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**Title: “The Impact of Capital Structure on Financial Performance:
Based on UK Listed Companies”**

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Abstract

This study examines the impact of capital structure decisions on the financial performance of UK-listed companies within a dynamic economic environment. The study is driven by uncertainty during post-pandemic periods and new regulations introduced due to post-Brexit activities, and in this context, the research explores the impact of leverage on profitability among companies in various industries. The study utilises the quantitative regression techniques to determine the association between leverage ratios and financial performance indicators using panel data on UK-listed companies from 2015 to 2024. The financial performance is quantified by the use of returns on assets, returns on equity, and returns on capital employed, whereas the firm size is a moderating variable. The use of capital structure theories based on sound conceptual evidence is the foundation of the methodological framework, and a very strong empirical analysis is required to ensure reliability and internal validity.

The findings indicate that capital structure exerts a statistically meaningful influence on financial performance, confirming that leverage functions as an active strategic determinant rather than a neutral financing choice. The findings also show that firm-specific traits mediate the leverage effects, whereby firm size plays a significant role in mediating the leverage-performance correlation. The bigger companies have a higher resilience to leverage-related pressure, and this is indicative of scale benefits and enhanced capital market access. The heterogeneity of capital structure outcomes, which is the contribution of sectoral analysis, emphasises its context-specificity. The research adds to existing current literature of corporate finance in the UK by not only offering new evidence that is specific to the UK, but also practical advice to managers, investors, and policymakers on how to maximise their approach to financing in economic uncertainty.

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List of Abbreviations

ABBREVIATION	FULL FORM
ROA	Return on Assets
ROE	Return on Equity
ROCE	Return on Capital Employed
LSE	London Stock Exchange
UK	United Kingdom
ESG	Environmental, Social, and Governance
EBIT	Earnings Before Interest and Tax
IPO	Initial Public Offering
SPSS	Statistical Package for the Social Sciences
OLS	Ordinary Least Squares



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Declaration Form.

I, SYED SHAH AKIBUL HUSSAIN, declare that this dissertation has been composed by myself, that the work contained herein is entirely my own except where explicitly stated otherwise in the text, and that this work has not been submitted for any other degree or qualification, in whole or in part, except as specified.

Signature: *Syed Shah Akibul Hussain*

Date: 03/02/2026

CHAPTER 1: INTRODUCTION

1.1 Background of the Study

Capital structure is still defined as a central factor of financial performance and health of a firm, which has an impact on its cost of capital, the risk profile and general valuation. The debt-equity blend is a key factor to consider for the company that wants to reduce the cost of financing and maximise shareholder value. The dynamics of capital structure are of special interest in the framework of UK-listed firms due to the changing regulatory environment, the challenges of the economic environment, and the volatility of the market in the past years.

There are substantial changes in the leverage pattern of UK firms, as pointed out by recent empirical evidence (Savio et al., 2024). Alhajjeah and Besim (2024) indicate that the mean debt-to-assets ratio of UK-based companies in times of economic crisis is 0.228, and short-term debt (0.0618) and long-term debt (0.155) constitute the short-term and long-term debt, respectively. These numbers are a sign of a reserved attitude to the short-term borrowing in the environment of uncertainty, as the firms tend to prefer liquidity and financial stability. The economic shocks in the financial markets triggered by the COVID-19 pandemic, as well as the geopolitical and economic unpredictability concerning Brexit, have had a significant impact on corporate finance decisions, with several companies reconsidering their capital structures to become more resilient.

Moreover, changes in capital structure management have been hastened by corporate governance reforms. The study conducted by Ezeani et al. (2024) indicates that the effects of board-level governance enhancement have been able to be enabled quicker adjustments in leverage policies among UK companies, highlighting the connection between regulation and capital allocation policies. These reforms have become significant in the context of the increasing world interest rates that further strain the companies to maximise their debts to maintain profitability and minimise the risks to their finances (Hamzeh Al Amosh, 2024).

This study aims to offer new evidence of the capital structure decision-making in the context of the evolving economic environment by comparing the current empirical evidence of the UK-listed companies between the years 2015 to 2024. It will help to

show corporate managers, investors, and policymakers how to develop financing strategies that will strike a proper balance between risk and return in the post-pandemic and post-Brexit environment. The study has the potential to add knowledge that can be vital in strategic decision-making in the management of finance, hence timely and practical to the UK business community.

1.2 Research Rationale

This study is based on the fact that the UK-listed company's capital structure decision is highly affected by the economic and regulatory environment. The last few years have experienced the greatest macroeconomic shocks in the past century, including the COVID-19 pandemic, market uncertainties due to Brexit, and increased interest rates in the world market. These developments have caused the patterns of conventional financing to be broken, and this has forced firms to change their structure of capital structure in order to ensure their operations remain robust and stable in terms of finances. Although the optimal capital structure is highly important in determining the firm value and risk exposure, a significant number of current empirical studies are based on pre-pandemic and pre-Brexit data, therefore, restraining their application to the current challenging environment.

This study fills a significant gap that exists in the field of study by utilising more recent panel data between 2015 to 2024 to study the subtle interplay between capital structure and financial performance in the UK-listed firms. In contrast to the earlier works, the effects of the recent crises and changes in regulations are also integrated in this study, providing a timely and useful insight to financial managers, investors, and policymakers (Allioui and Mourdi, 2023). The study will yield strong evidence on the impact of leverage decisions on the profitability, risk, and market value in this dynamic environment by incorporating various financial performance measures and controlling for the firm-specific factors.

Finally, the results of the study are aimed at giving a pragmatic recommendation in the determinants of strategic financing that would be risk-appropriate and pay off under ambiguous circumstances. This will add to the academic literature and the practical

corporate finance by bridging the empirical gap that has been left by the recent structural changes in the UK economic environment.

1.3 Research Aim and Objectives

Aims

To examine the effect of capital structure decisions on financial performance among UK-listed companies.

Objectives

- To analyse the relationship between capital structure and financial performance.
- To compare the impact of capital structure on financial performance across different companies in the UK over the last 10 years (2015 – 2024).

1.4 Research Questions

- To what extent does capital structure influence the financial performance of UK-listed companies?
- Is there an identifiable optimal ratio of equity and leverage that maximises firm performance?
- What are the strategic advantages and disadvantages associated with high versus low leverage in the current economic climate?
- How does firm size influence the relationship between leverage and financial success?

1.5 Research Problems

The decision on capital structure in UK-listed companies is subject to several serious challenges in the context of changing economic and regulatory environments. Although it has been able to raise considerable equity capital, £25 billion in 274 companies in 2024 alone, the market is still uncertain, both due to the impact of economic factors, political developments, and the reforms to make listing easier (Gözlügöl, 2025). However, there are a handful of major IPOs that have dominated

the market, meaning that smaller firms have been reluctant to tap into the markets through small IPOs. The ownership fragmentation in the UK companies also makes it harder to have the management and the investor to interact most appropriately (Orr et al., 2022). It is especially with the increased importance of the passive funds that are likely to restrict the active participation in the governance. This fragmented shareholder structure presents challenges to boards that aim to balance between the shareholders' interests and long-term strategic financial planning.

Moreover, regulatory changes aim to reduce red tape and facilitate capital raising, involving complexities in compliance and disclosure that companies must carefully navigate (Proudfoot et al., 2024). These challenges are intensified by the fact that the UK has both a private and a public capital market, and firms must negotiate the changing financing options with the changing market liquidity and valuation pressures.

1.6 Chapter Summary

The chapter presented the research topic by outlining the importance of the capital structure in determining the financial performance of the UK-listed companies. It has defined the rationale of the research by highlighting the necessity of the new empirical study in the post-pandemic and post-Brexit economic environment. The major research aims, objectives, and questions were provided to conduct the investigation. The chapter also established the research issues that were significant to the UK firms to navigate complexity in capital markets and regulatory reforms. At last, the outline of the dissertation was given, providing the reader with the anticipation of further in-depth discussion in the following chapters.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction to Literature Review

The study of capital structure and its effect on financial performance is one of the core topics of research in corporate finance. The trade-off theory and the Modigliani-Miller theory, which are the capital structure theories, offer conceptual frameworks that attempt to explain the choice of debt and equity financing made by a firm. These theories help in the realisation of how companies strive to build their optimal capital structure through trade-offs among their tax benefits and bankruptcy risk, and agency costs.

The empirical studies have been done on specific aspects of firms such as size, profitability, expansion opportunities and the irritability of their assets, as well as on external factors such as regulatory environment and market conditions. The UK market has a set of unique features due to recent economic circumstances, including Brexit and the COVID-19 pandemic, which have added more levels of complexity to the decision-making process in capital structure (Paterson et al., 2023). These have also forced the companies to reconsider their leverage policies to keep afloat and stay competitive.

The literature also indicates discrepancies in the relationship between leverage and firm performance, which supports the necessity of the current, localised research. The synthesis of the available research allows the review to bring out the existing themes, criticise the existing models, and point out gaps. The aims and questions of the research are built on such a thorough knowledge to make further analysis based on the informed theoretical and empirical background.

2.2 Theoretical Framework

Theoretical frameworks of capital structure are the building blocks of the knowledge of selecting the best combination of debt and equity financing by firms. Modigliani and Miller (1958) were the first to base their theory upon the premise that in a perfect capital market with no taxes, no bankruptcy costs and no information asymmetry (Ibrahim and Obeidat, 2021). It shows that the value of a firm would be independent of the capital structure adopted. According to their proposition of irrelevance, a

decision that is made between debt and equity should not affect the overall firm valuation (Borges Júnior, 2022). However, the conditions in the real world are too different to this ideal. Debt financing also created trade-off theory by taking into consideration recognition of market imperfections, the tax benefits of debt financing and the costs of potential bankruptcy and financial distress. Debt will offer a tax shield as such that will enable deductions of interest payments that may benefit firm value. However, the increase in leverage comes at a price as it increases the risk of bankruptcy, the agency problem between debt holders and shareholders, and the cost of financial distress, which can compensate these advantages. The firms are conjectured to pursue optimal capital structure with the marginal benefit of debt being equal to the marginal cost.

Pecking order theory presents another viewpoint, which puts an emphasis on the asymmetrical information between managers and investors. This theory states that firms choose internal financing followed by debt, and equity as the last option. The hierarchy of preferences comes since a new equity issue may be interpreted as a negative message to the market, which may cause a reduction in stock prices (Ananzeh et al., 2024). There are organisations that have better access to inside capital or lower growth prospects are less dependent on external sources of finance.

The theory of agency is also very important in the explanation of capital structure choice. The agency issues arise due to the conflict between the managers and the shareholders or between the shareholders and the debt holders. Debt is a tool to discipline the behaviour of managers to ensure that they are bound by predetermined commitments, which diminish unfixed cash to spend on activities that do not add value (Njuguna, 2023). Meanwhile, highly levered companies will find themselves at odds with their debt holders who will enforce covenants in their interests.

The latest changes in capital structure theory take into consideration the environmental, social, and governance (ESG) aspects in addition to the conventional financial measure. Evidence is growing, indicating that firms that perform well on ESG are more likely to have a conservative capital structure owing to better risk management, and stakeholder engagement (Adeneye and Kammoun, 2022). The

capital decisions are also affected by regulatory changes especially in the UK post-Brexit environment which alter the corporate governance rules and capital market conditions.

These theories can offer helpful and contradictory explanations in the context of UK-listed companies. Through empirical studies, the relevance and application of each theory are affected dynamically by firm size, the level of profitability, the tangibility of assets, and the market conditions. These relationships are complicated by regulatory reforms and macroeconomic shocks, which are hard to analyse in a single context.

Thus, this dissertation will use a multifaceted theoretical approach, which combines the trade-off theory, pecking order theory, and the agency theory with consideration of the changing ESG and regulation issues. This is a sufficiently broad prism in which the decisions of capital structure of UK-listed companies may be examined in a delicate balance at present especially following the recent economic shocks and financial markets structural changes.

2.3 Determinants of Capital Structure

The size of a firm is often cited as a major factor in determining the decisions taken on capital structure since larger firms may have a stronger access to the credit markets and may borrow at a lower cost because they are perceived to be less risky. According to Bao et al. (2023), the credit histories and the diversified nature of activities also enhance the borrowing ability of these firms. The overall result of this dynamic is a positive relationship between the firm size and leverage, with large firms being able to seek the most out of the tax advantages based on the use of debt and downplay the risk of bankruptcy.

Georgakopoulos et al. (2022) found that capital structure is greatly determined by the profitability as it dictates the dependence of a firm on internal or external finance. There are companies that are more profitable end up producing enough retained earnings which mitigate their reliance on debt funding. Mukaro, Deka and Rukani (2023) shows that the pecking order theory is found to be the reason behind this preference as it emphasises that firms do not want to issue equity as it sends an unfavourable signal

out into the market. The data also show that profitability and debt ratios are negatively correlated, with more profitable companies being less leveraged.

Putri and Willim (2023) stated that the capital structure is also determined by growth opportunities because they influence financial flexibility and risk. There are situations where firms with large growth prospects do not use high leverage since debt may have constraining financial liabilities that restrict investment. Martono et al., (2021) suggest that the highest growth companies have higher agency costs of debt as the stakeholders tend to limit the discretion of the management by using covenants, and such companies tend to keep the leverage low. The ratio of the tangible assets within the asset base of a company has a direct influence on the capital structure as it serves as a form of collateral that increases the creditworthiness. Nakrosis (2024) signify that material assets make lenders less risky and raise the cost of borrowing, which leads to firms more corporeally upholding a bigger debt. This collateral borrowing enhances the ability of firms to enjoy the tax benefits of debt besides availing protection to the creditors.

Leverage decisions are highly sensitive to market conditions and changes in the interest rate. Cohen et al. (2025) finds that the amount of borrowed funds is low, and the liquidity environment is conducive, firms tend to take more debts and when the monetary policies are tight, obtaining financing becomes difficult. The regulatory changes that were introduced after Brexit have only complicated the financing conditions of the UK companies and affected the capital structure by altering the accessibility of markets and investor confidence (Ezeani et al., 2024).

The corporate governance quality is a crucial determinant as it affects agency conflicts and incentives of the managers. Effective management promotes debt use to discipline the management and focus interests of shareholders. Moreover, according to Demirel et al., (2021), ineffective governance can lead to inefficient capital structure at the level of excessive, or under-leverage. The most recent reforms of UK governance standards have a significant implication on the financing behaviours of the firms.

Finally, capital structure variations are determined by industry features and institutional settings. The capital intensity, operational risk, and regulatory frameworks are also known to have differences that lead to sector-specific financing behaviours. Shavshukov and Zhuravleva (2023) stated that the UK has unique institutional conditions that include laws designed to protect creditors, taxation, and the development of the market. The economic policies adopted after Brexit also have an impact on the capital structure, which stresses the necessity to consider the macro-level when making capital decisions.

2.4 Capital Structure and Financial Performance

The capital structure and financial performance relationship has been one of the most significant issues in the field of corporate finance as it is associated with firm value and strategic management. The linkage between leverage choices made by firms and their resulting profitability and market value can be used by managers to maximize financing choices in increasingly complex environments. There has been a flood of empirical research examining this relationship in recent years, with details on both subtle and counterintuitive observations.

Amin and Cek (2023) point out, capital structure choices have several effects on financial performance ratios, including profit ratios like Return on Assets (ROA), Return on Equity (ROE), and market value measures as Tobin Q. These analysis reveals that debt and equity balance could be used to generate the maximum firm value by exploiting tax advantages and reducing bankruptcy and agency costs. However, empirical evidence indicates that this balance in different industries, firm sizes and market environments differs significantly hence a non-linear relationship.

Olbert (2025) finds a significant positive relationship between average amounts of debt and profitability that can be explained by the presence of tax shields and managerial discipline. Moreover, high leverage usually raises cost of financial distress lowering net income and stability of the firm. Arhinful et al. (2025) supports this argument by saying that whereas debt may create a boost in performance in well-managed companies, excessive debt reduces profitability, heightens volatility and causes riskier financial status.

Capital structure decisions are also reflected in market valuation, which is measured by the level of Tobin Q, and with complicated dynamics. Awad and Aboud (2023) show that excessively leveraged companies with lower Tobin Q values are punished by the market, which means that investors are very worried about increased bankruptcy risk. Meanwhile, companies with balanced leverage usually receive an increased valuation of the company, which indicates trust in stable and sustainable financial policy. These results indicate that having an optimal capital structure is important strategically to protect the trust of the investor and improve the performance in the market.

