follows:

$p > 0.05$: When the p-value is greater than 0.05, it suggests that there's a probability higher than 5% that the observed relationship or effect between the predictors and the response variable occurred due to random variation in the data. In simpler terms, the evidence isn't strong enough to confidently reject the null hypothesis. This implies there might not be a significant association between the predictors and the outcome variable.

$p < 0.05$: A p-value less than 0.05 is a commonly used threshold for statistical significance in regression analysis. This result indicates a probability lower than 5% that the observed relationship or effect is purely due to chance. It provides evidence to reject the null hypothesis in favour of the alternative hypothesis, suggesting a significant association between the predictors and the outcome variable.

$p < 0.01$: When the p-value falls below 0.01, it signifies a stronger level of significance. This suggests that the observed relationship is highly unlikely (with a probability lower than 1%) to be a result of random chance alone. Results with p-values below 0.01 are considered very

statistically significant, indicating a robust association between predictors and the response variable.

p < 0.001: A p-value less than 0.001 represents an extremely stringent threshold for significance. It indicates an exceptionally low probability (lower than 0.1%) that the observed relationship happened by chance. Such results are considered highly statistically significant, implying a very strong and reliable association between predictors and the response variable.

In summary, smaller p-values suggest stronger evidence against the null hypothesis and greater support of the alternative hypothesis.

Appendix 6: Schedule of FTSE 250 Firms In The Research Models

FTSE 250 Companies				
No.	**Name of Company**	**Sector Label**	**Sector**	**Sector No.**
1	**ALLIANCE TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**1**
2	**BRITISH EMPIRE TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**2**
3	**EDINBURGH DRAGON TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**3**
4	**F&C GLOBAL SMALLER COMPANIES PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**4**
5	**FIDELITY CHINA SPECIAL SITUATIONS PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**5**
6	**FIDELITY EUROPEAN VALUES PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**6**
7	**INSBURY GROWTH & INCOME TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**7**
8	**FOREIGN & COLONIAL INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**8**
9	**GREENCOAT UK WIND PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**9**
10	**HERALD INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**10**
11	**JPMORGAN AMERICAN INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**11**
12	**JPMORGAN EMERGING MARKETS INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**12**
13	**JPMORGAN INDIAN INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**13**

14	**JPMORGAN JAPANESE INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**14**
15	**JUPITER EUROPEAN OPPORTUNITIES TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**15**
16	**MONKS INVESTMENT TRUST PLC (THE)**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**16**
17	**MURRAY INTERNATIONAL TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**17**
18	**PERPETUAL INCOME AND GROWTH INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**18**
19	**PERSONAL ASSETS TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**19**
20	**POLAR CAPITAL TECHNOLOGY TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**20**
21	**RIT CAPITAL PARTNERS PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**21**
22	**SCHRODER ASIAPACIFIC FUND PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**22**
23	**TEMPLE BAR INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**23**
24	**TEMPLETON EMERGING MARKETS INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**24**
25	**THE BANKER'S INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**25**
26	**THE CITY OF LONDON INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**26**
27	**THE EDINBURGH INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**27**
28	**THE MERCANTILE INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**28**
29	**THE SCOTTISH INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**29**

30	**TR PROPERTY INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**30**
31	**WITAN INVESTMENT TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**31**
32	**WORLDWIDE HEALTHCARE TRUST PLC**	**SEC1**	EQUITY INVESTMENT INSTRUMENTS	**32**
33	**BIG YELLOW GROUP PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**1**
34	**CALEDONIA INVESTMENTS PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**2**
35	**CAPITAL & COUNTIES PROPERTIES PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**3**
36	**CLS HOLDINGS PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**4**
37	**DAEJAN HOLDINGS PLCPLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**5**
38	**DERWENT LONDON PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**6**
39	**GRAINGER PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**7**
40	**GREAT PORTLAND ESTATES PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**8**
41	**HAMMERSON PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**9**
42	**INTU PROPERTIES PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**10**
43	**LONDON METRIC PROPERTY PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**11**
44	**RDI REIT PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**12**
45	**SAFESTORE HOLDINGS PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**13**

46	**SAVILLS PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**14**
47	**SHAFTESBURY PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**15**
48	**THE UNITE GROUP PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**16**
49	**WORKSPACE GROUP PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**17**
50	**TRITAX BIG BOX REIT PLC**	**SEC2**	RESIDENTIAL & COMMERCIAL REITS	**18**
51	**888 HOLDINGS PLC**	**SEC3**	TRAVEL & LEISURE	1
52	**DOMINO'S PIZZAGROUP PLC**	**SEC3**	TRAVEL & LEISURE	**2**
53	**FIRST GROUP PLC**	**SEC3**	TRAVEL & LEISURE	**3**
54	**GREENE KING PLC**	**SEC3**	TRAVEL & LEISURE	**4**
55	**J.D WETHERSPOON PLC**	**SEC3**	TRAVEL & LEISURE	**5**
56	**MARSTON'S PLC**	**SEC3**	TRAVEL & LEISURE	**6**
57	**MERLIN ENTERTAINMENTS PLC**	**SEC3**	TRAVEL & LEISURE	**7**
58	**MILLENIUM & COPTHORNE HOTELS PLC**	**SEC3**	TRAVEL & LEISURE	**8**
59	**MITCHELLS & BUTLERTS PLC**	**SEC3**	TRAVEL & LEISURE	**9**
60	**NATIONAL EXPRESS GROUP PLC**	**SEC3**	TRAVEL & LEISURE	**10**
61	**PLAYTECH PLC**	**SEC3**	TRAVEL & LEISURE	**11**
62	**SSP GROUP PLC**	**SEC3**	TRAVEL & LEISURE	**12**
63	**STAGECOACH GROUP**	**SEC3**	TRAVEL & LEISURE	**13**
64	**THE GO-AHEAD GROUP PLC**	**SEC3**	TRAVEL & LEISURE	**14**
65	**THE RANK GROUP PLC**	**SEC 3**	TRAVEL & LEISURE	**15**
66	**THOMAS COOK GROUP PLC**	**SEC3**	TRAVEL & LEISURE	**16**
67	**WILLAM HILL PLC**	**SEC3**	TRAVEL & LEISURE	**17**
68	**AGGREKO PLC**	**SEC4**	SUPPORT SERVICES	**1**
69	**BABCOCK INTERNATIONAL GROUP PLC**	**SEC4**	SUPPORT SERVICES	**2**
70	**CAPITA PLC**	**SEC4**	SUPPORT SERVICES	**3**
71	**DIPLOMA PLC**	**SEC4**	SUPPORT SERVICES	**4**
72	**ELECTROCOMPONENTS PLC**	**SEC4**	SUPPORT SERVICES	**5**
73	**EQUINITI GROUP PLC**	**SEC4**	SUPPORT SERVICES	**6**

74	**ESSENTRA PLC**	**SEC4**	SUPPORT SERVICES	**7**
75	**GRAFTON GROUP PLC**	**SEC4**	SUPPORT SERVICES	**8**
76	**HAYS PLC**	**SEC4**	SUPPORT SERVICES	**9**
77	**HOMESERVE PLC**	**SEC4**	SUPPORT SERVICES	**10**
78	**HOWDEN JOINERY GROUP PLC**	**SEC4**	SUPPORT SERVICES	**11**
79	**PAGEGROUP PLC**	**SEC4**	SUPPORT SERVICES	**12**
80	**RENEWI PLC**	**SEC4**	SUPPORT SERVICES	13
81	**SERCO GROUP PLC**	**SEC4**	SUPPORT SERVICES	**14**
82	**SIG PLC**	**SEC4**	SUPPORT SERVICES	**15**
83	**TRAVIS PERKINS PLC**	**SEC4**	SUPPORT SERVICES	**16**

Appendix 7: Analysis of Audit Fee Related literature.

1. Columnar Theory-linked Analysis of Relevant Literature on AF

Theory	Article No.	Author/ Year	Title/ Publication/ Location	Author's Purpose	Author's Findings/Results/ Empirical Sample /Observations	Relevance to this Research
Agency Theory	1	**Jensen M. C. & Meckling W.C (Seminal article for Agency Theory (AT)) (1976)**	'Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure'. Journal of Financial Economics, 3 (4): pp. 305-360 **Theoretical Focus**	-To draw on the progress in the theory of property rights, agency, and finance. -Develop a theory of ownership structure' for the firm which casts new light on issues such as the definition of the firm, the "separation of ownership and control", the definition of a "corporate objective function", the "social responsibility" of business. -Determine an optimal capital structure, the specification of the content of credit agreements, the theory of organizations, and the supply side of the completeness of markets problem	In practice, it is usually possible by expending resources to alter the opportunity the owner-manager has for capturing non-pecuniary benefits. These methods include auditing, formal control systems, budget restrictions, and the establishment of incentive compensation systems which serve to identify the manager's interests more closely with those of the outside equity holders. No Sample (Theoretical Focus)	Audit (and hence audit fee) is an aspect of Corporate Governance necessitated by agency problems which arise from separation of ownership and control. **OBJs 1-5**
Agency Theory (and Stakeholder Theory)	2	**Simunic D. A. (Seminal Author for AF Modelling) (1980)**	'The Pricing of Audit Services: Theory and Evidence'. Journal of Accounting Research,18(1) (Spring 1980): pp.161-190. **U.S.A**	To provide evidence that price competition prevails throughout the market for the audits of publicly held companies, irrespective of the share of a market segment which is served by the Big 8 firms.	The micro-economic variables that explain variation in Audit Fees in publicly held companies in USA are size, complexity, risk, differences in loss sharing ratio, industry type and the Big firm/Non-Big firm. Any observed differences in Big 8 concentration are irrelevant.	This is the **seminal study** in the determination of audit fees and subsequent studies are based on an adaptation of the model or proxies/variables used in that study. – This thesis also considers issues such as the Big auditors and competition in listed companies (UKFTSE250) and some of the other

					The external audit is deemed a subsystem of the overall financial system of the auditee's financial reporting system. It assumes that both the auditee and auditor are jointly and severally liable to users for losses arising from defects in audited financial statements. Hence the design of external financial reporting system (and the AF model) is driven by the potential legal liability of an auditor/auditee to users of financial statements. Sample size: 397 firms	firm-specific variables used (e.g., size, complexity, and risk) in that study. As explained within Chapter (Ch.) 4, factors such as size complexity or risk being important determinants appear to support Agency theory, hence it does not deserve repetition for each study within this list . The focus on *liability avoidance* to the auditor /auditee provides benefit for users of financial statements (i.e., stakeholders and Stakeholder Theory), including management and the auditor regarding AF. **OBJ 2-4**
Agency Theory	**3**	**DeAngelo, L.E. (1981)**	'Auditor independence, "low-balling" and disclosure regulation'. Journal of Accounting and Economics 3, 113-127 **U.SA**	To investigate allegations of Regulators (The Commission on Auditor's Responsibilities & The Securities & Exchange Commission (SEC)) that low balling impairs independence	When contracting costs are high, certain aspects of audit environment such as technological advantages to incumbent auditors and significant costs of changing auditors, enable auditors to earn quasi rents on future audits of a client . This expected future rents lead to low-balling. Hence competition to be incumbent auditor, drives fees below total costs in the initial period. So, initial reductions in fees are sunk in future period with no impairment of independence. Therefore, regulation which attempts to curtail lowballing without altering the client-specific quasi-rent is predicted to have no effect on auditor independence. No sample (Theoretical focus)	This thesis and this paper research AF, focus on Big4 and involve lowballing in terms of regulation. This research emphasizes lowballing during auditor change during MAR (ARD,2014).as indicated by previous authors. Like this research, this paper emphasizes lowballing in terms of regulation on auditor change (*Accounting series Release* No 165 *et al.)* and AF *(Accounting Series Release No.250)* **OBJs 3&5**

Agency Theory	**4**	**Taffler R.J. & Ramalinggam K.S.(1982)**	'The Determinants of Audit Fees in the UK: An exploratory study.' Working Paper 37. The City University Business School. **UK**	Identifying the factors associated with the size of the audit AF paid by manufacturing companies in the UK based on publicly available data.	Client's size, complexity(industry) and auditor including joint auditors. It is likely that larger audit forms provide better service because of better training and higher level of specialisation although they may charge more . Suggestion to consider possible effects of audit concentration on results. Sample size :192 firms	Like this paper, this research investigates AF determinants in some UK listed companies. It also finds size, complexity, and industry as primary determinants of AF. **OBJs 2-4**
Agency Theory	**5**	**Firth, M. (1985)**	'An Analysis of Audit Fees and Their Determinants in New Zealand'. A Journal of Practice & Theory Vol.4,No 2 Spring 1985. **New Zealand**	To determine the applicability of earlier findings regarding size, complexity, risk, ability to bear costs audit competition and Big 6 charging of audit fee premium	Size, risk, and complexity are significant determinants of AF although some proxies for risk -in terms of existence of losses and variability in profitability- are not significant. The ability to bear costs is not significant and there is no evidence of big firms charging a premium. Despite an elevated level of concentration in New Zealand audit market, it does not appear to give rise to monopoly pricing Sample size: 96 firms	This research also explores the impact of similar micro-economic variables such as size, risk, complexity, and auditor-size on audit fees. It includes the audit premium (differential pricing between auditors) and oligopolistic behavior of Big audit firms. **OBJs 2-4**
Agency Theory / (and Stakeholder Theory)	**6**	**Chan, P. Ezzamel M. & Gwilliam D. (1993)**	'Determinants of Audit Fees for Quoted UK Companies.' Journal of Business Finance & Accounting, 20(6): pp.765-786. **UK**	To offer further evidence on size, complexity, and risk. Develop additional variables (extent of ownership control of auditees, audit location and diversification) which are relevant to the variation of audit fees.	Hypothesis that price competition prevails throughout the UK market for audits of publicly held companies cannot be rejected. Size, Complexity, Big 8 (now Big 4) premium ,Ownership control are significant while unsystematic risk ,inventory /assets and debt /total assets are insignificant. Sample size : 283	- Chan *et al.* (1993) also research UK listed companies and similarly test key AF determinant factors such as auditee size, complexity, and risk -The paper is also facilitated by the Agency theory; principally due to audit (and audit fees; AF) arising due to separation of ownership from control. AF also depends on the extent of ownership in various locations of stakeholders and

						diversification of client-ownership. Both the paper and this research also consider client location. Introducing clients in different client locations resonates with Stakeholders theory (ST). **OBJs 1-4**
Agency Theory (and Stakeholder Theory)	**7**	**Brinn, T. Peel, M. & Roberts, R. (1994)**	'Determinants of Audit Fees unquoted companies in the UK: An exploratory model.' British Accounting Review,26(2): pp.101-121. **UK**	-To confirm whether earlier findings on AF determinants can be generalized to unquoted sector. -To assess fee discounting for subsidiaries. -To examine fee differential between different classes of auditor	- Most significant factors affecting the audit fees of unquoted shares are size and complexity with regional differences (location) in fees. Firms in London (Southeast) paid more fees. - Weak evidence exists of fee discounting for subsidiaries. - Big 8 (now Big 4) charge a premium for independent companies, but not for subsidiaries. - Contrary to earlier research firm-specific risk variables were not significant determinants except for subsidiaries. Sample size : 154	-This research also seeks to confirm/disconfirm whether earlier findings on certain micro-economic factors can be generalised e.g., size and complexity. - Both the paper and this thesis explore whether larger companies with more subsidiaries (i.e., more asymmetry between ownership and control) pay higher fees. Inclusion of regional differences (location) resonates with Stakeholder theory. Firms in London (Southeast) paid more fees. **OBJs1-4**
Agency Theory	**8**	**Pong C.M. and Whittington, G. (1994)**	'The Determinants of Audit Fees: Some Empirical Models'. Journal of Business Finance & Accounting, 21(8): pp1071-1095 **UK**	- 'The primary motivation … is to gain an understanding of the working of the audit market' in relation to Listed companies in the UK (p.1) -Mainly the 'Big 6' ... effect and lowballing' (p.1)	- Most earlier findings (e.g., on client's size and complexity) are confirmed as positive and significant; except profit which is found not to affect AF in one of the models. - Big8 (now Big4) firms on average are more expensive than non-Big8 firms. Big4 premium for complexity is less than that charged by non-Big 8 firms. - Newly appointed auditors usually do charge less for set up costs. Hence low-balling exists, although its, more pronounced with non-Big 8 audit firms.	-This paper (and this research) both consider listed UK companies, which are large with more asymmetry between ownership and control. -Both this paper and this thesis consider micro-economic variables affecting variation of audit fees. This includes auditor size although this thesis only tests Big 4 effect on AF determinants, and by implication, the charging of lower audit fees by newly appointed auditors (low balling) which indicates self-interest.