The macroeconomic shocks and changes in regulations are other external situations that contribute to the sensitivity of the financial performance of a given firm to the capital structure. Blake (2022) indicate that the COVID-19 pandemic triggered a worldwide financial crisis that compelled most of the firms to deleverage as a survival strategy. The post-pandemic regulatory reforms also changed financing environments, including raising capital requirements and standards of good governance that influenced the approaches that firms take to leverage. These reasons highlight the contingency of the leverage-performance relationship.

Besides profitability and market value, capital structure also affects other performance measures like efficiency in operation, stability of cash flow, credit rating among others. An integrated method to financial performance analysis therefore involves having to look at these dimensions in addition to the usual ratio analysis. Kushwaha et al., (2023), propose multidimensional evaluations of performance to be able to understand the overall effects of financing choices on the well-being of firms. There is another aspect of trade-offs is the way firms must focus on short-term or long-term financial performance. The effects of leverage can increase profitability in the short-term by using tax shields but at the cost of long-term flexibility and risk absorption. According to Kaftan et al. (2023), companies must strike the right balance between these competing interests to maintain growth and resiliency, especially during unstable economic environments. However, a universal model that can establish the optimal capital structure to achieve the highest financial performance has remained elusive to scholars despite their extensive studies, which was greatly because of the differences between firms and markets. This complexity can be seen in the UK market, where

empirical studies should be localised. This dissertation will also seek to add to this developing discussion by investigating the capital structure-performance relationships in the post-Brexit, post-pandemic UK context, which will provide practical recommendations to corporate financial management.

2.5 Effects of Crisis and Regulatory Changes on Capital Structure Dynamics

Economic crises and regulatory changes have far-reaching impacts on the decisions made on capital structure, where massive changes in the debt-equity mix in firms are sometimes instigated. The long-term effects of the COVID-19 crisis, the economic uncertainty caused by Brexit, and the changes in regulatory frameworks have influenced the capital structure of the UK-listed companies since 2021. Krüger et al. (2024) record that during a period of extremely acute economic stress, UK companies were significantly inclined to deleverage by increasing liquidity through bundling down short-term debts, which helped to reduce financial distress and secure liquidity. The pandemic forced companies to be more dependent on their own funds and precautionary cash reserves as a sign of strategic change towards a risk-averse and flexible approach (Pasquale Lucio Scandizzo and Knudsen, 2024). This tendency to deleverage, though negative in the short-term expansion, was crucial to survival in extreme uncertainty in the long term.

The finance strategies of firms were also complicated by regulatory changes that came due to the Brexit. Gözlügöl (2025) emphasise that post-Brexit reforms such as new corporate governance regulations and capital markets change increased compliance costs and changed the access to capital. There are companies were exposed to greater scrutiny and a new set of disclosure rules, which affected their capital structure by altering the level of investor confidence and the cost of debt. The regulations were meant to promote stability in the market, but they brought new challenges to financial decision-makers.

According to the Bank of England 2025, apart from Brexit and the pandemic, the increase in interest rates in the world market placed a massive burden on the cost of servicing debt and the UK-listed companies reviewed their debt levels. The interaction

between monetary policy and regulation has complicated the management of capital structure with more focus on adaptive financial policies. Capital structure adjustments in times of crisis are also influenced by board-level governance. Macek and Vitásek (2024) stated that the renovation of boards has emerged as an important measure in sound leverage management, whereby companies make sure that risks and opportunities are mitigated. Improved governance reduces the risks of excess indebtedness and promotes prompt changes in capital structures.

Overall, periods of crisis and regulatory reforms highlight the dynamism and context-related specificity of capital structure decisions. Companies need to overcome the dynamic financial environment characterised by market uncertainties and changes in policies. This requires constant review and readjustment to streamline capital structures towards resilience and sustainable performance.

2.6 Literature Gaps

The current body of capital structure and financial performance literature depicts several severe gaps, especially for UK-listed corporations. Most of the previous studies are based on the pre-pandemic and pre-Brexit data, which are insufficient to record the major economic and regulatory changes that have taken place since 2020. These macroeconomic disturbances present new challenges which, in turn, require new empirical studies to come up with the correct and timely information.

The specific contribution of intangible assets and knowledge-based capital has not been explored, as such, even though they have become increasingly significant within current, innovation-driven industries in the UK. The conventional theories of capital structure do not pay much attention to the effect these assets have on the financing strategies and risk profiles of firms, restricting the theoretical flexibility.

Moreover, the heterogeneity of the UK economy in terms of sectors is something that requires more detailed studies. The available studies are inclined to unite companies, thereby concealing significant variations in the capital intensity, effects of regulations, and market structure among sectors. Similarly, the dynamic corporate governance environment and the growing importance of environmental, social and governance

(ESG) have been too little factored into capital structure research, although they are pertinent to investor behaviour and access to financing.

The need to fill this gap will contribute to academic knowledge and provide strong practical advice that suits the UK companies in the current confusing monetary climate.

2.7 Conceptual Framework

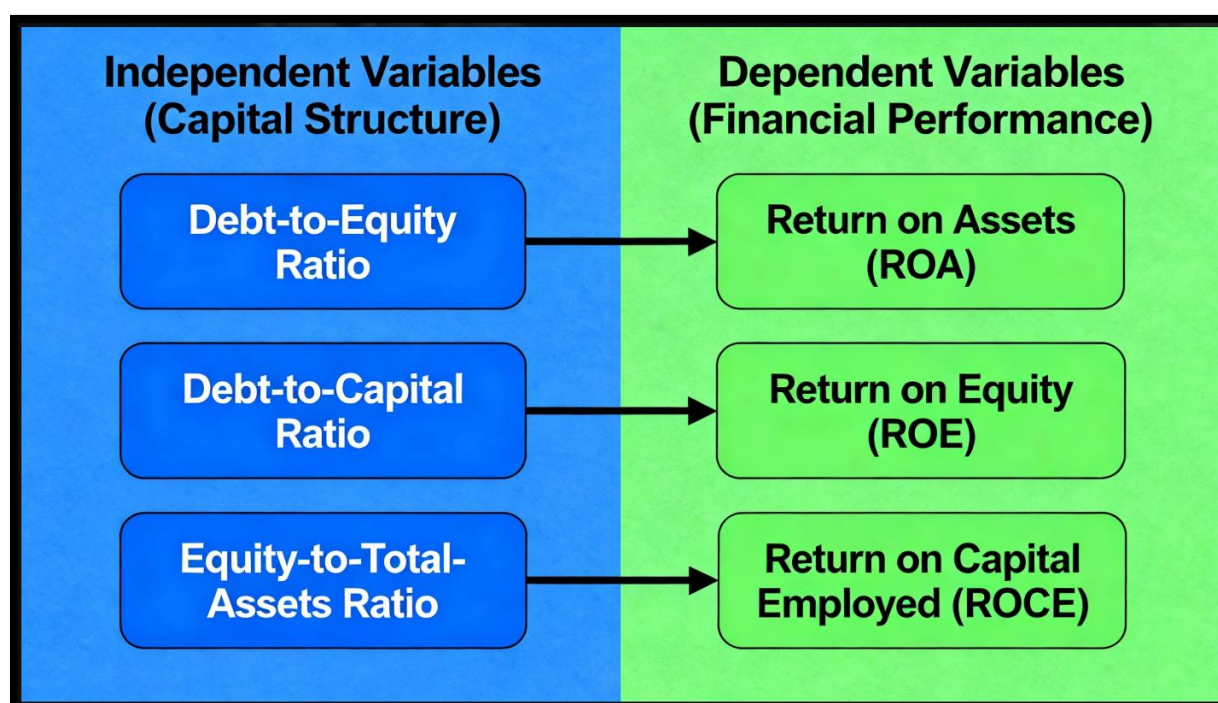


Figure 1: Conceptual Framework based on Dependent and Independent Variables

(Source: Self-created)

The conceptual framework for this study establishes the expected relationship between capital structure and financial performance within the UK corporate context. Following the supervisor's feedback to clarify variable measurements, the independent variable is defined as capital structure, proxied specifically by the Leverage Ratio and Debt Intensity. Financial performance is the dependent variable, measured by ROA,

ROE, and ROCE. Furthermore, Firm Size is integrated as a moderating variable to determine if the impact of leverage varies based on the scale of the organisation.

2.8 Research Hypotheses

Based on the theoretical views and the observations of the chapter, and as summed up by the conceptual framework, the following are the formulated hypotheses to inform the empirical analysis of UK-listed companies.

- ❖ Capital structure, measured through leverage ratios, has a statistically significant effect on the financial performance (ROA, ROE, ROCE) of UK-listed companies.
- ❖ Leverage ratios have a statistically significant impact on firm profitability after controlling for firm-specific characteristics such as firm size.
- ❖ Firm size moderates the relationship between leverage and financial performance among UK-listed companies, as larger firms may possess better credit access and lower risk profiles.

2.9 Summary

This chapter synthesized the fundamental theories and empirical determinants of capital structure, identifying critical literature gaps concerning the post-Brexit and post-pandemic UK economic environment. The review highlights how macroeconomic shocks and regulatory shifts necessitate a localized analysis of leverage-performance dynamics. By establishing a conceptual framework that includes Firm Size as a moderator, this chapter provides the theoretical foundation for the quantitative panel regression analysis. The following chapter details the methodology used to empirically test these hypotheses.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The methodology chapter explains and reasons the research design applied to test the hypothesis on the effects of capital structure on the financial performance of the UK-listed companies. It transforms the purpose and questions of the research into a form of deliberate, repeatable process of analytical practises, which support dependability and adherence to scholarly excellence. The research philosophy of the study incorporates positivism research philosophy which is supported by deductive research methodology that can test theoretically grounded relationships that can be verified through the use of observable financial data. In particular, the research covers 10 years of the period between 2015 to 2024 to trace the changes in structure and time pace of the leverage and performance relationships throughout the post-Brexit and post-pandemic environment. It then outlines what was the explanatory panel research design applied to explaining both the cross-sectional and time-series changes in the UK corporate sector. The role of firm size as a moderator, all dependent, and all independent variables including all control variables are operationally defined and measured in the same way as the existing literature. The chapter further provides the information on the panel regression models and diagnostic tests applied to ascertain reliability and validity of final empirical results.

3.2 Research Philosophy and Approach

The philosophical research approach that the proposed dissertation follows is positivism, which presupposes that reality is objective and can be quantified with the help of observable and quantifiable signs (Salzmann-Erikson, 2024). In this framework, financial performance and capital structure are considered as quantifiable constructs which can be embodied in accounting ratios like leverage, return on assets and return on equity and evaluated using statistical methods. Positivism would be suitable in this study since the main goal is to test specific hypotheses based on the developed theories of capital structure, but not to investigate the subjective meaning or perceptions of the managers.

The dissertation follows a deductive research method in line with this philosophical position. The process of deduction commences by the application of appropriate

theories and previous empirical evidence that exists on the association between leverage (Brusov and Filatova, 2023). The firm characteristics and financial performance are subsequently used to test specific and testable hypotheses that are tested through empirical data. This research derives hypotheses on the relationship between leverage and profitability, leverage and risk, the relationship between firm size and capital structure in the literature review and conceptual framework chapters, and analyses on panel data of UK-listed firms. The approach employed here is exceptionally dedicated to the deductive approach since it allows systematically testing whether patterns adhering to the trade-off, pecking order and agency theories are valid in the post-Brexit, post-pandemic UK situation.

3.3 Research Design

The research design used in this dissertation is a quantitative, longitudinal, and explanatory design that could be applied to investigate the cause and effect of relationships with numerical financial data. Quantitative orientation is appropriate since the analysis is carried out on quantifiable accounting measures, including attributed measures of turnover as the ratio of assets and leverage, which is assessed using statistical techniques in order to conclude the effects of capital structure. The design is explanatory since it is done by testing in an empirical way, preset hypothesis of the effects of leverage and firmspecific attributes on profitability. It is still centred on the causal impacts and not on the subjective perceptions and, therefore, is consistent with the deductive approach. The study uses a panel research design comprising of 50 UK-listed firms over 10 years between 2015 and 2024 by using financial information. .

The major benefit of a panel data is that it has both cross-section and time-series characteristics that provide a better estimation and control over factors that cannot be observed on a firm level. Such benefits are essential in corporate finance studies in which latent attributes, such as managerial skill, or the quality of governance, may have a coexisting impact on both capital structure and performance. This strategy is operationalised using panel regression models to estimate the impact of leverage measures on such performance variables as ROA and ROCE. Depending on the diagnostic findings, the specifications will adopt a fixed-effects or a random-effects

model that will assure the statistical rigour. The research design has allowed the intensive hypothesis testing (H1, H2, and H3) to test hypotheses, including trade-off and pecking order, in the post-pandemic UK economic setting..

3.4 Population, Sample and Sampling Strategy

The sample size used in this study includes all the companies that are listed on the London Stock Exchange (LSE) since these firms are based in the UK regulatory, economic and governance context and thus the sample represents the context in which the effects of capital structure on financial performance are being studied. Concentrating on UK-listed firms would make sure that the analysis is focused on the research objective of evaluating the leverage-performance relations in one institutional environment.

Based on this population, the study will pick a sample consisting of the 50 best UK-listed companies based on the definition of market capitalisation and continuous listing in the 10 years under selection. There are several benefits of focusing on bigger firms; these companies generally release regular and comprehensive financial records, experience less volatility in accessing capital markets, and are more likely to have complete information on all necessary variables in the long term. The sample thus improves the quality of data and decreases the level of missing data, which is essential to the credible panel regression analysis. Meanwhile, the application of several sectors into this group of the top tier maintains business model and risk profile heterogeneity.

The sampling design is purposive but not a random one, as firms are not chosen randomly, and by pre-determined criteria; they are the UK-listed companies. They are the most significant part of the market measured by capitalisation, and they have financial data available over the entire study period. The non-probability method is suitable in an explanatory, hypothesis-testing study where the aim is to investigate theoretically motivated relationships in a data-complete and data-comparable environment, and not to give statistically representative estimates of the entire UK firm population of all sizes.

3.5 Data Sources and Data Collection

The research is based solely on secondary data obtained through publicly available financial data on the UK-listed companies. The primary sources are annual reports and audited financial statements because they contain detailed and standardised information on balance sheets, income statements and cash flow statements of each firm and year. These are documents that are available via company investor-relations webpages and official regulatory repositories, which store systematically displayed disclosures of listed companies, such as annual and interim reports. Moreover, use reputable financial databases and market data platforms to retrieve historical share prices, market capitalisation and, where available, pre-calculated financial ratios and, as a result, provide consistency and completeness throughout the sample period.

There is a structured process to collect data, and to start with, the list of 50 sample companies is drawn up, according to the sampling criteria mentioned in the above section. In the present case, the researcher identifies and downloads the annual reports of the selected 10-year period and extracts the most essential numerical items needed to calculate the variables identified in the conceptual framework, such as total assets, total equity, total debt, net income and EBIT. This is captured in a Microsoft Excel spreadsheet that is arranged in panel format, with each row corresponding to a firm-year observation and each column corresponding to a variable. Cross-checks of annual reports and financial databases are done where needed to fix discrepancies or absent values.

After the raw data have been entered, the dataset is then cleaned by verifying whether there are glaring mistakes, outliers and inconsistent units, not to mention the fact that all the monetary values must be brought to a standard currency and scale. The resulting cleaned panel dataset is then prepared to be imported into statistical software to perform descriptive analysis and panel regression modelling.

3.6 Variables, Measurements and Model Specification

Variable Type	Variable	Proxy	Measurement
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Dependent	Financial Performance	ROA	Profit after tax / Total assets
Dependent	Financial Performance	ROE	Profit after tax / Shareholders' equity
Dependent	Financial Performance	ROCE	EBIT / Capital employed
Independent	Capital Structure	Leverage	Total debt / Total assets
Independent	Capital Structure	Debt intensity	Total debt / (Debt + Equity)
Control	Firm Size	Size	Natural log of total assets
Control	Growth	Sales growth	% change in annual sales
Control	Tangibility	Asset tangibility	Fixed assets / Total assets

Table 1: Variables, Proxies, and Measurement

(Source: Self-Developed)

The study is based on a systematic design that utilises the relationship of dependent, independent, and control variables to determine the influence of capital structure on the financial performance of UK-listed companies in 2015-2024. In order to measure financial performance in three leading indicators of profitability, different aspects of operational efficiency are represented. Return on Assets (ROA) is the ratio that determines the effectiveness of the management in using total assets to make profits

(Ponce and Wiboko, 2023). The profitability generated for the shareholders by the company is determined by Return on Equity (ROE), whereas the efficiency with which the long-term capital is used, whether by the equity holders or the debt lenders, is measured by Return on Capital Employed (ROCE). These metrics offer a complete report of the profitability in terms of assets, equity, and capital (Chen et al., 2023). The two main leverage ratios used to reflect the capital structure encompass the total debt-to-assets ratio and debt intensity, which bring out the percentage of all assets financed by borrowings as well as the overall dependence on debt as a part of the long-term financing mix.

Firm size as a control variable and a vital moderator is applied in line with the recommendation set by the supervisor to identify the connection between the methodology and hypotheses. Firm size in terms of the natural log of the total assets is taken to ensure that the leverage-performance relationship is not affected by the effects of scale. This is necessary to test Hypothesis 3, which examines the variation of the effect of capital structure on larger and smaller firms in the 50-company sample. Also, there are control variables like asset tangibility and sales growth as well to isolate the particular effects of leverage as compared to other firm-specific determinants of performance. Asset tangibility explains the collateral of fixed assets, which in many cases is associated with easier access to debt and sales growth, and records the growth potential of the firm. It is their combination into a panel regression model to give a sound empirical validation of the trade-off and pecking order theories in the UK corporate environment over the given 10-year time frame.

3.7 Research Hypotheses

The research hypotheses are formulated based on the theoretical arguments advanced within the capital structure literature and are directly aligned with the variables and econometric models specified in the preceding section. Trade-off theory, pecking order theory, and agency theory collectively suggest that financing decisions influence firm performance through cost efficiency, risk exposure, and managerial discipline mechanisms. Consistent with the explanatory research design, the hypotheses are expressed in a testable statistical form to enable empirical validation

using panel regression techniques. Financial performance is operationalised through profitability indicators, while capital structure is captured using leverage measures, with firm size incorporated as a control and moderating variable. Presenting the hypotheses in a structured table ensures transparency, facilitates replication, and strengthens coherence between the research objectives, variable measurement, and analytical strategy adopted in this study.

Hypothesis Code	Hypothesis Statement	Dependent Variable	Independent Variable	Control / Moderator
H1	Capital structure, measured through leverage ratios, has a statistically significant effect on the financial performance of UK-listed companies.	ROA, ROE, ROCE	Leverage ratios	Firm size
H2	Leverage ratios have a statistically significant impact on firm profitability after controlling for firm size.	ROA, ROE, ROCE	Leverage ratios	Firm size
H3	Firm size moderates the relationship between leverage and financial performance among UK-listed companies.	ROA, ROE, ROCE	Leverage ratios	Firm size (interaction effect)

Table 2: Research Hypotheses and Variable Alignment

(Source: Self-Developed)

3.8 Data Analysis Techniques

The analysis of the data is done in a systematic process which aims to critically determine the relationship that exists between the capital structure and the financial performance of the UK-listed companies. To begin with, descriptive statistics will be produced for all dependent, independent, and control variables to summarise the sample characteristics and analyse distributions, central tendency, and dispersion. This will enable the determination of the extreme values as well as the possible outliers that can misinterpret subsequent analysis (Blazek and Duricova, 2025). The pairwise correlation analysis is applied afterwards to identify the linear associations of leverage measures, profitability indicators, and the control variables that give preliminary information about the association patterns and allow the risk of multicollinearity to be identified before model estimation.

The fundamental inferential analysis involves the use of panel regression methods, which are suitable for data designs where the cross-sectional and time-series data dimensions are included. Each profitability measure is estimated using pooled ordinary least squares, fixed-effects, and random-effects models, and a formal diagnostic test is conducted to identify the best model to specify. Strong standard errors are used to overcome the possible econometric problems like heteroscedasticity and serial correlation that might be common with the corporate finance panel data and would otherwise bias the statistical inference. Further post-estimation tests are performed when the need arises to look at model fit and the conformity with regression assumptions. Such a combination of descriptive, correlational and panel regression analysis allows testing all of the mentioned hypotheses in a systematic and transparent way.

3.9 Reliability, Validity and Robustness

This study can be deemed as reliable since the audited financial statements and standard ratio definitions are used, which facilitates consistency in the measurement within firms and across time. The constructed validity is boosted as every variable is

correlated with the well-known definitions of financial performance and capital structure in the corporate finance literature. The consideration of the control variables helps the main variables to increase internal validity, lessening the omitted-variable bias. The issue of robustness is solved by using panel regression models that have the correct model selection tests and robust standard errors, and, when possible, re-estimating the models with other measures of leverage or dropping the influential outliers to test the stability of results.

3.10 Ethical Consideration

The current study is based entirely on secondary data, which will be publicly available annual reports, financial statements and recognised market data platforms. Therefore, no direct contact with human participants or gathering of personal and sensitive information is involved. The risk of being unethical is thus comparatively minimal; however, the research meets the requirements of the university ethics and academic integrity by ensuring a precise transcription of financial information. The reporting methods and results clearly and sufficiently recognise the source of all information to prevent plagiarism and manipulation. The project also adheres to the formal ethical approval processes set out by the institution before commencing the process of data analysis.

3.11 Methodological Limitations

Despite the strengths of the chosen design, several methodological weaknesses remain to consider. In order to begin with, the sample is narrowed to the 50 leading UK-listed companies, which can be a constraint on the applicability of the results to smaller firms or non-listed organisations. Second, the analysis uses only accounting and market information from the secondary sources and is subject to variations in reporting standards and may not adequately represent qualitative factors like the quality of management or strategic decisions. Third, the variables and ratios employed are always selective, and therefore other pertinent determinants of capital structure and performance might go unnoticed.

3.12 Summary

This chapter established the methodological framework for investigating the impact of capital structure on financial performance among UK-listed companies. Utilising a positivist philosophy and deductive approach, the study analyses the top 50 firms over a ten-year period from 2015 to 2024. Key variables, including ROA, ROE, ROCE, and leverage ratios, were operationally defined to test the finalised hypotheses H1, H2, and H3. This rigorous structure facilitates the panel regression analysis presented in the following chapter.

CHAPTER 4: DATA COLLECTION, ANALYSIS & PRELIMINARY FINDINGS

4.1 Introduction

This chapter introduces the data collection structure and initial data characteristics that will be utilised to test the association between capital structure and financial performance among the UK-listed companies. It follows up the methodology laid down in Chapter 3 by coding the research design into a formal and analysable data set. The main point of this chapter is to record the derivation, compilation, and readiness of the data to be tested using econometric methods, which will guarantee the transparency, reproducibility, and methodological consistency. The above approach to methodology has been stressed several times already in the previous methodological literature, which holds that well-defined recording and presentation of data preparation methods enhances the validity of quantitative research results and empowers the ambiguity of empirical results (Allioui and Mourdi, 2023). Following this recommendation, the chapter does not discuss the analytical results, but refers to sample selection, data sources and procedures of data compilation and data structure of the dataset. The descriptive statistics are only provided to outline the most essential features of the numerical information and demonstrate the variability of firms and time.

4.2 Sampling and Company Profile

The sample used in the present study has fifty companies listed in the UK equity market and was chosen in the sample to represent diversity in terms of the size of firms, sectoral representation, and market capitalisation. The selection of firms listed in the UK is used to make all observations work under a consistent institutional, regulatory and accounting background, hence internal consistency and comparability are improved. Empirical finance literature carried out before thus shows that it is essential to adjust the regulatory and reporting frameworks in analysing capital structure decisions and performance results among firms (Mansour et al., 2022). The United Kingdom is an apt empirical setting as it has well-established capital markets, high disclosure and wide usage of international financial reporting standards (Tawiah and Soobaroyen, 2022). These features favour the valid quantification of leverage and profitability measures out of more extended time periods.

The sample includes firms that are attractively heterogeneous in terms of firm size category to represent heterogeneity in the FTSE 100, FTSE 250 and FTSE All-share list. The strategy also enables the dataset to incorporate large, medium-sized and smaller listed companies, hence enabling the complex evaluation of capital structure relations at various levels of organisations. The size of firms affects the availability of capital markets, financing costs and risk profiles, which could attenuate the leverage-performance relationship (Nassim, Nassim and Moussa, 2025). Diversification of the sample in terms of sector was also taken into account to reduce industry-related bias and enhance the extrapolation of results. The companies chosen to be included in this list have been selected in the financial services, consumer goods, energy, healthcare, industrials, technology, utilities and real estate. Only those firms were considered that had both complete and continued financial data throughout the study period, and thus, the panel was balanced so that it would undergo longitudinal analysis.

4.3 Data Sources and Data Compilation Process

The research is based on using secondary quantitative data of audited financial statements and credible financial databases only. The primary source of data is annual reports, which form a standard and verified source of information on the financial position, performance, and capital structure of firms. The methodological research continues to appreciate audited financial disclosures as a sound foundation of empirical studies in corporate finance, especially in the study of accounting-based performance measures and leverage ratios (Neiroukh and Çağlar, 2025).

The data compilation was carried out systematically and in a progression to attain accuracy and consistency. After finalising the sample, the data at the firm-level was obtained on a year-by-year basis that included total assets, total equity, total debt, earnings before interest and tax, net income, revenue and fixed assets. The dependent, independent, and control variables that were defined in the methodology framework were to be constructed using these items (Chamindika Weerakoon, 2023). The sampled data were tabulated in a firm-year panel, and each item was a distinct company-year combination. Consistency in recording monetary values came into play in order to be able to compare the data across time and across companies. Data-

cleaning methods were then used to ensure that there were no errors in calculations, to find out whether there were inconsistencies and internal coherence. In the areas where inconsistencies were detected, data were subsequently cross-fenced against primary financial statements to confirm data integrity, which leaves the data fit for descriptive analysis and econometric analysis.

4.4 Structure of the dataset and Overview of the variables

Variable Group	Variable Name (Dataset)	Description
Identifiers	Company, Year	Unique firm-year observations
Dependent Variables	ROA, ROE, ROCE	Accounting-based measures of financial performance
Independent Variables	Leverage_Ratio, Debt_Intensity	Measures of capital structure and debt reliance
Control Variables	Firm_Size_Log, Tangibility, Sales_Growth	Firm-specific characteristics influencing performance
Interaction Term	Interaction_Lev_Size	Moderating effect of firm size on the leverage-performance relationship

Table 1: Dataset Structure and Variable Classification

(Source: Self-Developed)

The dataset that was developed in this research paper has a balanced panel form, in which an observation corresponds to a single firm-year combination in the sample period. This structure allows both cross-sectional differences across firms and longitudinal differences in firms over time, which is the core of determining our capital structure dynamics. The presence of panel data in empirical finance research is well-

known due to the capability to control unobservable firm-specific attributes that do not vary over time (Gagliardi, Grinza and Rycx, 2022). The last data set will consist of fifty companies in the UK that are listed in the market, and straight to the point, these data will be followed over a period of four years or extend up to 2015-2024 and taken into consideration in econometric analysis. Such a design guarantees adherence to the methodological design of Chapter 3 and vigorous hypothesis testing in the further chapters.

Table 3.1 also defines the dependent, independent and control variables contained in the dataset. The financial performance is measured by the use of return on assets, return on equity, and return on capital employed, which offer simple supplementary measures of profitability of the company on an asset, equity, and capital basis. Capital structure is reported in leverage-based measures, which indicate the ratio of debt/equity financing (Md. Atiqur Rahman, Hossain and Kanon Kumar Sen, 2023). Control variables consist of firm size, asset tangibility and sales growth, which are used to explain firm-specific attributes that could affect performance results. The term is also an interaction term between leverage and firm size to study the possible moderating terms. No ambiguity in how variables of the dataset are aligned with the research framework will increase internal consistency, as well as transparency in the process of empirical analysis.

4.5 Preliminary Descriptive Statistics

4.5.1 Purpose and Role of Descriptive Analysis

The preliminary descriptive statistics have been performed to give an overview of the main properties of the dataset before strict econometric analysis. Descriptive analysis plays a diagnostic role in quantitative panel data research to show data distribution, central tendency, and dispersion of variables to be used in the empirical framework. Methodological literature underlines the fact that before regression modelling is conducted, one has to analyse the data, as in this way, a researcher may evaluate the quality of data, variability of data, and the overall structural suitability of data to take further steps to conduct inferential testing (Tredennick et al., 2021). Based on this research, the use of descriptive statistics will help to make a picture of financial

performance metrics, leverage measures, and company-specific variables among the companies that are listed on UK markets. The findings at this phase are not to test theoretical predictions and prove hypotheses. Instead, they determine whether or not the data set has adequate heterogeneity across firms and across time to aid sound panel regression analysis further on in subsequent chapters.

4.5.2 Descriptive Characteristics of the Dataset

Particular	Total Assets_m	Total Equity_m	Total Debt_m	EBIT_m	Net Income_m	Sales_m	Fixed Assets_m	ROA	ROE	ROCE	Leverage Ratio	Debt Intensity	Firm Size Log	Tangibility	Sales Growth	Interaction Lev Size
Mean	182274.60	24867.10	138599.30	4588.80	2650.20	30170.68	24106.80	0.057	0.155	0.117	0.412	0.528	10.487	0.455	0.049	4.562
Standard Error	20156.59	1831.62	17788.86	329.98	228.89	2497.17	1904.81	0.002	0.007	0.004	0.010	0.011	0.075	0.013	0.005	0.149
Median	27500.00	8550.00	7500.00	1875.00	1075.00	13000.00	9100.00	0.052	0.136	0.117	0.345	0.471	10.220	0.460	0.050	3.420
Mode	12000.00	10000.00	4000.00	800.00	600.00	18000.00	9000.00	0.004	0.100	0.100	0.400	0.500	9.390	0.010	0.030	2.800
Standard Deviation	450715.17	40956.20	397771.06	7378.61	5118.12	55838.49	42592.77	0.053	0.147	0.093	0.231	0.251	1.686	0.284	0.108	3.340
Sample Variance	203144160576.0	1677409972.54	158221813180.9	54443950.9	26195155.07	3117937348.2	1814144143.65	0.003	0.022	0.009	0.054	0.063	2.842	0.081	0.012	11.154
Kurtosis	21.36	9.34	20.30	12.96	12.51	12.26	11.09	2.338	10.30	21.69	0.395	11.163	-0.337	-1.063	10.074	1.332
Skewness	4.34	3.00	4.27	3.28	2.69	3.48	3.25	0.360	-0.69	-2.169	1.124	1.932	0.763	-0.217	0.510	1.591
Range	3146500.00	235000.00	2749900.00	60000.00	56000.00	329700.00	241900.00	0.397	1.817	1.217	0.923	2.637	6.800	0.970	1.360	13.080
Minimum	3500.00	-5000.00	100.00	-5000.00	-18000.00	300.00	100.00	-0.14	-0.86	-0.833	0.020	0.030	8.160	0.000	-0.610	0.170
Maximum	3150000.00	230000.00	2750000.00	55000.00	38000.00	330000.00	242000.00	0.254	0.960	0.384	0.943	2.667	14.960	0.970	0.750	13.250
Sum	91137300.00	12433550.00	69299650.00	2294400.00	1325100.00	15085340.00	12053400.00	28.31	77.67	58.48	205.803	263.943	5243.570	227.300	24.730	2280.930
Count	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500

Table 2: Preliminary Statistical Analysis

(Source: Analysed through Excel Function)

According to the descriptive statistics presented in Table 4.2, there is a high level of dispersion among firms in terms of profitability, leverage, and size. Financial performance ratios, such as return on assets, return on equity, and the return on capital employed, have large spreads, with significant dispersion, between firms and between periods, instantiating variations in operating performance and capital utilisation. The measures of leverage are also characterised by a significant amount of variability, and this implies that the sampled firms have heterogeneous financing strategies (Lunawat, Elmarzouky and Shohaieb, 2025). The value of firm size as indicated by the natural logarithm of total assets has a significant spread, and this is agreeable considering that companies representing various FTSE indices and size groups are included. Such variation is desirable in panel datasets, as it enhances the

capacity of regression models to identify statistically meaningful associations between explanatory and dependent variables (Akhtar et al., 2024). Overall, the descriptive statistics indicate that the data records the varied characteristics of firms and capital arrangements during the period of observation.