					Sample size : 577	Big8 premiums appear to indicate domination of the market. **OBJs1- 4**
Agency Theory (and Stakeholder Theory)	**9**	**Taylor M. H. and Simon, D. T. (1999).**	'Determinants of Audit fees: The importance of Litigation, Disclosure and Regulatory Burdens in Audit Engagements 20 Countries'. The International Journal of Accounting,34 (3): pp.375-388. **Multi-country (20 countries)**	To examine effects of variation in the overall macro-economic political environment on the market for audit services. - To add to existing literature in examining the relationship of certain company-specific determinants (such as client size, existence and size of inventories and receivables, etc.). -To examine the extent to which fees are determined by macro-economic and other environmental factors which vary across countries, and which have not, for the most part been considered and analysed by prior multi-country studies (e.g., Haskins and Williams, 1988; Low, *et al*.,1990; Anderson and ZeÂghal, 1994). To assess the extent that such variables affect the determination of audit fees, since the current literature suffers from mis-specified models or, at a minimum, from an omitted variables problem.	**-Micro-economic** variables are highly significant except risk ('Leverage' proxy Moderately Significant(MS) and Mining variables (Not Significant-NS). -Big 6 Highly significant implying that large firms can command a fee premium on global basis. - **Macro-economic** variables Litigation Propensity, Disclosure , Regulation (PHS). Sample size : 2333	OBJ5 in this research aims to identify determine the relationship between regulation (MAR - Audit Regulation and Directive (ARD,2014)) and AF movements which makes Taylor and Simon 1999) very relevant. Theories that underpin AF movements under MAR are considered in OBJ5. The micro-economic(firm-specific) variables in this research also include size, risk, and complexity with similar proxies. Focus on Macro-economic variables. Litigation Propensity, Disclosure , Regulation also resonates with Stakeholder Theory which also facilitates this thesis. **OBJs 1- 5** .

Agency Theory	**10**	**Beattie, V. , Goodacre, A., Pratt, Ken. and Stevenson J. (2001)** (Seminal author of AF Modelling in Charities)	'The Determinants of Audit Fees – Evidence from the Voluntary Sector.' Accounting and Business Research., 31(4): pp. 243-274. **UK**	-To seminally develop and estimate a model of charity audit fee determinants. -To assess the existence of Big 6 (now Big 4) brand name premium in a market where none of the big audit firms is considered specialist. -To assess the pricing impact of expertise, in a niche market where Big audit firms have less dominance than is commonly encountered -To compare level of charity fees with those in the private sector.	- Findings of previous AF. It confirms modeling studies on private sector companies that positive association exits between AF and size, complexity, audit-firm location and Non audit fees. NAS is of less importance to the charity sector. - The nature of charity activity (grant-making or fund-raising, its area of activity and importance of trading) are significant determinants of audit fees. -Although the level of audit concentration is relatively lower than that of private companies, big audit firms charge a premium, especially with fund-raising charities. Non-Big 6 firms with expertise also earn economically significant premiums. - The premium and average charity fee-rate is comparatively lower than that for private firms. Sample size: 300	-In similarity with Beattie e*t al.* (2001) the research considers AF and micro-economic variables. -These include client/auditor size**,** Big4, AF premium ,complexity, risk and relate to separation of ownership and control. - The issue of audit concentration is discussed as part of the development of Audit in this thesis. **OBJs1-4**
Agency Theory (and Shareholder Theory)	**11**	**ICAEW (2005)**	'Audit Quality: Agency and The Role of Audit'. Audit & Assurance Quality ICAEW. **Theoretical Focus**	-To explain agency theory as a **useful** economic theory of accountability, which helps to explain the development of audit. -To provide a context for that development and specifically focus on agency relationships between shareholders and directors in the development of the UK statutory audit.	- Agency Theory (separation of ownership from control is relevant to development of audit). However, auditors are also agents of principals, which can lead to further concerns about trust, threats to objectivity and independence and an ongoing need to find further mechanisms such as regulation which aligns interests of shareholders, directors, and auditors.	This thesis is facilitated by Agency Theory as it focuses on theories underpinning AF Modelling (the relationship of several variables to AF based on agency/stakeholder theories) including the impact of regulation on fees charged by the auditor as an agent. The emphasis that Agency Theory lacks simple or complete explanation of expectations of relationships of other stakeholders, such as regulators who have

				-To extend the concept of accountability (in AT)to other stakeholders, such as regulators, who have an interest in audit and agency theory does not provide a simple or complete explanation of their expectations	To minimise risk ,auditors apply risk management processes that limit the scope of their work and lead to caveats in audit reports which may frustrate shareholders. Reputation is a key factor that promotes trust and auditor independence is an important quality that shareholders look for. - Auditors incentivised to maintain independence to protect their reputation and help them to retain / win audits. In UK, auditors report to shareholders while in the US they have little to do with the audit process. Instead, they have no direct accountability to them. In effect, independent directors sitting on the audit committee act in place of the owners of the company. Theoretical Focus: No sample	an interest in the audit resonates with Stakeholder Theory . **OBJ2-4**
Agency Theory	**12**	**Cameran, M. (2005)**	'Audit Fees and the Large Auditor Premium in the Italian Audit Market'. Journal of Auditing, 9(2), 129-146. **Italy**	To highlight the determinants of AF in the Italian audit market including AF premium in large audit firms (Big 6). It examines whether this premium is a general phenomenon or is attributable to specific accounting firms in the large companies .	A firm's size, complexity, and audit risk have an impact on the AF paid. Auditor size is also relevant. Large auditor premium was attributable only to KPMG**.** Further testing shows that there are intra-Big audit fee differences and that the audit fee premium is attributable to only one of the Big 6 firms(KPMG), rather than to all the Big 6 as a group. Therefore, the results do not uphold the decision of the Italian Antitrust Authority, who condemned all the Big Six for having	Like this paper the thesis investigates determinants of AF in listed companies and finds size complexity as primary AF determinants. Risk is also a significant determinant in some industries within the industry-wise models. The Big4 were also indirectly assessed for AF premiums in the statistical models. **OBJ2-4**

					concluded agreements to standardise AF . Sample size: 338	
Agency Theory	**13**	**Hay, D. C., Knechel, W. R. & Wong, N. (2006).**	'Audit Fees: A Meta-analysis of the Effect of Supply and Demand Attributes.' Contemporary Accounting Research, 23: pp.141- 191. **Multi -Country**	To evaluate and summarize the large body of audit fee research and use meta-analysis to test the combined effect of the most used independent variables. Also, to reconsider the anomalies, mixed results, and gaps in audit fee research.	Meta analysis of multiple prior studies While many independent variables have very consistent results, at times , there is no clear pattern to the results. There are also others where significant results have been found only in specific periods or countries. These variables include a loss by the client and leverage, which have become significant in recent studies; internal auditing and governance (with mixed results); auditor specialization, regarding which some uncertainty; still exists and the audit opinion, which was a significant variable before 1990 but not in more recent studies. Sample size: N/A (Metanalyses)	This study analyses several prior studies some of which formed the basis of literature reviewed to enable hypotheses to be spawned in relation to this thesis. Thus, it serves as a compendium of relevant information in relation to this research. **OBJs1-5**
Agency Theory	**14**	**Gonthier-Besacier, N. and Schatt, A (2006).**	'Determination of Audit Fees for French Quoted Firms'. Managerial Auditing Journal, Vol. 22 Issue: 2, pp.139-160. **France**	To contribute to the International Literature by researching the factors influencing Audit Fees in France To analyse whether specific traditional determinants of audit fees prove to be relevant to France, Whether joint audit process (especially presence of one or two Big 4 firms has an influence on the amount and division of AF.	AF depends on firm size, firm risk, and the presence of two Big audit firms. AF is significantly lower when two Big 4 are compared with those paid in other cases irrespective of how fees are shared. Sample size :127	This paper and this thesis research traditional AF determinants to extend previous findings to different audit markets (French listed market and FTSE 250, respectively). Both studies also find that AF depends on firm size . Risk is also a primary determinant although the latter variable is only significant in industry- wise models. **OBJs 2-4**

Agency Theory (and Stakeholder Theory)	**15**	**Companies' Act (2006)**	'Companies' Act 2006' UK legislation **UK**	Auditors' duties to shareholders as an agent (in Agency Theory). Auditors' duties involve helping to ensure that s.172 duties of directors to stakeholders are fulfilled (as in Stakeholder Theory)	Enacting auditors' duties to shareholders as an agent . Auditors' duties involve helping to ensure that **s.172 duties** of directors to stakeholders are. Fulfilled.	Link of the AF modelling with Agency Theory and Stakeholder Theory is already made above and in Ch.4. As explained under Simunic (1980) and in Ch.4, the design of external financial reporting system (and hence the AF model) is driven by the potential **legal** liability of an auditor/auditee to users of financial statements. The focus on *liability avoidance* to the auditor /auditee provides benefit for users of financial statements (i.e., stakeholders and stakeholder theory), including management and the auditor regarding audit and AF. **OBJ2-4**
Agency Theory	**16**	**Goodwin-Stewart, J. and Kent, P. (2006)**	Relation between external Audit fees, Audit Committee Characteristics, and Internal audit . Accounting and Finance 46 (2006) 387–404 **Australia**	This paper examines whether the presence of an audit committee, (AC)and AC characteristics and use of internal audit (IA) are associated with higher AF.	The paper associates higher AF with increased audit testing and higher audit quality(AQ). It finds that the existence of an AC, more frequent AC meetings and increased use of internal audit are associates with higher AF. The expertise of AC members is also associated with higher AF when meeting frequency and independence are low. The findings are consistent with an increased demand for higher quality auditing by ACs, and by client firms that make greater use of internal audit. Sample size :401	Both the paper and this research investigate the association between AC characteristic and AF although different proxies were adopted. Also, both studies find a positive relationship between audit committee characteristics and AF. **OBJ3**

Agency Theory	**17**	**Joshi, P. L. and Salleh, M. Z. 2006**	'Determinants of Audit Fees in Malaysia's Top 100 Listed Companies: An Empirical Study'. International Journal of Strategic Decision Sciences, 5(4), 79-98, October-December 2014 79 **Malaysia**	To investigate the determinants of AF in a sample of top 100 companies listed in Bursa Stock Exchange in Malaysia	Client's size, profitability, and ownership structure are the primary AF determinants in Malaysia. Profitability shows a negative and significant relationship, which is also consistent with findings of the most prior studies. There is no Big 4 premium within the audit market in Malaysia. Sample size:100	Both the paper and this research investigate AF determinants in listed companies including industry sector. . Both find size as significant determinant of AF. Like this paper, the research also finds risk (proxied by profitability)and audit committees as significant in some industry-wise models. **OBJs 2-4**
Agency Theory	**18**	**Fafatas, S.A. and Jialin Sun, K.(2010)**	'The relationship between auditor size and audit fees: further evidence from big four market shares in emerging economies. Research in Accounting in Emerging Economies, Vol. 10, Emerald Group Publishing Limited, Bingley, pp. 57-85. **Multi-country**	To examine the relationship between Big 4 audit firm country-level market shares and AF across a sample of nine emerging economies: Argentina, Brazil, Chile, Hong Kong, Israel, Korea, Mexico, South Africa, and Taiwan.	Individual Big 4 firm reputations (measured by AF premiums) are <u>not</u> homogeneous across countries. Instead, it appears the largest audit firms are associated with quality-differentiated services and hence earn higher AF. Big 4 auditors with dominant country-level market shares earn a fee premium of approximately 27% over competitor firms Despite Accounting and AF modelling research tending to classify large international accounting firms into a pool of the ''Big Firms,'' the above findings indicate crucially that each firm's market share in specific geographic locations must be taken into consideration when examining questions related to auditor reputation and pricing. Sample size: 483	This paper and this thesis do consider the issue of treating the Big 4 as one homogeneity terms This paper considers heterogeneity in terms of AF pricing while this thesis considers the direction of influence and approximate levels of influence of the determinants of AF. Thus, they tend to disconfirm the notion that underpins most AF modeling studies which consider the Big 4 audit firms as one homogenous unit (by indicating 1 when a Big 4 auditor is present and 0 when they are absent). The issue of Big4 premium is therefore indirectly explored by both the paper and this thesis. **OBJ4**

Agency Theory	**19**	**D'Silva, K. and Khan, Y.(2010)**	'Audit Fee Modelling & Corporate Governance in a South Asian Context.' Loyola Publications Chennai ISBN: 978-81-910217-3-8 **Pakistan**	To evaluate the audit fee model(s) that emerge in a set of Pakistani companies and develop explanatory model(s) which demonstrate relationships between identified variables and related audit fees in company accounts. To determine the existence of audit premium and/or product differentiation enjoyed by the Pakistani Big 5 (PB5) audit firms.	- Aside from confirming previous studies on the relationship of certain variables with audit fees (e.g., significance of size and risk), the paper implies audit concentration of the Pakistani Big 5(PB5) set of companies in Pakistan. Big firms account for 70% of the audit of Pakistani companies in the sample of 198 Karachi Stock Exchange 100. The paper identifies a 'Big Firm'/'Small Firm' divide like that which exists in Anglo–Saxon countries. However, there is very weak evidence of Big4 premia, and it lacks good evidence to support a concentration in sector theory. Sample size:98	Both studies seek to determine AF in listed companies. Common topics explored include audit concentration, audit premium in relation to the Big4. In support of the agency theory the paper indicates that Big audit firms are patronised by KSE 100 which are the largest companies. Intuitively speaking the ownership structure of larger companies exhibit higher separation of ownership and control and hence more agency problems\ **OBJs 1- 4**
Agency Theory	**20**	**Cantoni, E., D'Silva, K., Isaacs, M. (2011)**	'The Determinants of Audit Fees; Further Evidence from the UK Charity Sector.' Research Working Papers (Page N 2-10): Centre for International Business Studies .London South Bank University (LSBU) **UK**	To investigate the Determinants of Audit Fees in the UK Charity sector including the presence of a fee premium associated with (now) the Big 4 firms & expertise compared with Beattie *et al* .(2001)	Client's size, risk, NAS, are the main determinants of AF. Contrary to findings within the private sector, complexity within the private sector is not a significant determinant of AF. Additionally, a positive association exists between AF, AF premium (between Big4 and Non-Big 4) and auditor's expertise. Sample size: 119	This paper and this thesis both investigate the determinants of AF albeit in different contexts. Consistent with prior studies both studies also confirm that size is a primary determinant of AF. **OBJs 2-4**
Agency Theory (Stakeholder Theory	**21**	**Deegan, C., Unerman, J. (2011)**	'Financial Accounting Theory'. 2nd European ed. Berkshire. McGraw-Hill Education **Theoretical Focus**	The study explains key theories relating to Accounting: including Agency, Stakeholder and Regulatory Theories . Regarding **Agency Theory** it	It emphasizes the need for agents to be appropriately controlled (as in Agency Theory) and recognizes that different stakeholders have different views and hence different social contracts as in Stakeholder Theory).	This research has a mixed approach with reasonable emphasis of theory. It is facilitated by Agency and Stakeholder Theories (quantitatively) and by Regulatory