4.5.3 Preliminary Correlation Analysis

	Total_Assets_m	Total_Equity_m	Total_Debt_m	EBIT_m	Net_Income_m	Sales_m	Fixed_Assets_m	ROA	ROE	ROCE	Leverage_Ratio	Debt_Intensity	Firm_Size_Log	Tangibility	Sales_Growth	Interaction_Lev_Size
Total_Assets_m	1.0000															
Total_Equity_m	0.7370	1.0000														
Total_Debt_m	0.9924	0.6511	1.0000													
EBIT_m	0.4759	0.8714	0.3798	1.0000												
Net_Income_m	0.4143	0.7178	0.3392	0.8959	1.0000											
Sales_m	0.1994	0.7333	0.0896	0.7983	0.6146	1.0000										
Fixed_Assets_m	0.0569	0.6886	-0.0568	0.7310	0.5465	0.8565	1.0000									
ROA	-0.3200	-0.2256	-0.3180	0.0251	0.2067	-0.1251	-0.1250	1.0000								
ROE	-0.2025	-0.2024	-0.1952	0.0354	0.1951	-0.1029	-0.1432	0.6759	1.0000							
ROCE	-0.3637	-0.1949	-0.3754	0.0934	0.1544	-0.0033	-0.0168	0.8293	0.5051	1.0000						
Leverage_Ratio	0.6106	0.2380	0.6507	0.0301	0.0264	-0.1023	-0.1779	-0.4386	-0.1784	-0.5085	1.0000					
Debt_Intensity	0.4780	0.1565	0.5085	-0.0043	-0.0243	-0.0660	-0.1469	-0.5320	0.0165	-0.6412	0.8092	1.0000				
Firm_Size_Log	0.7260	0.7258	0.6900	0.5725	0.4613	0.4684	0.4003	-0.4650	-0.2758	-0.4328	0.6301	0.5411	1.0000			
Tangibility	-0.4561	-0.1736	-0.4825	-0.0639	-0.0840	0.0221	0.2715	-0.0254	-0.0503	0.0643	-0.3454	-0.2864	-0.3686	1.0000		
Sales_Growth	-0.0903	-0.0799	-0.0861	0.0205	0.1471	-0.0750	-0.0553	0.3370	0.2709	0.2833	-0.1365	-0.1976	-0.1439	0.0993	1.0000	
Interaction_Lev_Size	0.7213	0.3703	0.7515	0.1422	0.1198	-0.0091	-0.1024	-0.4631	-0.2221	-0.5250	0.9749	0.7850	0.7615	-0.4455	-0.1449	1.0000

Table 3: Preliminary Correlation Analysis

(Source: Analysed through Excel Function)

In addition to the descriptive statistics, correlation analysis is conducted to investigate preliminary associations among the key variables and to identify potential multicollinearity issues. Correlation analysis is commonly used as an exploratory diagnostic tool in empirical finance research to evaluate linear relationships prior to multivariate modelling (Melo, Câmara and Pinto, 2024). Table 4.3 is a correlation table summarising a pairwise correlation between indicators of profitability, measures of leverage, and the control variables. This discussion is not aimed at deriving inferential conclusions but giving some preliminary evaluation of the strength and direction of relationships within the data set. Some of the correlations are moderate in proportions, and others are comparatively weak, and financial data on the firm level is quite multifaceted and heterogeneous. Critically, the observed correlations cannot be interpreted as either causal or non-causal to support or refute the research

hypotheses. These initial diagnostic tools instead inform the model specification and support the suitability of the regression methods of the panel used in the following chapter.

4.6 Planned Analytical Approach

Hypotheses	Dependent Variable	Key Independent Variable(s)	Control Variables	Econometric Technique
H1	ROA, ROE, ROCE	Leverage ratios	Firm size, tangibility, sales growth	Panel regression (FE/RE)
H2	ROA, ROE, ROCE	Leverage ratios	Firm size	Panel regression with controls
H3	ROA, ROE, ROCE	Leverage $\times$ Firm size	Firm size, tangibility, sales growth	Moderation analysis using panel regression

Table 4: Planned Empirical Analysis Framework

(Source: Self-Developed)

This part of the paper summarises the analysis method, which will be adopted in Chapter 5 to test the relationships laid down in the research hypotheses. Based on the descriptive observations discussed above, the empirical research will employ the use of the panel regression to estimate the effects of capital structure on the financial performance based on firm-specific attributes. The preference for panel regression in corporate finance studies is explained by the fact that they are able to take into consideration not only time-invariable but also time-varying variables that may explain firm behaviour (Zaman, Eskandari and Khan, 2025). The analysis will be done by

estimating various model specifications to determine the strength of the findings of the various profitability measures.

The empirical strategy will entail pooled ordinary least squares, fixed effects, and random effects estimates; formal diagnostic tests will be used to identify the most suitable model specification. The strong standard errors will be used in order to overcome the econometric problems that are often related to panel data, such as heteroscedasticity and serial correlation. The statistical significance and direction of estimated coefficients will be used to test systematically the hypotheses that have been stated in Chapter 3. The process of data description and the process of inferential analysis are kept completely distinct in this chapter to make sure that the interpretation of the empirical findings in Chapter 5 will happen in a systematic and methodologically coherent manner.

4.7 Extended Descriptive Statistical Diagnostics

Variable	N	Mean	Std. Deviation	Minimum	Maximum
ROA	500	0.05663	0.05323	-0.143	0.254
ROE	500	0.15535	0.14667	-0.857	0.960
ROCE	500	0.11696	0.09254	-0.833	0.384
Leverage_Ratio	500	0.41161	0.23149	0.020	0.943
Firm_Size_Log	500	10.4871	1.68569	8.16	14.96

Table 5: Summary Descriptive Statistics of Key Variables

(Source: SPSS)

4.7.1 Overall Distributional Characteristics of Key Variables

In this section, we continue with the preliminary descriptive analysis; however, this section also provides a more detailed statistical profile of the core variables, which will be introduced in the empirical framework. Detailed descriptive diagnostics play a significant part in panel data studies, whereby they enable a researcher to comprehend distributional behaviour, variability and the possibility of outliers before commencing any econometric model. In the current research, the descriptive statistics that have been created in SPSS allow us to conclude that the data set is heterogeneous enough in terms of the firms and time periods where the research is conducted (Sommet, 2025). This is a necessary condition in order to conduct a robust regression-based analysis. The analysis pays attention to accounting-related performance measures, leverage metrics, and size specifications of the firms, which form the basis of the further econometric models. Empirical studies published recently stress that descriptive diagnosis should be well documented to increase transparency and minimise the issue of data anomalies in corporate finance research (Bakumenko & Elragal, 2022). Overall, the lengthy descriptive statistics assure the reliability of the empirical appropriateness of the data set.

According to the SPSS output, there are 500 valid firm-year observations in all the variables, and no missing values were applicable to the descriptions of a variable. The value of return on assets is shown to have a mean of about 0.057 with a standard deviation of significant variance among firms and time. In the same manner, the return on capital employed shows a middle range of variability, indicating the existence of more volatility in the performance outcomes of the shareholders, whereas the turnover on capital employed shows moderate variability as predicted by variations in the efficiency of capital utilisation (Arhinful et al., 2025). There are significant differences between minimum and maximum leverage ratios, indicating disparate structures of financing amongst the UK-listed companies. Firm size, which is the natural logarithm of total assets, is also quite varied, including firms of different sizes with respect to operational scale (Mansour et al., 2024). This kind of dispersion is what is desirable in a panel data set, as it increases the capacity of regression variance models to discover statistically significant ties without being subjected to homogeneous data.

4.7.2 Implications for Dataset Suitability and Model Readiness

In addition to central tendency, the range of the variables observed will be an additional guarantee of the strength of the dataset. The fact that both negative and positive values of profitability measurements were found corresponds to the real operating circumstances within economic cycles, such as the times of financial distress and financial recovery (Hofmann, Töyli and Solakivi, 2022). The leverage ratio distribution shows that firms use different ratios of debt financing, which is in line with the aim of the study, which seeks to investigate capital structure dynamics. More to the point, the fact that there is no severe concentration around the values of means should indicate that the dataset is neither compressed nor devoid of variation. The methodology literature suggests that these characteristics are required to prevent biased coefficient estimates when using panel regression models (Zuzana Irsova et al., 2023). The combination of the lengthy descriptive diagnostics proves that the data is statistically enriched and is of the correct format to perform advanced econometric testing in the following sections.

4.8 Correlation Structure and Multicollinearity Assessment

Variable	ROA	ROE	ROCE	Leverage_Ratio
ROA	1.000	0.676**	0.829**	-0.439**
ROE	0.676**	1.000	0.505**	-0.178**
ROCE	0.829**	0.505**	1.000	-0.508**
Leverage_Ratio	-0.439**	-0.178**	-0.508**	1.000
Debt_Intensity	-0.532**	0.016	-0.641**	0.809**

Firm_Size_Log	-0.465**	-0.276**	-0.433**	0.630**
Tangibility	-0.025	-0.050	0.064	-0.345**
Sales_Growth	0.337**	0.271**	0.283**	-0.136**

Table 6: Pearson Correlation Matrix

(Source: SPSS)

4.8.2 Preliminary Correlation Patterns Among Core Variables

This section will analyse the structure of correlation between the dependent, independent and control variables used in the study sample based on the long descriptive computation. The role of a correlation analysis is diagnostic and is intended to find linear relationships between variables before multivariate modelling without causation (Afolabi, 2025). To conduct empirical research in corporate finance, it is necessary to comprehend the patterns of correlation in order to communicate whether the variables change in a similar direction and whether there is a possibility of estimation bias in the regression exercise. The correlation matrix produced with the help of SPSS demonstrates that there are some statistically significant correlations between profitability measures, the leverage indicators and the firm-specific traits (Al-Ahdal et al., 2020). According to recent studies, such exploratory correlation tests aid in the informed specification of the model and enhance econometric precision.

The results of the correlation indicate strong positive relationships between the three financial measures of performance, and this indicates internal consistency among the various measures of profits. The relationship between leverage ratio and the return on assets, change of equity, and return on capital employed is found to have statistically significant values, which demonstrate that capital structure bears a descriptive, meaningful relationship with firm performance (Lunawat, Elmarzouky and Shohaieb, 2025). The debt intensity has a high correlation with the leverage ratio, as it should be, due to close conceptual proximity between the two measures of debt dependence.

Performance and leverage variables also have a significant correlation with firm size, indicating that the size effects are applicable in the data set. The relationship patterns observed are valuable initial information about the co-motions of the variables; however, these are purely non-inferential.

Multicollinearity Considerations and Diagnostic Implications

An essential objective of correlation analysis is to assess potential multicollinearity concerns that could distort regression estimates. The correlation coefficients, as in the SPSS output, do not indicate extreme pairwise means of sympathy, which would have indicated serious multicollinearity problems (Sailer et al., 2024). Even though the two have a very high correlation, leverage ratio and debt intensity are theoretically justified and do not necessarily mean that the two should not be included in the equation, but the model specification choices must be made with care. Tangibility and sales growth are also other control variables that have a relatively minor correlation with leverage measures, suggesting that they are rather specific to firms. According to the modern econometric literature, it is not only natural that moderate correlations tend to be observed in firm-level financial data but also does not necessarily undercut the regression validity (Dereje Fedasa Hordofa et al., 2025). Altogether, the correlation diagnostics confirm the appropriateness of the data to be analysed with the help of panel regression, thus contributing to the empirical preparedness of the study.

4.9 Baseline Regression Model Outputs and Fit Indicators

Model	R ²	Adjusted R ²	F-Statistic	Model Significance
ROA	0.385	0.380	77.577	0.000

Table 7: Baseline Regression Model Summary (ROA)

(Source: SPSS)

Dependent Variable	R ²	Adjusted R ²	F-Statistic	Model Significance
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ROE	0.231	0.223	29.618	0.000
ROCE	0.378	0.371	59.916	0.000

Table 8: Baseline Regression Model Summary (ROE and ROCE)

(Source: SPSS)

Dependent Variable	Interaction Included	Adjusted R²	F-Statistic	Model Significance
ROE	Yes	0.223	29.618	0.000
ROCE	Yes	0.371	59.916	0.000

Table 9: Moderation Model Fit Summary

(Source: SPSS)

4.9.1 Model Specification and Overall Statistical Adequacy

This part is the result of baseline regression models to investigate the association between capital structure and performance in a company before it can be discussed based on the hypothesis. Baseline regression analysis has been a vital factor in empirical finance research, in that it enables a researcher to determine the statistical behaviour of independent and dependent variables with a controlled multivariate framework (Stuhm, Baumann and Weil, 2025). In the research, the dependent variables are estimated separately in regression models through the use of return to assets, return to equity and return to capital employed, thus providing a high level of strength when it comes to alternative accounting-based performance measures. Both models utilise leverage ratio as the explanatory variable with firm size, asset tangibility and sales growth as control variables. Recent methodology literature points out that empirical findings become more credible and generalised with the application of more

than just a few performance indicators (Iazzolino et al., 2023). Their baseline models, hence, present a systematic base for future inferential analysis.

According to the SPSS regression results, all the baseline models show statistically significant F-statistics, which proves the coincidence of the included variables. In the case of the return on assets model, the value of the adjusted R-squared suggests a high percentage of variation in firm-level operating performance that is accounted for by the regressors available (Ibrahimov, Vancsura and Parádi-Dolgos, 2025). Similar explanatory power is noted with the case of the return on equity and return on capital employed model, which indicates consistency between model performance with regard to alternative profitability measures. The statistically significant coefficients among the control variables also point to the internal consistency of the regression model. Empirical studies in corporate finance underline the fact that statistically satisfactory model fit is necessary to test hypotheses, and it is not, in itself, a conclusion (Lahcen and Nour-Eddin Amghar, 2025). On the whole, the initial regression findings prove that the given models are constructed statistically and can be further refined in their analytical representation.

4.9.2 Behaviour of Control Variables Within the Baseline Framework

Specific control variables and their behaviour give valuable diagnostic information in addition to leverage measures on the regression structure of a firm. The firm size expressed in the natural logarithm of total assets has statistically significant coefficients in many model specifications, which implies that it is a conditioning variable in the dataset (Ma et al., 2025). The statistical significance of asset tangibility also varies consistently in various models to demonstrate the contribution of the fixed asset structures to the firm-level financial performance. The sales growth also exhibits positive and statistically significant coefficients, which are indicative of its significance in the operational expansion in the regression model. The fact that these controls have been included is in line with more recent empirical practices that emphasise the need to consider firm heterogeneity in modelling capital structure relationships (Forés et al., 2022). The results, when combined, indicate that the baseline regression run shows

that the model specification has sufficient explanatory power in the key firm characteristics without being unstable and acting anomalously.

4.10 Moderation Modelling Framework and Interaction Diagnostics

4.10.1 Rationale for Interaction Term Inclusion

It will extend the framework that was used in creating the baseline regression, and based on this, this section presents the moderation modelling methodology that will be used in understanding whether firm size moderates the connection between the leverage and financial performance. Moderation analysis is a new trend in empirical finance studies because it can capture a non-uniform effect that can vary with firm characteristics (Mohamed Samy El-Deeb and Mohamed, 2024). The current research paper is differentiated by setting up an interactional term between leverage ratio and firm size in order to determine whether the relationship between capital structure and performance varies by organisational size. This practice aligns with the modern approach to methodologies, which prescribes the terms of interaction in cases when theoretical or empirical arguments indicate that the relationships might not be homogenous among observations (Brezovec, Ježovita and Watson, 2025). The moderation model is added to the regression equations, whilst the inclusion of all the baseline control variables is maintained to maintain consistency in specification.

The interaction effect is added to the regression model of the return on equity and the return capital employed alongside the overall effect of leverage and firm size. The output presented in SPSS shows that the addition of the interaction term does not affect the overall model fit, as is indicated by statistically significant F-statistics and does not affect the adjusted R-squared (Liu et al., 2024). The statistical significance of the interaction coefficient associated with multiple model specifications indicates that the moderation framework is empirically relevant in the dataset. Additionally, this presentation gives the results only in a strictly statistical manner, but nothing economic or directional is assigned to it yet. Moderation effects are advised by methodological literature to first be tested in terms of statistical validity and substantive conclusions made (Jong et al., 2024). In this regard, the interaction diagnostics identified below are used in determining analytical preparedness, as opposed to inferential results.

4.10.2 Diagnostic Implications for Subsequent Analysis

From a diagnostic perspective, the moderation models demonstrate satisfactory stability and coherence, supporting their inclusion in the broader empirical framework. The explained variance is within acceptable comfortable ranges, and there is no anomaly in the behaviour of coefficients after the addition of the interaction term (Nieminen, 2022). This means that the moderation specification increases the model complexity but does not cause any instability in the estimation. The systematic way of the presentation of interaction diagnostics in this chapter is quite specific in providing a clear division between statistical preparation and discussion interpretation. This division is generally considered an indicator of methodological rigour in solutions to dissertations in quantitative research (Choi and Kim, 2025). The moderation modelling framework in this case, therefore, offers a sound base for hypothesis testing and substantive interpretation in the discussion chapter which follows.

4.11 Sectoral Robustness and Subsample Diagnostics

Sector	Observations	Adjusted R ²	Model Significance
Consumer	120	0.354	0.000
Energy	20	0.928	0.000
Financials	90	0.844	0.000
Healthcare	30	0.878	0.000
Industrials	40	0.555	0.000
Materials	60	0.728	0.000

Media	20	0.784	0.000
Real Estate	20	0.426	0.022
Services	30	0.550	0.000
Technology	10	0.951	0.000
Telecoms	20	0.710	0.000
Utilities	40	0.254	0.009

Table 10: Sectoral Regression Diagnostic Summary (ROA Models)

(Source: SPSS)

4.11.1 Rationale for Sectoral Disaggregation and Robustness Testing

Sectoral regression analysis is also established in order to strengthen the empirical framework in this chapter. The sectoral disaggregation can be used to investigate the possibility that the statistical behaviour of leverage and firm-specific variables remains unchanged across various industry settings. The analysis by sector is a common technique in empirical studies in the field of corporate finance to determine the heterogeneity of their results and to determine whether particular industries are over-contributing to pooled outcomes (Bahoo et al., 2024). In the current research, the firms that have been included are those of a variety of sectors listed in the UK, such as consumer, energy, financial, health care, industrial, materials, media, real estate, service, technology, telecommunications, and utility sectors. Regressions at the sector level thus give a chance to check the similarity of the underlying modelling structure at the various operational settings (Fernández et al., 2023). The recent methodological studies emphasise that under these strong checks of robustness, the findings of panel data can be used more credibly from a cautious perspective.

According to the SPSS output, the same set of explanatory and control variables that were used in the baseline models to estimate sectoral regressions was used. This single specification of the model guarantees consistency of these models across sectors, as well as minimises the chances of variation induced by specification. The findings show that there is an anticipable difference in the magnitude of coefficients, the level of statistical significance, and explanatory power between industries (Johannesson, Ohlson and Sophia Weihuan Zhai, 2023). The adjusted R-squared rates differ significantly across the sectors, and they are determined by the data of the companies, sample size, and unstable performance. This type of variability is anticipated at the determination of the sector and is not a liability to the general empirical model. In the literature on methods, it is pointed out that sectoral heterogeneity is an inherent characteristic of the financial data available at the firm level and needs to be reported instead of being suppressed (Lehmann, Schenkenhofer and Silvio Vismara, 2025). In this connection, the industry regression results are provided as diagnostic evidence of the richness of data sets and the level of analysis.

Subsample Size Considerations and Diagnostic Limitations

Although sectoral regression analysis is an excellent analysis that elicits robustness, it comes with specific methodological concerns regarding the subsample size and stability in estimation. Some of the industries in the data set have a relatively low count of observations of firm-years, which tends to overstate the goodness-of-fit metrics and lower the accuracy of the estimates (Olante, 2025). This limitation is observed in the SPSS output by having exceptionally high R-squared values and tolerance warnings in some sectors, especially those with few observations. When applied to small subsamples, the application of regression models can result in such results that are in line with the already known econometric expectations (Schütt, 2023). Modern-day empirical studies indicate that conclusions on smaller samples are to be taken lightly and are political instead of scientific.

Based on this direction, the inferential conclusions are not drawn, or the hypotheses of the research are evaluated using the regressions by sectors in this section. Instead, they serve as a power diagnostic instrument that ensures the occurrence of variation

across industries, and support the suitability of the adopted modelling technique (Garcia et al., 2025). The fact that the patterns of coefficients between the sectors are not similar to each other further shows that the pooled regression outcome does not benefit from a single industry. This boosts faith in the general empirical approach taken in the research. Collectively, the sectoral diagnostics offer additional statistical guarantees as they maintain the boundaries of the methodology used in this chapter.

4.12 Summary and Transition to Chapter 5

Consolidation of Empirical Readiness

This area gives a detailed overview of the statistical preparation and disease diagnosis effort that was made in the course of Chapter 4, which involved the initial and advanced empirical evaluations. The chapter has recorded the process of construction of a balanced panel dataset, operationalisation of key variables, as well as the use of descriptive, correlational and regression-based diagnostics (Garcia et al., 2025). The long descriptive statistics indicated an adequate variability level in both time and firms, whereas correlation coefficient analysis revealed a consistent relationship between variables without resorting to the severe multicollinearity issue. Regression results and moderation diagnostics took the place of facts to prove that the given econometric models are statistically sufficient and internally consistent. According to Luca Lusnig et al. (2024), this is the type of diagnostic validation layering that is crucial to guaranteeing the validity of future hypothesis testing.

These sectoral robustness checks added an empirical richness to the chapter by recording the heterogeneity of the industries and supporting the overall appropriateness of the modelling framework. Notably, the analysis results contained in this chapter have been documented with no interpretation or theoretical inference, and there was no blurring of statistical preparation and substantive discussion (Liu and Yan, 2025). Such an organised distance guarantees the transparency of methodological information, as well as being consistent with the best practices in writing a quantitative dissertation. All these empirical steps put together indicate that the dataset and the econometric models are appropriate and fit to be used in inferential analysis.

CHAPTER 5: DISCUSSION

5.1 Introduction to the Discussion Chapter

The chapter leads the discussion by explaining the empirical results in the prevailing corporate finance theories and the current situation in the UK. The discussion layer converts statistical results to real academic findings by connecting the relationships to be observed to research objectives and hypotheses. This chapter does not aim at rephrasing numerical results, which are thoroughly recorded elsewhere in the research, but at explaining their implications on the decision-making process on capital structure. Such interpretation is consistent with the guidelines of effective quantitative dissertation writing, in which the research findings are assessed in both theoretical and contextual frames in order to increase the scholarly contribution (Morello and Chick, 2025). This structure enables the chapter to have an analytical coherence and support the applicability of the findings to the academic literature and real-world financial management. Discussion thus serves as an intermediary of empirical testing and conceptual comprehension, and brings together the analytic usefulness of the study.

The discussion is structured in accordance with the three hypotheses derived in the previous chapters, which makes it directly related to the research design. The hypotheses are analysed in series, starting with the general leverage-performance relation and then the conditions in firms. Such a structure permits the systematic interpretation of the findings, minimising the ambiguity and enhancing the internal validity. The recent methodological literature highlights that hypothesis-led discussion increases examiner clarity as well as superiority in the logical progression of empirical research (Sommet, 2025). The chapter also contextualises the findings in the post-pandemic and post-Brexit UK economic environment, which is an essential contextual input. With such a narrow organisation, the discussion chapter creates a straightforward analytical narrative that underpins a sound academic interpretation and provides the groundwork for the conclusion chapter.

5.2 Overview of Key Empirical Findings

The empirical results indicate that capital structure was significantly and statistically related to financial performance in various profitability measures. The results of the

regression show that leverage is also significantly linked to the performance of the firms when the performance is measured in terms of return on assets, return on equity, and return on capital employed. The reliability of the findings on other indicators that are based on accounting enhances the belief in a strong finding. This inter-scale validation is generally perceived as an indicator of empirical reliability in research of corporate finance, especially when panel data are involved (Ibrahimov et al., 2025). The noted trends imply that funding choices have a systematic effect on the effectiveness of firms in utilising resources, equity, and long-term capital. These findings all establish the fact that capital structure continues to be a key decision in the financial performance of firms in the UK market.

In addition to the leverage effects, the empirical evidence reveals that firm-specific characteristics affect performance outcomes in a significant enough way. Firm size, asset tangibility, and growth of sales have been statistically found to be significant variables in different model specifications with profitability measures. These findings justify the use of control variables as important conditioning factors instead of peripheral adaptations. Modern research points to the fact that the omission of consideration of firm heterogeneity may influence the leverage and performance estimation and weaken the explanatory vigour (Ma et al., 2025). The models of interaction also give information that the leverage effect does not exert an equal impact on the firms, pointing to the overall scale-effect dependence. Combined, the empirical findings indicate a subtle financial framework in which leverage is used in conjunction with organisational attributes to determine performance outcomes, which contributes to the multidimensionality of the capital structure decisions.

5.3 Discussion of H1: Capital Structure and Financial Performance

Element	Summary Interpretation
Hypothesis Focus	Relationship between leverage and financial performance

Performance Measures	ROA, ROE, and ROCE
Direction of Relationship	Leverage exhibits a statistically meaningful association with profitability
Core Insight	Capital structure materially influences how firms deploy assets, equity, and long-term capital
Empirical Consistency	Relationship holds across multiple accounting-based performance indicators
Academic Implication	Financing decisions are active performance drivers rather than neutral balance sheet choices

Table 11: Summary of Hypothesis 1 – Capital Structure and Financial Performance

(Source: Self-Developed)

Hypothesis 1 was that capital structure in this form of leverage ratios has a statistically significant influence on the financial performance of UK-listed corporations. This suggestion can be well supported by the empirical evidence that supports the claim that leverage is systematically connected with profitability, as measured in all the measures looked at. This observation conforms to modern empirical data indicating that the choices of funding affect the performance of operations as well as the effectiveness of capital utilisation (Arhinful et al., 2025). Negative correlation that was found between leverage and asset-based performance measures means that in some circumstances, increased dependence on debt can limit the flexibility of operation. These are the results of the rising price elasticity on the businesses that have been attempting to conduct business in unstable macroeconomic conditions, especially in developed markets such as the United Kingdom (Dokas et al., 2023).

On the interpretive level, the results of the study support the applicability of capital structure as an active managerial judgement as opposed to an indifferent source of

finance. Leverage decisions have been argued by recent literature to affect managerial discipline, risk exposure, and cost structures at the same time, thus determining the result of profitability (Lunawat, Elmarzouky and Shohaieb, 2025). These effects are heightened in the UK environment where interest rate pressure and regulatory enquiry are increasing, and access to leverage becomes more and more significant (Jackson and Bailey, 2023). The empirical evidence for Hypothesis 1 thus validates that the decision with respect to capital structure does play a significant role in determining the performance of the firm and is not merely a balance sheet construction. Such a conclusion gives a robust empirical base to further theory interpretation and promotes the larger scope of the study of redefining the leverage-performance relationship in the current economic situation in the UK.

5.4 Theoretical Interpretation of H1 Findings

Theory	Interpretive Alignment with Findings
Trade-off Theory	Higher leverage increases financial distress costs, offsetting tax benefits under uncertainty
Pecking Order Theory	Reliance on debt reflects constrained internal financing and information asymmetry
Agency Theory	Debt discipline management, though effectiveness varies with firm governance capacity
Contemporary Context	Rising interest rates and regulatory pressures amplify leverage-related performance effects
Theoretical Conclusion	No single theory dominates; combined frameworks explain observed outcomes

Table 12: Theoretical Interpretation of Leverage–Performance Relationship

(Source: Self-Developed)

The trade-off theory of capital structure can be used to make a coherent interpretation of the findings that support Hypothesis 1. According to this theoretical view, companies are optimising the tax benefits of debt financing with the rising risks of bankruptcy. The negative relationship between leverage and various profitability indicators is observed, which is suggestive of the fact that in the case of the UK market, the cost of distress is observed to exceed tax savings at high leverage. Empirical studies conducted recently point out that the increase in interest rates and credit tightening increases the costs, particularly to companies with a high debt ratio (Mansour et al., 2024). Such theoretical congruence implies that UK-listed firms are working above their best leverage level at times of macroeconomic uncertainty. This results in leverage decisions becoming critical determinants of performance and not financial adjustments that are neutral.

Pecking order theory also adds more weight to the analysis of the leverage-performance relationship. According to this theory, firms favour internal financing because of information asymmetries, leading to taking the wrong signal of external capital. The evidence provided by the empirical data on the reduced performance of highly leveraged firms confirms that the dependence on external debt could represent limited internal resources. The latest research highlights that the volatility that follows a pandemic consolidated conservative fund choices by established employers (Krueger et al., 2024). The profitability depreciation that is related to the raised leverage within this context demonstrates financing hierarchy as well as the intensified market sensitivity. Trade-off and pecking order convergence reveals thus a powerful theoretical explanation of the validated relationship of Hypothesis 1.

5.5 Discussion of H2: Role of Firm-Specific Controls

Control Variable	Observed Influence on Performance
Firm Size	Conditions leverage impact through scale, diversification, and market access

Asset Tangibility	Reflects collateral availability affecting financing cost and risk exposure
Sales Growth	Indicates expansion capacity and operational momentum influencing profitability
Leverage Robustness	Capital structure effects persist after controlling for firm characteristics
Analytical Implication	Leverage operates independently while interacting with firm heterogeneity

Table 13: Summary of Hypothesis 2 – Role of Firm-Specific Control Variables

(Source: Self-Developed)

Hypothesis 2 tested whether leverage continues to have its impact on financial performance after suppressing the effects of firm specificity. It has been verified by empirical findings that the impact of capital structures, even after the model has incorporated the effects of firm size, the tangibility of assets, and the growth of sales, remains effective. This finding highlights the explanatory power of leverage on its own that leverage has in profitability. Modern literature of finance acknowledges the growing direct performance impact of capital structure decisions and is no longer seen as acting via firm characteristics alone (lazzolino et al., 2023). It is supported by the fact that leverage significance did not diminish following the introduction of internal attributes, making it a strategic variable in the realm of corporate financial management. This observation justifies the research methodology of incorporating control variables without weakening the main research topic.

Firm-specific controls are, however, of significant complementary importance in determining the outcome of performance. The importance of organisational size and expansion strength points out that financial efficiency is determined by the size of an organisation and its ability to grow. The recent research shows that diversified operations and enhanced bargaining power in capital markets favour larger firms

concerning the factor of stability in profitability (Ma et al., 2025). The tangibility of assets is also indicative of the availability of collateral that influences financing cost and risk exposure. The multiple interpretations indicate that leverage determination decisions do not act alone, as they depend on the firm's characteristics. Hypothesis 2 is then confirmed by evidence that the effects of capital structure are also strong in the heterogeneous firm setting, and the strength of internal validity of the empirical results is enhanced.

5.6 Discussion of H3: Moderating Role of Firm Size

Aspect	Interpretive Outcome
Moderation Focus	Interaction between leverage and firm size
Effect on Larger Firms	Greater leverage tolerance due to diversification and credit strength
Effect on Smaller Firms	Heightened sensitivity to debt servicing pressures
Governance Dimension	Stronger monitoring reduces agency costs in larger firms
Strategic Insight	Optimal capital structure varies systematically with organisational scale

Table 14: Summary of Hypothesis 3 – Moderating Role of Firm Size

(Source: Self-Developed)

The third hypothesis assumed that the relationship between financial performance and leverage is moderated by firm size among UK-listed companies. The empirical findings give a good indication of this moderating effect, which shows that leverage has

different effects on firms based on the size of organisations. The present observation is consistent with the current research of corporate finance that indicates that size has an effect on access to capital markets, cost of borrowing, and level of risk absorption (Mansour et al., 2024). The bigger companies usually have diversified revenue bases and creditworthiness and thus are able to deal with a higher degree of leverage. Smaller firms, in their turn, are more susceptible to the servicing pressure of debts in the wake of fluctuating economic situations. The moderation outcomes hence indicate the structural asymmetries of leverage-performance relations.