				states that a well-functioning firm controls agency costs. Also, a mechanism must exist to make an agent pay for their adverse actions to avoid incentive to consume many perquisites and the use of confidential information for personal gain. **Regulation Capture Theory** (RCT) explains that regulation might be put in place for the public interest . However, the regulation will become controlled by those parties who it ought to control. **Stakeholder theory** accepts that different groups have different views .So they will 'negotiate' different social contracts negotiate different social contracts rather than rather than one contract with society(p.348).	No Sample (Theoretical Focus)	Capture Theory (qualitatively). Indeed, OBJ1 and OBJ5 focus on theoretical underpinnings of AF modeling in general and in relation to AF movements in relation to MAR. **OBJs 1-5**
Agency Theory	**22**	**Velte, P. and Stiglbauer, M. (2012)**	'Audit Market Concentration and It's Influence on Audit Quality'. International Business Research; Vol. 5, No. 11; 2012 **Theoretical Focus** (EU and Non-EU Review)	To review previous empirical results of audit market concentration for EU and non-EU-member states and assess the effect on audit quality.	European Commission (EC) reforms cannot clearly be associated with increase in audit quality, and they increase transaction costs. Concentration leads to oligopoly in the European Union (EU) but is not a national phenomenon. Claims by the EC that a high audit market **concentration restrains competition**, can	Like this paper, this research has audit quality as one of its key aspects (in OBJ 3) and involves the ARD (2014) instigated by the EC in relation to audit quality in OBJ5. Auditors (as agents) could seek to be opportunistic (e.g., by **lowballing** and by compromising on **audit quality**). ARD (2014) was one of the regulations meant to curb lack of independence, improve quality and professional

					often not be proven empirically. Clarity is required on how the EC reforms -to reduce concentration- (e.g., by MAR), are connected to an increase in audit quality. Instead, they appear to be associated with significant transaction costs. Without suppression of price dumping strategies **(low balling) audit quality** might be endangered. There is a need to implement a minimum audit fee which should at least cover the individual costs of the audit firms. Within the non-EU countries supplier concentration is consistently established and is permanent No sample (Theoretical Focus)	skepticism .This is implied in the paper and this research. **OBJs 3 & 5**
Agency Theory	**23**	**Köhler, A. G., Ratzinger-Sakel, N. V. S. (2012)**	'Audit and Non-Audit Fees in Germany: The Impact of Audit Market Characteristics'. Journal of Economic Literature, SBR 64: pp. 281-307. **Germany**	To examine endogeneity effects, audit market segment effects (fee-cutting behavior on initial engagement in large and small segments) To examine institutional setting effects on AF and NAS (the impact of network-related fee reporting bias on AF and NAS).	Size, complexity and risk, audit committee existence and stock exchange listing jointly determine AF and NAS –for large and small client segments. NAS & AF are jointly determined. Sample size:1345	Size, risk ,complexity, Big 4, audit committees, are also examined in this research . This research also finds size and complexity as among the primary determinants of AF in FTSE250. **OBJs 2-4**

Agency Theory	**24**	**Campa, D. 2013**	'Big 4 Fee Premium and Audit Quality: Latest Evidence from UK Listed Companies.' Managerial Auditing Journal, Vol.28 No.8, pp. 680-707. **UK**	To investigate whether Big 4 auditors exhibit a "fee premium" and, if so, whether the premium is related to the delivery of a better audit service.	The study provides consistent evidence about the existence of an "audit fee premium" charged by Big 4 auditors .However the findings do not highlight any significant relationship between audit quality and type of auditor with respect to the audit quality proxies investigated. Sample size : 2362	The study and this research both consider Big 4 influence on AF and hence the likelihood of the associated AF premium . OBJ3 of this research assesses audit quality. OBJ4 of this thesis also devotes itself to the Big 4 and assesses the possible heterogeneity of Big4 influence on the selected AF determinants
Agency Theory	**25**	**Hassan, Y.M. & Naser, K. (2013)**	'Determinants of Audit Fees: Evidence from an Emerging Economy'. International Journal of Commerce & Management Vol. 17 No. 3, pp. 239-254 **Abu Dhabi**	To investigate the factors influencing audit fees paid by non-financial companies listed on Abu Dhabi Stock Exchange (ADX) (Jordan).	A direct relationship exists between AF and corporate size, business complexity and audit report lag variables. An inverse relationship has been detected between audit fees and each of industry type and audit committee independence. The findings also reveal that AF are not significantly influenced by client's profitability, risk, and status of audit firm. Sample size:30	The paper and this research both investigate AF determinants in listed companies. Both studies also find size and complexity as among the primarily determinants of AF. They also both consider audit committee and industry variables as possible AF determinants, although their directions of influence are not the same in both studies.
Agency Theory	**26**	**Kikhia H. Y. (2014)**	'Determinants of Audit Fees: Evidence from Jordan' Accounting and Finance Research Vol. 4, No. 1; 2015 **Jordan**	To seminally and empirically examine factors impacting the level of audit fees in Jordan. To provide further evidence connecting variables such as the auditor tenure effects, and auditee risk earlier found to have an inconclusive relationship with the amount of AF in prior studies	It provides further evidence connecting variables such as the auditor tenure effects and auditee risk which have been found to have an inconclusive relationship with the amount of external audit fees in prior studies. Auditee size , financial risk are the key determinant of AF. Audit tenure is not a significant AF determinant. . Sample size :117	In similarity with this thesis(which seeks to extend AF modelling to FTSE 250), Kikhia (2014) seeks to extend AF modelling findings to Jordan. This relates to confirming/disconfir ming the influence such AF determinants as auditee size, complexity, financial risk, type of industry, profitability, audit firm size on AF in Jordan on the Amman Stock Exchange (ASE). **OBJs 2-4**

Agency Theory	**27**	**Kwon S. D., Lim, Y. D. and Simnett, R. (2014)**	'The effect of mandatory audit firm rotation on audit quality and audit fees: Empirical evidence from the Korean audit market' A Journal of Practice & Theory *(2014) 33 (4): 167–196.* **Korea**	To compare both pre- and post-policy implementation of MAR and, after the implementation of the policy, mandatory long-tenure versus voluntary short-tenure rotation situations.	Where audit firms were mandatorily rotated(post- policy), the audit quality did not significantly change compared with pre-2006 long-tenure audit situations and voluntary post-rotation situations. AF in the post-regulation period for mandatorily rotated engagements are significantly larger than in the pre-regulation period but they are discounted when compared to AF for post-regulation continuing engagements. The observed increase in AF and audit hours in the post-regulation period extends beyond scenarios where the auditor was mandatorily rotated. This suggests that the introduction of MAR had a much broader impact than the specific instances of MAR. Sample size 6710	Both this paper and this research consider the influence of MAR on AF as one of their key objectives.OBJ5 of this thesis explores theoretical explanations for movements in AF (within the FTSE250) during a MAR regime induced by ARD (2014) **OBJ5**
	28	**Suryanto, T. (2014)**	'Determinants of Audit Fee Based on Client Attributes, Auditor Attributes and Engagement Attributes to Control Risks and Prevent Fraud' International Journal in Economics and Business Administration Vol. 11,Isssue 3,2014. **Indonesia**	To examine the effect of client attribute, auditor attribute and engagement attribute on AF and the effect of AF on control risks and fraud prevention.	Client's attribute, auditor attribute and engagement attribute are the dominant factors in AF determination. AF influences risk control and fraud prevention. Sample size:104	This paper and this research both investigate the influence of client attributes such as size and complexity. They also both involve some consideration of the influence of auditor variable on AF. **OBJ2-4**
Agency Theory	**29**	**Audousset-Coulier, S. (2015)**	'Audit Fees in a Joint audit Setting' European Accounting Review Vol.24, 2015-Issue 2 **France**	To conduct a study of audit pricing issues relating to the requirement to hire two independent auditors (joint audit)	Other things being equal, the decision to hire two Big 4 auditors as joint auditors does not require the payment of a higher AF (Big 4 premium) compared to the choice of one	Both this paper and this research control for traditional AF determinants such as size, complexity, and risk all of which are found to be positively and significantly related to AF. In joint