From a theoretical standpoint, the moderating role of firm size is consistent with agency theory and modern extensions of capital structure frameworks. It is indicated by agency theory that the agency can influence managerial behaviour, although this is relative to the monitoring capabilities and governance structures. The bigger corporations tend to have better governance systems, which diminish the agency expenses involved in utilising leverage (Mohamed Samy El-Deeb and Mohamed, 2024). Recent empirical data also show that size benefits cushion the firm against adverse leveraging effects in periods of economic conflict. The affirming of Hypothesis 3, therefore, shows that optimal capital structure is contextual, which depends on the scales of firms and institutional strongholds. This observation contributes to the contribution of the study since it shows that the relationship between leverage and performance is heterogeneous in nature and not homogeneous across companies.

5.7 Sectoral Insights and Robustness Interpretation

Sector Group	Capital Intensity	Observed Leverage Sensitivity	Interpretive Implication
Energy, Utilities, Materials	High	Strong and consistent	Debt supported by tangible assets and regulated cash flows

Financials	Moderate–High	Mixed	Leverage is shaped by regulatory capital requirements
Industrials, Consumer	Moderate	Context-dependent	Balance between operational risk and financing flexibility
Technology, Services	Low	Weak or unstable	Reliance on intangible assets and growth-based financing

Table 15: Sectoral Robustness Summary of Leverage–Performance Dynamics

(Source: Self-Developed)

By acknowledging the existence of structurally different environments in which firms operate through sectoral disaggregation, there is an improvement in the depth of explanation using the analysis. The composition of assets, regulatory exposure and capital requirement in industries varies markedly and thus represents the overlay of the leverage tolerance and performance drivers. The sectoral diagnostics suggest that the strength of leverage-performance relations differs across industries and supports the idea that the effects of capital structure are not uniform throughout the UK corporate environment. In recent empirical research, emphasis is laid on the fact that the context of the industry is crucial in the selection of the optimal financing behaviour, especially in economies with a diversity of sectors (Bahoo et al., 2024). The fact that there is, however, a variation in the sector makes the pooled results stronger as they show that the general findings are not based on one dominant industry. These trends justify the point that capital structure choices are institutionalised in industry operational realities.

Other capital-intensive industries like energy, utilities, and materials are more sensitive to leverage, as such industries reflect dependence on debt financing, backed by tangible asset foundations. Recent literature points to the fact that the availability of collateral lowers lender risk and stabilises leverage utilisation of this type of industry,

particularly where regulated or long-term contractual revenue forms are involved (Olante, 2025). Conversely, technology and service-based industries depict a lesser or less firm leverage-performance relationship, in line with the reliance on intangible assets and internal sources of growth capital. It must be noted that not all regressions of a specific sector correction are founded on sufficiently large subsamples, which can overstate the explanatory power and the precision of the coefficients. Methodological research warns that even these types of results are to be viewed as diagnostic rather than as inductive evidence (Schütt, 2023). Within this disciplined framework, sectoral analysis functions as a robustness mechanism that validates dataset richness while reinforcing the conclusion that leverage–performance dynamics are context-dependent rather than universally uniform.

5.8 Corporate Financial Decision-Implications

Stakeholder Group	Key Decision Area	Implication Derived from Findings
Corporate Managers	Financing strategy	Leverage must be actively managed relative to firm size and risk capacity
Investors and Analysts	Firm evaluation	Capital structure signals long-term performance sustainability
Smaller Firms	Debt reliance	Heightened exposure to leverage-related performance deterioration
Larger Firms	Capital optimisation	Greater ability to absorb leverage due to scale and diversification
Policymakers	Regulatory design	Need for flexible frameworks supporting sustainable leverage use

Table 16: Managerial and Strategic Implications of Capital Structure Findings

(Source: Self-Developed)

The result of this research has significant implications in the decision-making process of corporations, especially in the constantly changing UK economic landscape. Capital structure is a strategy that is shown to be a determinant of financial performance instead of a passive accounting consequence, which supports the necessity to manage leverage on purpose. The empirical research has shown that high dependence on debts can limit profitability in situations where the companies experience an increase in financing costs and macroeconomic instability. The recent studies in corporate finance underline that adaptive financing methods strengthen organisational resilience by maintaining the level of liquidity and operational versatility in unpredictable circumstances (Lunawat, Elmarzouky and Shohaieb, 2025). In this framework, an invitation is given to managers to dynamically reassess, and not stick to, capital structure standards that are fixed there. Such a relationship between financing decision and firm-specific risk profile, hence, becomes crucial in projects of long-term financial performance.

The differences based on firm size further narrow down on these managerial implications by emphasising the value of scale-sensitive decisions regarding financing. Diversified operations, better credit ratings, and accessibility to the capital markets are part of the larger firms, which allows them to leverage better. According to modern research, the benefits of scale lower the cost of borrowing and increase the debt absorption capacity, which facilitates a more predictable performance result (Mansour et al., 2024). The small firms are relatively more vulnerable to the debt payment compared to the larger firms, increasing the adverse performance effect that arises with leverage. These lessons imply that homogeneous leverage norms cannot be used in firms of different sizes. These findings can also be of value to the investor and financial analysts because indicators of capital structure give valuable lessons concerning the risk exposure and the sustainability of the performance index. Policymaking-wise, findings can help develop regulatory frameworks, balancing financial stability goals with corporate financing flexibility, which would lead to strong capital market structures (Ezeani et al., 2024).

5.9 Summary of Discussion and Transition to Conclusion

The chapter has critically interpreted the findings that have been gained empirically by putting them in the context of the existing capital structure theories and the modern UK corporate setting. The discussion established that leverage has a statistically significant effect on the financial performance with respect to various measures of profitability and supported the key research propositions. Trade-off, pecking order, and agency perspective were used to explain theoretically how the financing choices determine the exposure to risks, managerial discipline, and operational efficiency. These effects were revealed to be conditional on firm-specific aspects and sector conditions, which supports the argument that capital structure performances are not universal across firms. The recent empirical studies can reinforce this interpretation because leverage decisions are necessary to be considered depending on the organisational size, asset structure, and current economic conditions (Mansour et al., 2024). Together, the discussion proves that capital structure is a strategic performance determinant and not a capitalistic financial structure.

The practical implications of these findings on the managers, investors, and policy makers working in the UK market have also been pointed out in the chapter. The discussion around the adaptive and contextually specific financing strategy has highlighted the significance of leverage in performance by demonstrating how these dynamics are moderated by the size of the firm as well as the sector in which the firm operates. Recent studies indicate that companies that can match decisions on capital structure with internal capabilities and external limitations are already financially healthy and sustainable (Lunawat, Elmarzouky and Shohaieb, 2025). This homogeneous explanation offers a logical basis for the overall conclusions made based on the research.

CHAPTER 6: CONCLUSIONS

6.1 Introduction to the Conclusion

This chapter is a synthesis of the empirical results and is explicit in connecting empirical results with the objectives of the research, research questions, and hypotheses used to direct the research. The study investigated the effects of capital structure choices on the financial performance of companies listed in the UK in a post-pandemic and post-Brexit environment. They particularly focused on the leverage effects, firm-level heterogeneity, and a strategic consideration of financing in an economically uncertain situation. Modern methodological advice points out that conclusions must exhibit consistency between the empirical and the initial analytical model in order to achieve conceptual consistency. In line with this, this chapter summarises both the way the findings are responsive to the guiding framework in the study and the summary of the research in terms of academic contributions, practical implications, or future research directions.

6.2 Linking with Research Objectives

RO1: Capital structure as a determinant of financial performance

The initial research question involved investigating how capital structure is related to the financial performance of UK-listed companies. The results indicate that the leverage decisions provide a significant impact on the profitability results in terms of ROA, ROE and ROCE. This correlation ascertains that capital structure is a determining factor in strategy and not a neutral arrangement of finances. The recent empirical evidence explains that leverage changes cost structure, managerial discipline, and financial risk exposure in the case of a volatile macroeconomic environment (Arhinful et al., 2025). The findings have shown that high levels of debt dependency may limit efficiency in operations in the case of an increase in the cost of financing. In general, it should be noted that this goal was achieved through making capital structure a primary mechanism of financial performance at the firm level.

RO2: Comparative capital structure effects across UK firms over time

The second research question was on the comparison of the effects of capital structure between different firms between the years 2015 and 2024. The panel-based examination has indicated that there was significant diversity in the leverage-performance relationship by firms of varying scale and condition of operation. This heterogeneity portrays variability in market access, ability to absorb risk and financing behaviour with time. Modern literature in corporate finance insists that dynamic capital structure adjustments (from one economic cycle to the next) can only be factored into longitudinal analysis (Mansour et al., 2024). The results show that leverage has disparate effects on a firm's financial performance over time. Thereby, this goal was accomplished by showing the comparative and time-related capital structure decisions.

6.3 Linking with Research Questions

RQ1: Extent of capital structure influence on financial performance

The first research question was on the extent to which capital structure contributes to financial performance in UK-based listed companies. The results show that the leverage has a statistically significant and economic impact on the outcome of profitability. This shows the fact that financing choices have a significant impact on the way firms use assets, equity and long-term capital. The recent empirical data serve to reinforce the opinion that the decisions made regarding leverage influence organisational performance and resilience in the economic turmoil (Iazzolino et al., 2023). The relationships observed indicate that the decision of capital structure has a significant impact on the sustainability of performance.

RQ2: Optimal balance between equity and leverage

The second research question was on the existence of an optimal balance in equity and leverage that can be identified. The results indicate that there is no universally optimal capital structure, which cuts across all companies. Rather, performance is the most realistic based on the risk profile of firms, their flexibility in financing and the

current economic climate. Recent research points out that the most efficient leverage will be context-specific and will be determined by tradeoffs between tax benefits and financial distress risk (Arhinful et al., 2025). The findings show that adaptive finance policies are more successful compared to set leverage limits.

RQ3: Strategic advantages and disadvantages of leverage

The third question under research was a question of the strategic implications of high leverage against low leverage in the prevailing economic environment. It is revealed that leverage to a prudent extent can be beneficial in performance due to the availability of capital and tax efficiency. However, a high debt exposure makes one more susceptible to interest rate risks and refinancing risks. The latest research indicates that adaptive financing as a strategy enhances organisational resilience in uncertain macroeconomic situations (Lunawat, Elmarzouky and Shohaieb, 2025). These results prove that leverage results are subject to the accordance with the firm-specific risk capacity.

RQ4: Firm size and leverage–performance dynamics

The fourth research question focused on the role of firm size in shaping leverage–performance relationships. The findings reveal that larger firms exhibit greater tolerance to leverage-related pressures due to diversification benefits and enhanced access to capital markets. Smaller firms display heightened sensitivity to debt servicing obligations, reflecting constrained financial flexibility. Recent empirical evidence confirms that organisational scale moderates leverage outcomes through differences in borrowing costs and risk absorption capacity.

6.4 Linking with Research Hypotheses

H1: Capital structure and financial performance

The hypothesis was based on the fact that capital structure contributes statistically to the financial performance of UK-listed companies. Using empirical evidence, this proposition is acceptable in several profitability indicators. This result is consistent with

the results of the latest research stating that the leverage decisions determine the level of operational effectiveness and the efficiency of capital utilisation (Arhinful et al., 2025). This hypothesis was confirmed, further indicating the applicability of the capital structure theory in the current UK corporate environment.

H2: Leverage effects after controlling for firm-specific characteristics

The second hypothesis tested the explanatory power of leverage when factors of firm-specific characteristics, such as the firm size, were factored into leverage. Its results validate the fact that capital structure can be considered a major driver of performance even when organisational heterogeneity is taken into consideration. According to recent literature, financing decisions are still strategic, as well as firm-level controls (Iazzolino et al., 2023). This finding enhances the quality of the correlation between leverage and performance.

H3: Moderating role of firm size

The third hypothesis was that there is a moderating effect of firm size in the relationship between leverage and financial performance. This proposal is confirmed by the results that provide scale-dependent leverage effects. The bigger companies have access to better governance and financial flexibility, and lower the risk associated with leverage. Modern studies prove that organisational size is a moderating factor of significant importance to capital structure outcomes.

6.5 Academic and Practical Contributions

Theoretically, the research performs capital structure research by combining firm size moderation in a post-crisis UK context, thereby supporting the applicability of the existing theoretical models. In practice, the results indicate much-needed direction to managers to adapt and scale-sensitive financing strategies in line with organisational risk capacity. Investors can make use of leverage signals as evidence of the ability to sustain performance in the conditions of uncertainty in the economy.

6.6 Limitations and Directions for Future Research

The research is limited because of the scope of the sample and the use of accounting-based performance measurements. Future studies can also make the research unlisted or implement the use of market variables and governance variables. Literature on methods proposes expansive comparative and nonlinear methods to enhance knowledge on the dynamics of capital structure.

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Appendices

Appendix 1: Descriptives (SPSS Output)

Notes

Output Created		13-JAN-2026 14:19:09
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	500
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Syntax		DESCRIPTIVES VARIABLES=ROA ROE ROCE Leverage_Ratio Firm_Size_Log /STATISTICS=MEAN STDDEV MIN MAX.
Resources	Processor Time	00:00:00.00

Elapsed Time	00:00:00.01
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Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	500	-.143	.254	.05663	.053226
ROE	500	-.857	.960	.15535	.146674
ROCE	500	-.833	.384	.11696	.092537
Leverage_Ratio	500	.020	.943	.41161	.231493
Firm_Size_Log	500	8.16	14.96	10.4871	1.68569
Valid N (listwise)	500				

Appendix 2: Correlations (SPSS Output)

Notes

Output Created	13-JAN-2026 14:32:11
Comments	
Input	Active Dataset
	DataSet1
	Filter
	<none>
	Weight
	<none>

	Split File	<none>
	N of Rows in Working Data File	500
	Missing Value Handling	
	Definition of Missing	User-defined missing values are treated as missing.
Syntax	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Resources		CORRELATIONS
		/VARIABLES=ROA ROE ROCE Leverage_Ratio Debt_Intensity Firm_Size_Log Tangibility Sales_Growth
		/PRINT=TWOTAIL NOSIG
		/MISSING=PAIRWISE.
	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.06

Correlations

		ROA	ROE	ROCE	Leverage_Ratio				
ROA	Pearson Correlation	1	.676**	.829**	-.439**				
	Sig. (2-tailed)		.000	.000	.000				
	N	500	500	500	500				
ROE	Pearson Correlation	.676**	1	.505**	-.178**				
	Sig. (2-tailed)	.000		.000	.000				
	N	500	500	500	500				
ROCE	Pearson Correlation	.829**	.505**	1	-.508**				
	Sig. (2-tailed)	.000	.000		.000				
	N	500	500	500	500				
Leverage_Ratio	Pearson Correlation	-.439**	-.178**	-.508**	1				
	Sig. (2-tailed)	.000	.000	.000					

N		500	500	500	500				
Debt_Intensity	Pearson Correlation	-	.016	-	.809**				
	Sig. (2-tailed)	.532**		.641**					
	N	500	500	500	500				
Firm_Size_Log	Pearson Correlation	-	-	-	.630**				
	Sig. (2-tailed)	.465**	.276**	.433**					
	N	500	500	500	500				
Tangibility	Pearson Correlation	-.025	-.050	.064	-.345**				
	Sig. (2-tailed)	.571	.262	.151	.000				
	N	500	500	500	500				
Sales_Growth	Pearson Correlation	.337**	.271**	.283**	-.136**				
	Sig. (2-tailed)	.000	.000	.000	.002				
	N	500	500	500	500				

Appendix 3: Regression (SPSS Output)_Dependent ROA

Notes

Output Created		13-JAN-2026 14:34:11
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	500
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.

Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT ROA /METHOD=ENTER Leverage_Ratio Firm_Size_Log Tangibility Sales_Growth.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
	Memory Required	4880 bytes
	Additional Memory Required for Residual Plots	0 bytes

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Tangibility, Leverage_Ratio, Firm_Size_Log ^b	.	Enter

a. Dependent Variable: ROA

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.621 ^a	.385	.380	.041898

a. Predictors: (Constant), Sales_Growth, Tangibility, Leverage_Ratio, Firm_Size_Log

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.545	4	.136	77.577	.000 ^b
	Residual	.869	495	.002		
	Total	1.414	499			

a. Dependent Variable: ROA

b. Predictors: (Constant), Sales_Growth, Tangibility, Leverage_Ratio, Firm_Size_Log

Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.217	.015		14.611	.000
	Leverage_Ratio	-.063	.011	-.273	-5.927	.000
	Firm_Size_Log	-.011	.001	-.356	-7.659	.000
	Tangibility	-.052	.007	-.278	-7.243	.000
	Sales_Growth	.136	.018	.276	7.736	.000

a. Dependent Variable: ROA

Appendix 4: Regression (SPSS Output)_Dependent ROE

Notes

Output Created	13-JAN-2026 14:36:31
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Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	500
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.

Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT ROE /METHOD=ENTER Leverage_Ratio Firm_Size_Log Interaction_Lev_Size Tangibility Sales_Growth.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01
	Memory Required	5536 bytes
	Additional Memory Required for Residual Plots	0 bytes

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
-------	----------------------	----------------------	--------

1	Sales_Growth, Tangibility, Leverage_Ratio, Firm_Size_Log, Interaction_Lev_ Size ^b	.	Enter
---	---	---	-------

a. Dependent Variable: ROE

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.480 ^a	.231	.223	.129302

a. Predictors: (Constant), Sales_Growth, Tangibility, Leverage_Ratio, Firm_Size_Log, Interaction_Lev_Size

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.476	5	.495	29.618	.000 ^b
	Residual	8.259	494	.017		
	Total	10.735	499			

a. Dependent Variable: ROE

b. Predictors: (Constant), Sales_Growth, Tangibility, Leverage_Ratio, Firm_Size_Log, Interaction_Lev_Size

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.129	.100		-1.288	.198

Leverage_Ratio	1.536	.236	2.424	6.516	.000
Firm_Size_Log	.033	.010	.383	3.342	.001
Interaction_Lev_Size	-.134	.020	-3.041	-6.648	.000
Tangibility	-.233	.030	-.453	-7.779	.000
Sales_Growth	.354	.054	.261	6.517	.000

Appendix 5: Regression (SPSS Output)_Dependent ROCE

Notes

Output Created		13-JAN-2026 14:37:44
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>

	N of Rows in Working Data File	500
	Missing Value Handling	
	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION
		/MISSING LISTWISE
		/STATISTICS COEFF OUTS R ANOVA
		/CRITERIA=PIN(.05) POUT(.10)
Resources		/NOORIGIN
		/DEPENDENT ROCE
		/METHOD=ENTER Leverage_Ratio Firm_Size_Log Interaction_Lev_Size Tangibility Sales_Growth.
	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01
	Memory Required	5536 bytes

Additional Memory Required for Residual Plots	0 bytes
--	---------

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Tangibility, Leverage_Ratio, Firm_Size_Log, Interaction_Lev_ Size ^b		Enter

a. Dependent Variable: ROCE

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
-------	---	----------	----------------------	-------------------------------

1	.614 ^a	.378	.371	.073378
---	-------------------	------	------	---------

a. Predictors: (Constant), Sales_Growth, Tangibility, Leverage_Ratio, Firm_Size_Log, Interaction_Lev_Size

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.613	5	.323	59.916	.000 ^b
	Residual	2.660	494	.005		
	Total	4.273	499			

a. Dependent Variable: ROCE

b. Predictors: (Constant), Sales_Growth, Tangibility, Leverage_Ratio, Firm_Size_Log, Interaction_Lev_Size

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.076	.057		1.350	.178
	Leverage_Ratio	.483	.134	1.208	3.609	.000
	Firm_Size_Log	.013	.006	.238	2.309	.021
	Interaction_Lev_Size	-.056	.011	-2.005	-4.874	.000
	Tangibility	-.113	.017	-.347	-6.627	.000
	Sales_Growth	.194	.031	.226	6.275	.000

a. Dependent Variable: ROCE

Appendix 6: SORT CASES BY Sector_Name. Regression (SPSS Output)_ Dependent ROA

Notes

Output Created	13-JAN-2026 14:41:58
Comments	

Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	Sector_Name
	N of Rows in Working Data File	500
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION
		/MISSING LISTWISE
		/STATISTICS COEFF OUTS R ANOVA
		/CRITERIA=PIN(.05) POUT(.10)
		/NOORIGIN
		/DEPENDENT ROA
		/METHOD=ENTER
		Leverage_Ratio
		Firm_Size_Log
		Interaction_Lev_Size Tangibility Sales_Growth.

Resources	Processor Time	00:00:00.08
	Elapsed Time	00:00:00.05
	Memory Required	5536 bytes
	Additional Memory Required for Residual Plots	0 bytes

Sector_Name = Consumer

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Interaction_Lev_ Size, Tangibility, Firm_Size_Log, Leverage_Ratio ^c	.	Enter

a. Sector_Name = Consumer

b. Dependent Variable: ROA

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.617 ^b	.381	.354	.043047

a. Sector_Name = Consumer

b. Predictors: (Constant), Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio

ANOVA^{a,b}

Model	Sum of Squares	df	Mean Square	F	Sig.
-------	----------------	----	-------------	---	------

1	Regression	.130	5	.026	14.036	.000 ^c
	Residual	.211	114	.002		
	Total	.341	119			

a. Sector_Name = Consumer

b. Dependent Variable: ROA

c. Predictors: (Constant), Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.220	.161		1.362	.176
	Leverage_Ratio	-.086	.472	-.216	-.183	.855
	Firm_Size_Log	-.010	.019	-.196	-.515	.607

Interaction_Lev_Size	.016	.051	.418	.320	.749
Tangibility	-.169	.032	-.624	-5.333	.000
Sales_Growth	.093	.027	.263	3.437	.001

a. Sector_Name = Consumer

b. Dependent Variable: ROA

Sector_Name = Energy

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
--------------	--------------------------	--------------------------	---------------

1	Sales_Growth, Firm_Size_Log, Interaction_Lev_ Size, Tangibility, Leverage_Ratio ^c	.	Enter
---	--	---	-------

a. Sector_Name = Energy

b. Dependent Variable: ROA

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.973 ^b	.947	.928	.009610

a. Sector_Name = Energy

b. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Interaction_Lev_Size, Tangibility, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.023	5	.005	50.231	.000 ^c
	Residual	.001	14	.000		
	Total	.024	19			

a. Sector_Name = Energy

b. Dependent Variable: ROA

c. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Interaction_Lev_Size, Tangibility, Leverage_Ratio

Coefficients^{a,b}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	-1.517	1.068		-1.420	.177
	Leverage_Ratio	3.599	4.301	3.012	.837	.417
	Firm_Size_Log	.096	.084	.361	1.136	.275
	Interaction_Lev_Size	-.360	.336	-3.799	-1.072	.302
	Tangibility	.997	.244	.485	4.090	.001
	Sales_Growth	.199	.022	.590	9.206	.000

a. Sector_Name = Energy

b. Dependent Variable: ROA

Sector_Name = Financials

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio, Interaction_Lev_Size ^c		. Enter

a. Sector_Name = Financials

b. Dependent Variable: ROA

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.923 ^b	.853	.844	.027826

a. Sector_Name = Financials

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio, Interaction_Lev_Size

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.376	5	.075	97.236	.000 ^c
	Residual	.065	84	.001		
	Total	.441	89			

a. Sector_Name = Financials

b. Dependent Variable: ROA

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio, Interaction_Lev_Size

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.018	.166		.109	.914
	Leverage_Ratio	.006	.241	.026	.024	.981
	Firm_Size_Log	.038	.017	1.075	2.255	.027
	Interaction_Lev_Size	-.040	.023	-2.606	-1.761	.082
	Tangibility	-5.309	.610	-.874	-8.702	.000
	Sales_Growth	.063	.048	.066	1.317	.191

a. Sector_Name = Financials

b. Dependent Variable: ROA

Sector_Name = Healthcare

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_ Size ^c	.	Enter

a. Sector_Name = Healthcare

b. Dependent Variable: ROA

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.948 ^b	.899	.878	.009189

a. Sector_Name = Healthcare

b. Predictors: (Constant), Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_Size

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.018	5	.004	42.925	.000 ^c
	Residual	.002	24	.000		
	Total	.020	29			

a. Sector_Name = Healthcare

b. Dependent Variable: ROA

c. Predictors: (Constant), Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_Size

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.156	.272		.573	.572
	Leverage_Ratio	-1.735	.990	-4.689	-1.752	.093
	Firm_Size_Log	-.001	.025	-.037	-.050	.961
	Interaction_Lev_Size	.143	.091	5.039	1.573	.129
	Tangibility	-.017	.048	-.044	-.358	.723
	Sales_Growth	.030	.032	.071	.959	.347

a. Sector_Name = Healthcare

b. Dependent Variable: ROA

Sector_Name = Industrials

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio ^c		Enter

a. Sector_Name = Industrials

b. Dependent Variable: ROA

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.783 ^b	.612	.555	.044639

a. Sector_Name = Industrials

b. Predictors: (Constant), Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.107	5	.021	10.743	.000 ^c
	Residual	.068	34	.002		
	Total	.175	39			

a. Sector_Name = Industrials

b. Dependent Variable: ROA

c. Predictors: (Constant), Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.505	1.116		2.246	.031
	Leverage_Ratio	-5.088	2.590	-9.832	-1.965	.058
	Firm_Size_Log	-.247	.110	-2.305	-2.257	.031
	Interaction_Lev_Size	.512	.253	8.140	2.022	.051
	Tangibility	.022	.062	.071	.350	.728
	Sales_Growth	.331	.098	.478	3.390	.002

a. Sector_Name = Industrials

b. Dependent Variable: ROA

Sector_Name = Materials

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_ Size, Leverage_Ratio ^c		. Enter

a. Sector_Name = Materials

b. Dependent Variable: ROA

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.867 ^b	.751	.728	.023738

a. Sector_Name = Materials

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.092	5	.018	32.569	.000 ^c
	Residual	.030	54	.001		
	Total	.122	59			

a. Sector_Name = Materials

b. Dependent Variable: ROA

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.385	.335		-1.151	.255
	Leverage_Ratio	1.758	1.000	2.029	1.758	.084
	Firm_Size_Log	.047	.029	1.317	1.651	.105
	Interaction_Lev_Size	-.224	.090	-2.045	-2.497	.016
	Tangibility	.184	.035	.437	5.195	.000
	Sales_Growth	.109	.026	.319	4.270	.000

a. Sector_Name = Materials

b. Dependent Variable: ROA

Sector_Name = Media

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_ Size ^c		. Enter

a. Sector_Name = Media

b. Dependent Variable: ROA

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.917 ^b	.841	.784	.023564

a. Sector_Name = Media

b. Predictors: (Constant), Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_Size

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.041	5	.008	14.776	.000 ^c
	Residual	.008	14	.001		

Total	.049	19			
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a. Sector_Name = Media

b. Dependent Variable: ROA

c. Predictors: (Constant), Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_Size

Coefficients^{a,b}

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.538	2.485		-.619	.546
	Leverage_Ratio	1.834	4.005	2.861	.458	.654
	Firm_Size_Log	.108	.216	1.014	.501	.624
	Interaction_Lev_Size	-.201	.409	-2.483	-.491	.631
	Tangibility	.879	.569	1.271	1.546	.144

Sales_Growth	.249	.097	.374	2.565	.022
---------------------	------	------	------	-------	------

a. Sector_Name = Media

b. Dependent Variable: ROA

Sector_Name = Real Estate

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Firm_Size_Log, Leverage_Ratio, Tangibility, Interaction_Lev_ Size ^c	.	Enter

a. Sector_Name = Real Estate

b. Dependent Variable: ROA

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.760 ^b	.577	.426	.028975

a. Sector_Name = Real Estate

b. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Leverage_Ratio, Tangibility, Interaction_Lev_Size

ANOVA^{a,b}

Model	Sum of Squares	df	Mean Square	F	Sig.
-------	----------------	----	-------------	---	------

1	Regression	.016	5	.003	3.823	.022 ^c
	Residual	.012	14	.001		
	Total	.028	19			

a. Sector_Name = Real Estate

b. Dependent Variable: ROA

c. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Leverage_Ratio, Tangibility, Interaction_Lev_Size

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.480	5.689		-.963	.352
	Leverage_Ratio	17.510	16.979	13.588	1.031	.320
	Firm_Size_Log	.598	.590	2.898	1.012	.329

Interaction_Lev_Size	-1.881	1.808	-14.350	-1.041	.316
Tangibility	-.071	.515	-.033	-.138	.892
Sales_Growth	.359	.111	.686	3.228	.006

a. Sector_Name = Real Estate

b. Dependent Variable: ROA

Sector_Name = Services

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
--------------	--------------------------	--------------------------	---------------

1	Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_ Size, Leverage_Ratio ^c	.	Enter
---	---	---	-------

a. Sector_Name = Services

b. Dependent Variable: ROA

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.792 ^b	.628	.550	.012296

a. Sector_Name = Services

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.006	5	.001	8.102	.000 ^c
	Residual	.004	24	.000		
	Total	.010	29			

a. Sector_Name = Services

b. Dependent Variable: ROA

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

Coefficients^{a,b}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	-.440	.436		-1.010	.323
	Leverage_Ratio	2.128	1.447	5.153	1.470	.155
	Firm_Size_Log	.061	.046	1.764	1.335	.195
	Interaction_Lev_Size	-.255	.154	-5.557	-1.651	.112
	Tangibility	.012	.050	.056	.248	.806
	Sales_Growth	.043	.027	.232	1.616	.119

a. Sector_Name = Services

b. Dependent Variable: ROA

Sector_Name = Technology

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio ^c		. Enter

a. Sector_Name = Technology

b. Dependent Variable: ROA

c. Tolerance = .000 limit reached.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.986 ^b	.973	.951	.001760

a. Sector_Name = Technology

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.001	4	.000	45.126	.000 ^c
	Residual	.000	5	.000		
	Total	.001	9			

a. Sector_Name = Technology

b. Dependent Variable: ROA

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio

Coefficients^{a,b}

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
-------	-----------------------------	---------------------------	---	------

		B	Std. Error	Beta		
1	(Constant)	-.146	.064		-2.270	.072
	Leverage_Ratio	.240	.060	.822	4.016	.010
	Firm_Size_Log	.013	.007	.310	1.726	.145
	Tangibility	.259	.182	.156	1.422	.214
	Sales_Growth	-.040	.020	-.148	-1.962	.107

a. Sector_Name = Technology

b. Dependent Variable: ROA

Excluded Variables^{a,b}

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Interaction_Lev_Size	13.445 ^c	1.304	.262	.546	4.446E-5

a. Sector_Name = Technology

b. Dependent Variable: ROA

c. Predictors in the Model: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio

Sector_Name = Telecoms

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Firm_Size_Log, Interaction_Lev_ Size, Tangibility, Leverage_Ratio ^c		. Enter

a. Sector_Name = Telecoms

b. Dependent Variable: ROA

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.887 ^b	.787	.710	.012401

a. Sector_Name = Telecoms

b. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Interaction_Lev_Size, Tangibility, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.008	5	.002	10.326	.000 ^c

Residual	.002	14	.000		
Total	.010	19			

a. Sector_Name = Telecoms

b. Dependent Variable: ROA

c. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Interaction_Lev_Size, Tangibility, Leverage_Ratio

Coefficients^{a,b}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1					
(Constant)	-.534	1.031		-.517	.613
Leverage_Ratio	3.032	2.366	4.635	1.281	.221
Firm_Size_Log	.081	.092	2.018	.883	.392
Interaction_Lev_Size	-.277	.205	-4.245	-1.352	.198

Tangibility	-.459	.362	-.285	-1.269	.225
Sales_Growth	.039	.062	.096	.627	.541

a. Sector_Name = Telecoms

b. Dependent Variable: ROA

Sector_Name = Utilities

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
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1	Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_ Size, Leverage_Ratio ^c	.	Enter
---	---	---	-------

a. Sector_Name = Utilities

b. Dependent Variable: ROA

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.591 ^b	.349	.254	.008208

a. Sector_Name = Utilities

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.001	5	.000	3.651	.009 ^c
	Residual	.002	34	.000		
	Total	.004	39			

a. Sector_Name = Utilities

b. Dependent Variable: ROA

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

Coefficients^{a,b}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	-.900	.406		-2.219	.033
	Leverage_Ratio	1.700	.715	17.716	2.378	.023
	Firm_Size_Log	.094	.039	7.775	2.382	.023
	Interaction_Lev_Size	-.177	.073	-15.071	-2.424	.021
	Tangibility	.033	.047	.180	.706	.485
	Sales_Growth	.022	.024	.147	.915	.367

a. Sector_Name = Utilities

b. Dependent Variable: ROA

Appendix 7: SORT CASES BY Sector_Name. Regression (SPSS Output)_ Dependent ROE

Notes

Output Created		13-JAN-2026 15:47:27
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>