					Big 4 auditor paired with a smaller auditor. The choice of two Big 4 auditors thus appears to be a rational economic choice for large and international auditors. Sample size:108	audit ,the issue of making a choice between using one Big4 firm with a smaller firm and two Big 4 firms also relates to addressing competition and concentration which are also qualitatively discussed in this research. **OBJs 2-4**
Agency Theory	**30**	**Castro, W. B. D. L., Peleias, I. R., & Silva, G. P. D.(2015)**	Determinants of Audit Fees: A study in the Companies Listed in the BM&FBOVESPA, Brazil. Journal of Financial Economics, 3 (4): pp. 305-360. **Brazil**	To analyse the determinants of AF paid by companies listed on the BM&FBOVESPA .	A positive relationship exists between AF and client's size, complexity, and Big N auditors. Client's risk influences AF differently in larger and smaller clients. In smaller clients, more leveraged and riskier clients are associated with lower fees, contrary to expectation that the auditor might charge higher AF as a reward to compensate for higher AF. In larger clients, those with higher risk, (as proxied by liquidity and leverage), or those with stronger governance practices, tend to incur higher AF. Sample size :335	Like this paper ,this research seeks to identify the determinants of AF in relation to listed companies .They both find size and complexity as primarily significant determinants of AF. They also both consider the influence of corporate governance variables (CGVs) in AF determination. **OBJs 2-4**
Agency Theory	**31**	**Haladni, H. (2016)**	'A Proposed Framework of Audit Fees Determinants in Kurdistan Region.' European Journal of Business and Management, 8(12). **Kurdistan**	To investigate the factors that determine AF in the Kurdistan region/ Iraq and hence to develop plausible proxies that can be applied in practice.	In terms of client's characteristics**,** complexity, size, profitability, industry type, and audit risk are significant determinants of AF. Regarding auditor attributes, significant factors include reputation, experience, industry expertise, and firm. The factors related to the market include economic instability, the level of dependence on accounting information, strict	This paper and this research investigate the determinants of AF. Other commonalities exist as to the selected factors tested (e.g., size, complexity risk, industry type and auditor characteristics). Both studies also find factors such as size, complexity, and industry type as significant determinates of AF. **OBJs 2-4**

					local regulation with competition in the market, short time lag request and busy seasons. Sample size: 58	
Agency Theory	**32**	**FRC (2018)**	'UK Corporate Governance Code' (UKCGC) The Financial Reporting Council Limited (2018). **UK**	It is designed to : -Set higher standards of corporate governance to promote transparency and integrity in business. -Attract investment in the UK for the long term, benefitting the economy and wider society.	Sets Corporate Governance standards to which firms such as FTSE 250 companies should 'comply or explain'(p.1)**.** No sample (Theoretical Focus)	On behalf of **share**holders and other **stake**holders. auditors are meant to assess relevant aspects of the client's financial and other statements for compliance with the Code. Audit is CG tool to promote **transparenc**y and **integrity** in business and the latter two factors are among the primary objectives of the UKCGC. OBJ1 of this thesis seeks to identify CG theories that underpin AF modeling. Chapter 3 of this thesis highlights some evidence of poor CG in several companies which led to scandals and the thesis is facilitated by the Agency and Stakeholder (CG) theories. **OBJs1-5**
Agency Theory	**33**	**Owusu, G. M. Y. and Bekoe R.A. (2019)**	'Determinants of Audit Fees: The Perception of External Auditors' Journal of Research in Emerging Markets JREM, 2019, Vol. 1, No. 4, ISSN: 2663-905X **Ghana**	The paper examines the perception of external auditors in relation to the dominant factors that influence AF determination.	Client's risk was rated to be the most important determinant of AF followed by the 'nature and scope' of the audit factor. The 'Market-wide factor' (e.g., local regulation) was rated to be the least important factor in AF determination (p.44) In particular, the 'proximity to the client firm' (as market-wide factor) was adjudged to be the least important factor in AF determination (p.53). Sample size: 339	Both studies seek to identify AF determinants .The paper also adopts several factors that are investigated in this research (e.g., size, complexity, risk , business sector). **OBJs 2-4**

Agency Theory	**34**	**Hrazdil, K., Simunic, D.A. and Suwanyangyuan, N.(2020).**	Are the Big 4 audit firms homogeneous? Further evidence from audit pricing International Journal of Auditing Vol.24.Issue3 November 2020 ppp347-365 **US**	To investigate audit pricing differences for listed clients across the Big 4 audit firms .	In addition to the general Big 4 fee premium, individual reputation of the Big 4 also plays an important role in the U.S. audit market. This enables PwC (KPMG) to earn an above-average (below-average) fee premium relative to the other Big 4 auditors. The positive relationship between AF and auditor industry specialization in the literature is exaggerated by the confounding effect of the individual audit firm's generalized competencies. Industry specialization premium is only observed for EY and Deloitte specialists, (after controlling for individual price differences within the Big 4 audit firms). Ceteris paribus, it is not appropriate to treat the Big 4 audit firms as a homogenous group, since these firms are not the same in their pricing of auditing services . Sample size: 53,500	Both studies highlight the fact that several prior empirical studies have treated the Big 4 as a homogeneous unit (1 for presence of Big4, and 0 for absence of Big4). Accordingly, both studies break the Big 4 into individual firms and on the latter basis assess the basis of homogeneity across the auditors. Further ,both studies conclude that it is not appropriate to treat the Big 4 audit firms as a homogenous group. **OBJ4**
Agency Theory	**35**	**Kanakriyah, R. (2020)**	'Model to Determine Main Factors Used to Measure Audit Fees'. Academy of Accounting and Financial Studies Journal 24(2) 2020. **Jordan**	To investigate the factors that have an impact on AF in manufacturing companies listed on Amman Stock Exchange (ASE and hence to build a model to determine and measure AF.	The primary factors that influence AF are audit report lag, , client size, corporate complexity, risk, status of the audit firm. AF is also negatively and significantly associated with profitability and industry type. No relationship was detected between audit committee independence and audit rotation with AF. Sample size**:** 58	Both studies seek to identify AF determinants .The paper also adopts several factors that are investigated in this research (e.g., size, complexity, risk , industry type and audit committee characteristics). It also considers rotation of auditors which is considered in this research . **OBJs 2-5**

Agency Theory (and Stakeholder Theory)	**36**	**Widmann, M., Foller, F., Wolz M. (2020).**	'What is it going to cost? Empirical evidence from a systematic literature review of audit fee determinants '.Management Review Quarterly Q **71**, 455–489 (2021 **Multi-Country**	To provide an up-to date and systematic review approach on AF studies published some international relevant scientific journals and to suggest a standard model for the most important fee drivers that can be used for future AF studies.	It provides a 'state-of-the-art paper' on pricing within audit firms (n.p.) It also contributes to the international literature on audit markets from a theoretical point of view by offering a new testable model of AF determinants. empirical results and several fundamental insights that can further empirical and theoretical research on the pricing of audit services. It also provides results which are meaningful for researchers within the field of auditing and for experts in management, pricing, or European legislature Sample size: Metanalyses	This study analyses prior studies, some of which formed the basis of literature reviewed to enable hypotheses to be spawned in relation to this thesis. Thus, it serves as a compendium of relevant information in relation to this research. **OBJs 1-5**
Regulatory Capture Theory	**37**	**Kalpana Pai and Thomas D. Tolleson (2012)**	'The Capture of Government Regulators by the Big 4 Accounting Firms: Some Evidence'. Journal of Applied Business and Economics vol. 13(1) 2012 **U.S.A**	To examine 'Oligopoly and the role of reputation in the auditing services marketplace. To 'provide anecdotal evidence that special interests have captured the accounting regulators. To 'discuss the implications for the public interest and propose alternatives for accounting regulators and their "captured" mind-set'. To provide suggestions to protect the public interest (over the self-interest of the Bog 4) and to help rectify the market power of the Big 4.	Increased competition based on audit quality and MAR would be appropriate in eliminating the oligopoly in the auditing services marketplace. The global interest in the efficiency and sustainability of capital markets will be better served by increased competition and SEC (Securities and Exchange Commission) that is prepared to address the possible demise of one or more of the Big 4 firms and a PCAOB that provides audit quality information to all capital market stakeholders. Regulators would be having more time to protect public interest if several firms can compete with the Big firms for large clients. No Sample size: (Theoretical Focus)	This research also has objectives which indirectly relate to discussion of Regulatory Capture specifically Big 4 oligopolistic behavior, Big 4 audit premium, Big 4 audit concentration, scandals, and audit quality. OBJ 5 of this research also deals with theories that underpin MAR (which is indirectly meant to address the strong hold of the Big 4 auditors on the audit market.) **OBJs 3 & 5**

Regulatory Capture Theory	**38**	**Bandyopadhyay S.P., Chen C. and Yu, Y. (2014)**	'Mandatory audit partner rotation, audit market concentration, and audit quality: Evidence from China'. Advances in Accounting, incorporating Advances in International Accounting 30 (2014) 18–31. **China**	To investigate the effects of Mandatory Partner Rotation on Audit Quality under different Audit Market Concentration and different levels of legal development	-Average **MPR** (Mandatory Partner Rotation) has a positive effect on audit quality in the post-rotation years, especially in the second and third years after MPR. -The **incremental benefit of MPR** on audit quality(AQ) (and high AQ) is observed only in **low AMC** (Audit Market Concentration) levels provinces in China. Hence MPR is a policy tool that could improve audit quality in low AMC areas. This also only applies to regions with **low levels** of **legal development.** Sample size :273	The paper deals with MAR which is one of the regulations meant to address agency issues such as self-interest(including lowballing). It is also aimed at addressing issues such as audit quality, independence and competition. (concentration). The ability of the Big4 to dominate the audit market (including the sustenance of the concentration) is partly due to Regulatory Capture. OBJ 5 of this research also deals with MAR by identifying and evaluating theories that could explain AF movements during **OBJ's 2-5**
Regulatory Capture Theory	**39**	**Corbella, S., Florio, C., Gotti, G., Mastrolia S.A.** 2015	'Audit firm Rotation, Audit fees and Audit Quality: The Experience of Italian Public Companies'. Journal of International Accounting, Auditing and Taxation 25(2015): pp.46-66 **Italy**	.To examine some costs and benefits associated with MAR data in Italy, where it has been in place since 1975. -To extend existing literature on MAR based on the decision taken by U.S to end discussion of Mandatory Audit Firm Rotation (MAFR) - To test whether there is a change in <u>total audit fees</u> paid to the auditor when there is mandatory/ voluntary auditor rotation or partner-only audit rotation -To also test the impact of rotation on audit quality	Audit **quality** improves following MAF rotation. Following MAR, **Big 4 audit clients** experience **lower audit fees,** while '**non-Big firm'** clients do **not** experience a change in audit fees. Sample size :1583	This thesis assesses the theories that help to explain movements in AF during **MAR (**MFR) In so doing, literature relating to MAR (MPR) is also discussed. Some **micro-economic variables** (e.g., auditee size, auditor size)correspond with OBJs 2-4 in terms of variables.OBJ4 also highlights the domination and behaviour of Big while OBJ3 focusses on audit quality. **OBJ's 2-5**

Signalling Theory	**41**	**Lin and Liu 2009**	The impact of corporate governance on auditor choice: Evidence from China'. Journal of International Accounting, Auditing and Taxation 18 (2009) 44–59 **China**	'To investigate the determinants of firms' auditor choice in China regarding their corporate governance mechanism'.	Firms with larger controlling share-holders, with smaller size of Supervisory Boards (SB), or in which the CEO and Board chairman are the same person, are less likely to hire a Top 10 (high-quality) (e.g., Big 4) auditor. This suggests that when the aim is to lower capital raising costs are trivial, firms with weaker internal corporate governance mechanism tend to choose a low-quality auditor to capture and sustain their opaqueness gains. This also includes earnings management. On the other hand, firms tend to appoint high-quality auditors as corporate governance improves. Sample size: 184	This paper centers on the impact of CG . The paper implies that when the objective is to lower capital raising costs, a high-quality auditor is hired to signal the markets about good CG. This research has identified Signaling theory as one of the theories that could be relevant to AF modelling (OBJ 4 of this thesis) including explanation of AF movements during MAR (OBJ5) . **OBJs 4 & 5**
Signalling Theory	**42**	**Wu, X. (2012)**	'Corporate Governance and Audit Fees: Evidence from Companies listed on the Shanghai Stock Exchange'. China Journal of Accounting Research 5 (2012) 321–342. **China**	To investigate the relationship between corporate governance and audit fees.	A significant negative relationship exists between CG and AF in the full sample. However, in the subsample, results show that CG influence on AF is affected by corporate growth. The negative relationship between CG and AF is economically and statistically significant in sample companies that had moderate growth during the sample period, and mixed or insignificant in companies that experienced very fast or negative growth. Sample size : 602	The paper considers the influence of CGVs on AF. This thesis also includes the testing of CGVs (audit quality and audit committee factors on AF determinants) in OBJ3.Both studies deal with AF which falls within the domain of CG. The paper also argues that when viewed from the lens of the Signalling Theory, corporate managers (including audit committees) convey the impression of highly effective CG to external stakeholders by employing very rigorous external audit, which eventually leads to higher AF. **OBJs 3& 5**

Signalling Theory	**43**	**Chiang, H. (2013)**	'Agency conflicts and choice of specialist audit firms and audit partners: signalling or substantial monitoring?' Corporate Ownership & Control / Volume 10, Issue 3, Spring 2013 **Taiwan**	To examine the demand-side effects of the selection of industry-specialist auditors by considering the impact of the agency problem between controlling owners and minority shareholders	Probability and potential magnitude of agency costs associated with interest entrenchment increases the demand for auditors with higher apparent audit quality regarding the signalling role of audits. This decreases the possibility of engaging specialist auditors with higher actual audit quality relating to substantial monitoring by minority shareholders (central agency problem). In emerging markets, the agency conflicts between controlling owners and minority shareholders are hard to mitigate by conventional corporate control mechanisms; External independent auditors are employed as both monitors and bonding mechanism Sample size: 6712	By focusing on Agency Theory, this paper implies that high agency conflicts create increasing demand for higher quality audit as a signal of good CG or reduction of agency costs . It also states that auditors serve as both monitors of agency issues and as a bonding mechanism. This research is facilitated by Agency theory and the use of higher quality audit as signal is discussed in Chapters 4 and 5. **OBJs 4 & 5**

2. Some Key Audit Fee Determinant NCGVs and CGVs with Related Authors

Non-Corporate Governance Factors									Corporate Governance Factors		
VARIABLES									VARIABLES		
Authors	**DV**	***TAS**	**TOV**	***SUBS OR BUS SEG**	***PBT/ PBIT/ EBIT /NETINC /TAS**	**BIG 4**	**LOC***	***SEC**	***ACC/**	**AUQ**	**BD1**
Simunic **(1980)** (Seminal Author)	AFE/Assets	*S	x	S	NS (NETINC /TAS)	NS	x	*S	x	x	x
Chan *et al*. **(1993)**	AFE	*S	S	*S	x	S	*S	x	x	x	x
Pong and Whittington **(1994)**	AFE	*S	S	*S	NS (PBIT)	S	x	x	x	x	x
Hay *et al*. **(2006)**	Various	*S	S	*S	x	S	*S	*S	S (AC)	S (BIG4_	S
Gonthier-Besacier and Schatt **(2006)**	AFE	*S	x	x	x	S	x	*S	x	x	x
Cantoni *et al.* **(2011)**	Square root of AFE	*S	S	NS (BUSSEG)	x	S	x	x	x	x	x
Köhler and Ratzinger-Sakel **(2012)**	*Ln AFE	*S	x	*S	NS (EBIT)	S	x	x	S (AC)	x	x
Kikhia **(2014)**	AFE	*S	x	x	x	S	x	*S	x	x	x
Ghafran & O'Sullivan **(2017)**	*Ln AFE (to measure AUQ	x	x	x	x	x	x	x	S (AC% Financial Expertise)	As DV	x
Farooq *et. al.* **(2018)**	AFE	*S	S	x	x	x	x	x	S (ACD/ ACI)	x	S BDI
Kanakriyah **(2020)**	AFE	*S	x	*S	x	S	x	*S	NS (ACSIZE ACFREQ)	x	x
This Thesis	*Ln AFE	*S	x	*S	*S PBT	*S	*S	S*	NS (ACC)	NS (AF/NAF)	x

KEY TO VARIABLES & SIGNS

x = Not Applicable - Variable not included in that research.

*** Same variable as in this research.**

- **AFE = Published Audit Fee - DV (Dependent Variable).**
- **Log AFE = Natural logarithm of current year's audit fee.**
- **Log AFE to measure AUQ = Author used AF paid by clients as a measure of AUQ (DV).**

- **Various = Metanalysis of various AF studies.**
- **TAS = Total Assets.**
- **TOV = Turnover.**
- **SUBS OR BUS/SEG) = Number of Subsidiaries / Business Segments.**
- **PBT/EBIT = Profit Before Tax/Earnings Before Interest and Tax.**
- **NET INC/TAS = Net income over Total Assets.**
- **BIG4/NON-BIG4 = Big4 Vs Mid-tier audit firms (Auditor size/type).**
- **NAF = Non-Audit Fees.**
- **SEC = Business Sector.**
- **AC %Financial Expertise = Percentage of AC members with Financial Expertise.**
- **ACSIZE= Independent Audit Committee.**
- **ACFREQ = Frequency of AC meetings.**
- **AC= Presence of AC.**
- **ACC= Audit Committee Competence.**
- **ACD =Audit Committee Diligence.**
- **ACI = Audit Committee Independence .**
- **AUQ = Audit Quality.**
- **As DV = AUQ used as DV.**
- **BDI= Board Independence /Composition.**
- **S = Significant.**
- **NS = Not Significant.**

Appendix 8 :Brief Commentary on Three Current International Issues

Being a thesis meant to address several aspects of audit with focus on AF and its modelling within the FTSE 250, it is not expected to address every issue on auditing or in relation to the AF in FTSE 250. Ang, (2014 p.12) claims that it is essential for research to be parsimonious. Despite the latter preamble, the researcher offers brief commentary about three issues which have been very topical in recent times. That is, the additional responsibilities due to climate related issues ,how the Covid 19 pandemic has facilitated the use of technological approaches adopted by auditors and the future of audit due to influence of Artificial Intelligence.

i) Some Potential Audit Responsibilities On Climate Change

Due to climate change, the FRC required **additional mandatory disclosures** for FTSE350 companies (which includes the FTSE 250) by the end of 2021 and would require other companies to comply within a few years down the line (FRC 2021). It published the 'Task Force on Climate-related Financial Disclosure' (TCFD). Some factors to be considered in making the disclosures include how a Board assesses and views climate-related issues, any likely changes to be made to strategy as a result (e.g., strategies to meet net zero or other target). They also include any associated risks and opportunities and how the issues and their impact are measured. The regularity and the extent to which acute weather-related events have impacted on businesses have called for assessment of physical impacts of climate change to be analysed in a form of climate scenario analysis (FRC,2021).

The latter study (which is based on research by University of Manchester) suggests that current business-led approach ensures that the analysis is not just considered merely as a tick-box exercise but seen as one of the means of testing business model resilience (e.g., for insurance purposes or the adoption of climate friendly technology such as electrical cars). The researcher

expects that the audit of these additional disclosures and opinions as to whether they have been appropriately presented would **comprise work that is very likely to increase AF**. This would be more significant for organisations having subsidiaries in countries that are highly susceptible to climate change. In many respects, the work would be in line with the usual requirement to measure risk prior to understanding the client's business (e.g., ISA315) and in response to assessed risks (i.e., 1SA 330) (FRC, 2020).

Deliberations from the Conference of the Parties (COP) 26 event took place between 31st October and 12th November 2021 in Glasgow (UK) for nations that are signatories to the United Nations Framework Convention on Climate Change (UNFCCC) – 1994 (ukcop26.org, 2021). In due course, the outcome of the conference should improve guidance in relation to the numbers/types of disclosures, measurements to be adopted and the pace at which uniform standards could be developed including additional responsibilities for auditors. The IFRS Foundation Trustees (Trustees) initiated some significant developments to provide good quality disclosures to global financial markets on climate and other associated sustainability issues (IFRS Foundation, 2021). In this connection it has formed an International Sustainability Standards Board (1SSB) to develop a comprehensive global set of guidelines of sustainability disclosures standards to address the several needs of investors and in public interest.

ii):Some Potential Audit Responsibilities On Covid-19

The Covid-19 pandemic has required a much longer and combative strategy than earlier envisaged. Due to the pace and versatility of technology, the audit firms (essentially the Big4) have been able to conduct their audit with appropriate adjustments made for staff working from home or based on hybrid contracts (ICAEW,2020). For instance, the use of drones to capture data and other audit evidence. This has enabled staff to focus time on risk-related aspects

instead of manual stocktaking exercise. Data analytics tools are also used to obtain information from clients' systems remotely, while identifying and addressing anomalies in high-risk transactions. This is expected to be more of the norm in future. Similarly, the use of Artificial Intelligence (AI) and machine learning would also become more prevalent. Some of this technology is already being used to read contracts, and extract or analyse information. Models and scenarios are being created by use of predictive data analytics that interrogate management's assertions. In terms of AF, the impression of the researcher is that the acquisition, maintenance and updating of these technologies (as well as hiring relevant expertise) are likely to add to the AF, although the efficiencies realised could reduce the amount of work performed in certain aspects.

For both climate change and Covid issues discussed above, the pace, the adoption of certain approaches and the likely incremental impact on businesses and AF would be more determinable when international standards have been developed. The researcher also opines that, while technology has been used for several years (pre-Covid), the existence of Covid and the need to conduct several exercises remotely could be technologically intrusive without clearly developed legal and technological limits placed on potential enquirers in favour of the owners of the records being interrogated.

iii : Key Consideration in the Future of Audit - Artificial Intelligence (AI).

To some extent, Artificial Intelligence has been in use in relation to auditing (e.g., inputting, and analysing data and reporting information) (Parlak,2023). The author highlights its benefits such as minimising mistakes and omissions, having high capacity to swiftly evaluate high volumes of data and guiding auditors in aspects which require more/less audit work. KPMG (2023) continues to expect AI to improve its identification of high-risk transactions, thus

improving risk assessment, freeing time to be applied in other areas and thus enhancing the audit and its quality. A broad range of their clients are also using AI alongside human effort in processes involving accounting and reporting financial and non-financial. However, they identify some associated risks.

For instance, AI must be underpinned with the most highly accurate, unbiased, and relevant data and any ethics and resilience issues must be continuously reviewed to prevent misuse including honest misapplication. Therefore, it must be regulated by offering clear guidance because several variables change with time. Th researcher also expects that humans cannot totally abdicate their responsibility to AI and accept related outcomes unquestionably. Understanding the various bases of its actions/outcomes would empower clients, auditors, and other stakeholders to question it and offer guidance to potential users. Indeed, KMPG (2023) states that *'a **key risk around AI**, which is very relevant to audit, is **'explainability'**. By this we mean we still need to understand and explain why the technology may be highlighting certain items and trends. That's why we believe it's important to have people working alongside AI to prompt deeper thinking and challenge where necessary, rather than removing people from the loop entirely. At the same time, this will help **training** the AI **continuously through human input'* **(**KPMG, 2023**)**.

Hence the firm advises against '*full reliance on AI as a black box'* (KPMG, 2023**)**. This underpins the thinking that AI will never totally replace human effort and it will always have knowledge generated by humans within the audit loop. Audit and AF are also essentially based on **risk.** For instance, the AF model of Simunic (1980) is based on risk exposure to litigation. Therefore, apart from the inherent risk of AI, if not appropriately controlled, it could also

increase cost through compliance costs for the auditee and auditor as well as risk of litigation for the auditor.

Since AI requires support from human input the firm stresses the development of **key skill sets** with which it could be explored. Within its ethical framework for AI implementation its firms have already developed the competence to assist clients to address the cultural changes that are associated with AI. For example, using AI to identify outliers to help support processing of huge amount of data around natural language processing, voice, and speech recognition. Hence, acquiring these skills require training and qualifications which are likely to have increasing impact on AF in future.

Therefore, AI could improve pace and quality of audit work and on the basis of the above points, the extent to which AI would be involved in audit (and impact AF) is likely to increase with development of AI. However, this may also begin to attract concerns about copyright and confidentiality issues such as the use of ChatGPT (a generative AI mostly used in the field of education) which has the capacity to '***manufacture*** *facts and events'* (Guardian,2023 n.p.).