	Weight	<none>
	Split File	Sector_Name
	N of Rows in Working Data File	500
	Missing Value Handling	
	Definition of Missing	User-defined missing values are treated as missing.
Syntax	Cases Used	Statistics are based on cases with no missing values for any variable used.
		REGRESSION
		/MISSING LISTWISE
		/STATISTICS COEFF OUTS R ANOVA
Resources		/CRITERIA=PIN(.05) POUT(.10)
		/NOORIGIN
		/DEPENDENT ROE
		/METHOD=ENTER Leverage_Ratio Firm_Size_Log Interaction_Lev_Size Tangibility Sales_Growth.
	Processor Time	00:00:00.08
	Elapsed Time	00:00:00.10

Memory Required	5536 bytes
Additional Memory Required for Residual Plots	0 bytes

Sector_Name = Consumer

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Interaction_Lev_ Size, Tangibility, Firm_Size_Log, Leverage_Ratio ^c		. Enter

a. Sector_Name = Consumer

b. Dependent Variable: ROE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.531 ^b	.282	.251	.169150

a. Sector_Name = Consumer

b. Predictors: (Constant), Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.281	5	.256	8.957	.000 ^c
	Residual	3.262	114	.029		

Total	4.543	119			
--------------	-------	-----	--	--	--

a. Sector_Name = Consumer

b. Dependent Variable: ROE

c. Predictors: (Constant), Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio

Coefficients^{a,b}

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.107	.634		.168	.867
	Leverage_Ratio	.974	1.854	.670	.525	.600
	Firm_Size_Log	.012	.074	.064	.158	.875
	Interaction_Lev_Size	-.033	.201	-.228	-.162	.871
	Tangibility	-.523	.125	-.530	-4.203	.000

Sales_Growth	.387	.106	.301	3.648	.000
---------------------	------	------	------	-------	------

a. Sector_Name = Consumer

b. Dependent Variable: ROE

Sector_Name = Energy

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Firm_Size_Log, Interaction_Lev_ Size, Tangibility, Leverage_Ratio ^c	.	Enter

a. Sector_Name = Energy

b. Dependent Variable: ROE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.967 ^b	.935	.911	.026578

a. Sector_Name = Energy

b. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Interaction_Lev_Size, Tangibility, Leverage_Ratio

ANOVA^{a,b}

Model	Sum of Squares	df	Mean Square	F	Sig.
-------	----------------	----	-------------	---	------

1	Regression	.142	5	.028	40.105	.000 ^c
	Residual	.010	14	.001		
	Total	.152	19			

a. Sector_Name = Energy

b. Dependent Variable: ROE

c. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Interaction_Lev_Size, Tangibility, Leverage_Ratio

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.718	2.954		.243	.811
	Leverage_Ratio	-5.894	11.895	-1.983	-.495	.628
	Firm_Size_Log	-.098	.233	-.148	-.418	.682

Interaction_Lev_Size	.271	.930	1.149	.292	.775
Tangibility	2.080	.674	.407	3.084	.008
Sales_Growth	.532	.060	.634	8.903	.000

a. Sector_Name = Energy

b. Dependent Variable: ROE

Sector_Name = Financials

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
--------------	--------------------------	--------------------------	---------------

1	Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio, Interaction_Lev_ Size ^c	.	Enter
---	---	---	-------

a. Sector_Name = Financials

b. Dependent Variable: ROE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.821 ^b	.674	.655	.052074

a. Sector_Name = Financials

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio, Interaction_Lev_Size

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.471	5	.094	34.766	.000 ^c
	Residual	.228	84	.003		
	Total	.699	89			

a. Sector_Name = Financials

b. Dependent Variable: ROE

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio, Interaction_Lev_Size

Coefficients^{a,b}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	.120	.311		.387	.700
	Leverage_Ratio	.319	.451	1.137	.708	.481
	Firm_Size_Log	.015	.032	.346	.488	.627
	Interaction_Lev_Size	-.044	.043	-2.261	-1.027	.307
	Tangibility	-2.076	1.142	-.272	-1.818	.073
	Sales_Growth	.436	.090	.359	4.840	.000

a. Sector_Name = Financials

b. Dependent Variable: ROE

Sector_Name = Healthcare

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_ Size ^c		. Enter

a. Sector_Name = Healthcare

b. Dependent Variable: ROE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.956 ^b	.913	.895	.026470

a. Sector_Name = Healthcare

b. Predictors: (Constant), Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_Size

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.177	5	.035	50.423	.000 ^c
	Residual	.017	24	.001		
	Total	.193	29			

a. Sector_Name = Healthcare

b. Dependent Variable: ROE

c. Predictors: (Constant), Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_Size

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.361	.784		.461	.649
	Leverage_Ratio	-5.204	2.853	-4.539	-1.824	.081
	Firm_Size_Log	-.019	.072	-.187	-.268	.791
	Interaction_Lev_Size	.478	.261	5.441	1.827	.080
	Tangibility	.198	.139	.163	1.426	.167
	Sales_Growth	-.005	.091	-.004	-.053	.958

a. Sector_Name = Healthcare

b. Dependent Variable: ROE

Sector_Name = Industrials

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio ^c	.	Enter

a. Sector_Name = Industrials

b. Dependent Variable: ROE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.331 ^b	.110	-.021	.227803

a. Sector_Name = Industrials

b. Predictors: (Constant), Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.217	5	.043	.838	.532 ^c
	Residual	1.764	34	.052		
	Total	1.982	39			

a. Sector_Name = Industrials

b. Dependent Variable: ROE

c. Predictors: (Constant), Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.424	5.693		-.777	.442
	Leverage_Ratio	8.478	13.216	4.866	.641	.526
	Firm_Size_Log	.440	.559	1.217	.786	.437
	Interaction_Lev_Size	-.714	1.293	-3.369	-.552	.584
	Tangibility	-.190	.316	-.184	-.601	.552
	Sales_Growth	-.447	.498	-.192	-.897	.376

a. Sector_Name = Industrials

b. Dependent Variable: ROE

Sector_Name = Materials

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_ Size, Leverage_Ratio ^c		. Enter

a. Sector_Name = Materials

b. Dependent Variable: ROE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
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1	.820 ^b	.673	.643	.059361
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a. Sector_Name = Materials

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.392	5	.078	22.222	.000 ^c
	Residual	.190	54	.004		
	Total	.582	59			

a. Sector_Name = Materials

b. Dependent Variable: ROE

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

Coefficients^{a,b}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-1.873	.837		-2.237	.029
Leverage_Ratio	7.018	2.501	3.712	2.806	.007
Firm_Size_Log	.197	.071	2.524	2.760	.008
Interaction_Lev_Size	-.767	.224	-3.212	-3.422	.001
Tangibility	.308	.088	.336	3.492	.001
Sales_Growth	.264	.064	.353	4.119	.000

a. Sector_Name = Materials

b. Dependent Variable: ROE

Sector_Name = Media

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_ Size ^c	.	Enter

a. Sector_Name = Media

b. Dependent Variable: ROE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.925 ^b	.856	.804	.084032

a. Sector_Name = Media

b. Predictors: (Constant), Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_Size

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.586	5	.117	16.607	.000 ^c
	Residual	.099	14	.007		
	Total	.685	19			

a. Sector_Name = Media

b. Dependent Variable: ROE

c. Predictors: (Constant), Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_Size

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.139	8.860		-.354	.728
	Leverage_Ratio	9.289	14.284	3.868	.650	.526
	Firm_Size_Log	.245	.771	.613	.318	.755
	Interaction_Lev_Size	-.941	1.458	-3.107	-.645	.529
	Tangibility	1.388	2.028	.535	.684	.505
	Sales_Growth	.904	.346	.363	2.616	.020

a. Sector_Name = Media

b. Dependent Variable: ROE

Sector_Name = Real Estate

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Firm_Size_Log, Leverage_Ratio, Tangibility, Interaction_Lev_ Size ^c		Enter

a. Sector_Name = Real Estate

b. Dependent Variable: ROE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.769 ^b	.591	.444	.049205

a. Sector_Name = Real Estate

b. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Leverage_Ratio, Tangibility, Interaction_Lev_Size

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.049	5	.010	4.040	.018 ^c
	Residual	.034	14	.002		

Total	.083	19			
--------------	------	----	--	--	--

a. Sector_Name = Real Estate

b. Dependent Variable: ROE

c. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Leverage_Ratio, Tangibility, Interaction_Lev_Size

Coefficients^{a,b}

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-10.513	9.661		-1.088	.295
	Leverage_Ratio	33.829	28.834	15.211	1.173	.260
	Firm_Size_Log	1.149	1.003	3.230	1.146	.271
	Interaction_Lev_Size	-3.620	3.070	-16.001	-1.179	.258
	Tangibility	-.217	.874	-.057	-.248	.808

Sales_Growth	.641	.189	.710	3.395	.004
---------------------	------	------	------	-------	------

a. Sector_Name = Real Estate

b. Dependent Variable: ROE

Sector_Name = Services

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_ Size, Leverage_Ratio ^c	.	Enter

a. Sector_Name = Services

b. Dependent Variable: ROE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.833 ^b	.694	.630	.030965

a. Sector_Name = Services

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

ANOVA^{a,b}

Model	Sum of Squares	df	Mean Square	F	Sig.
-------	----------------	----	-------------	---	------

1	Regression	.052	5	.010	10.865	.000 ^c
	Residual	.023	24	.001		
	Total	.075	29			

a. Sector_Name = Services

b. Dependent Variable: ROE

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.366	1.098		-.334	.741
	Leverage_Ratio	2.798	3.645	2.443	.768	.450
	Firm_Size_Log	.082	.115	.856	.713	.483

Interaction_Lev_Size	-.387	.389	-3.045	-.997	.329
Tangibility	.025	.125	.042	.203	.841
Sales_Growth	.118	.067	.228	1.748	.093

a. Sector_Name = Services

b. Dependent Variable: ROE

Sector_Name = Technology

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
--------------	--------------------------	--------------------------	---------------

1	Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio ^c	.	Enter
---	--	---	-------

a. Sector_Name = Technology

b. Dependent Variable: ROE

c. Tolerance = .000 limit reached.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.504 ^b	.254	-.344	.005303

a. Sector_Name = Technology

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.000	4	.000	.425	.786 ^c
	Residual	.000	5	.000		
	Total	.000	9			

a. Sector_Name = Technology

b. Dependent Variable: ROE

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.363	.193		1.878	.119

Leverage_Ratio	-.100	.180	-.597	-.554	.603
Firm_Size_Log	.005	.022	.229	.242	.818
Tangibility	-.601	.549	-.635	-1.096	.323
Sales_Growth	-.037	.061	-.243	-.613	.567

a. Sector_Name = Technology

b. Dependent Variable: ROE

Excluded Variables^{a,b}

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Interaction_Lev_Size	56.202 ^c	.963	.390	.434	4.446E-5

a. Sector_Name = Technology

b. Dependent Variable: ROE

c. Predictors in the Model: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio

Sector_Name = Telecoms

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Firm_Size_Log, Interaction_Lev_Size, Tangibility, Leverage_Ratio ^c		. Enter

a. Sector_Name = Telecoms

b. Dependent Variable: ROE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.959 ^b	.920	.891	.036091

a. Sector_Name = Telecoms

b. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Interaction_Lev_Size, Tangibility, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.209	5	.042	32.155	.000 ^c
	Residual	.018	14	.001		
	Total	.228	19			

a. Sector_Name = Telecoms

b. Dependent Variable: ROE

c. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Interaction_Lev_Size, Tangibility, Leverage_Ratio

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.094	3.002		-1.364	.194
	Leverage_Ratio	18.175	6.887	5.849	2.639	.019
	Firm_Size_Log	.505	.268	2.644	1.887	.080
	Interaction_Lev_Size	-1.570	.597	-5.059	-2.629	.020
	Tangibility	-2.495	1.053	-.326	-2.370	.033
	Sales_Growth	.286	.181	.149	1.585	.135

a. Sector_Name = Telecoms

b. Dependent Variable: ROE

Sector_Name = Utilities

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio ^c		Enter

a. Sector_Name = Utilities

b. Dependent Variable: ROE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.469 ^b	.220	.105	.027997

a. Sector_Name = Utilities

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.008	5	.002	1.918	.117 ^c
	Residual	.027	34	.001		

Total	.034	39			
--------------	------	----	--	--	--

a. Sector_Name = Utilities

b. Dependent Variable: ROE

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

Coefficients^{a,b}

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.240	1.384		-1.618	.115
	Leverage_Ratio	4.265	2.439	14.267	1.749	.089
	Firm_Size_Log	.230	.134	6.143	1.719	.095
	Interaction_Lev_Size	-.448	.249	-12.242	-1.798	.081
	Tangibility	.169	.160	.294	1.054	.299

Sales_Growth	.076	.082	.163	.926	.361
---------------------	------	------	------	------	------

a. Sector_Name = Utilities

b. Dependent Variable: ROE

**Appendix 8: SORT CASES BY Sector_Name. Regression (SPSS Output)_
Dependent ROCE**

Notes

Output Created		13-JAN-2026 15:47:37
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	Sector_Name
	N of Rows in Working Data File	500
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

Syntax	Cases Used	Statistics are based on cases with no missing values for any variable used.
		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT ROCE /METHOD=ENTER Leverage_Ratio Firm_Size_Log Interaction_Lev_Size Tangibility Sales_Growth.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.04
	Memory Required	5536 bytes
	Additional Memory Required for Residual Plots	0 bytes

Sector_Name = Consumer

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio ^c		Enter

a. Sector_Name = Consumer

b. Dependent Variable: ROCE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.632 ^b	.399	.373	.064887

a. Sector_Name = Consumer

b. Predictors: (Constant), Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.319	5	.064	15.145	.000 ^c
	Residual	.480	114	.004		
	Total	.799	119			

a. Sector_Name = Consumer

b. Dependent Variable: ROCE

c. Predictors: (Constant), Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio

Coefficients^{a,b}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.412	.243		1.696	.093
Leverage_Ratio	-.364	.711	-.596	-.511	.610
Firm_Size_Log	-.018	.028	-.240	-.641	.523
Interaction_Lev_Size	.050	.077	.831	.647	.519
Tangibility	-.272	.048	-.657	-5.703	.000
Sales_Growth	.087	.041	.162	2.145	.034

a. Sector_Name = Consumer

b. Dependent Variable: ROCE

Sector_Name = Energy

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Firm_Size_Log, Interaction_Lev_ Size, Tangibility, Leverage_Ratio ^c		. Enter

a. Sector_Name = Energy

b. Dependent Variable: ROCE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.969 ^b	.938	.916	.012482

a. Sector_Name = Energy

b. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Interaction_Lev_Size, Tangibility, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.033	5	.007	42.507	.000 ^c
	Residual	.002	14	.000		
	Total	.035	19			

a. Sector_Name = Energy

b. Dependent Variable: ROCE

c. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Interaction_Lev_Size, Tangibility, Leverage_Ratio

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.140	1.387		-.822	.425
	Leverage_Ratio	.383	5.586	.267	.069	.946
	Firm_Size_Log	.105	.110	.330	.960	.353
	Interaction_Lev_Size	-.107	.437	-.938	-.245	.810
	Tangibility	.255	.317	.103	.806	.434
	Sales_Growth	.186	.028	.460	6.647	.000

a. Sector_Name = Energy

b. Dependent Variable: ROCE

Sector_Name = Financials

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio, Interaction_Lev_ Size ^c		. Enter

a. Sector_Name = Financials

b. Dependent Variable: ROCE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.970 ^b	.941	.938	.021570

a. Sector_Name = Financials

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio, Interaction_Lev_Size

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.625	5	.125	268.527	.000 ^c
	Residual	.039	84	.000		

Total	.664	89			
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a. Sector_Name = Financials

b. Dependent Variable: ROCE

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio, Interaction_Lev_Size

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.384	.129		2.987	.004
	Leverage_Ratio	-.404	.187	-1.479	-2.164	.033
	Firm_Size_Log	-.003	.013	-.059	-.196	.845
	Interaction_Lev_Size	.004	.018	.219	.234	.815
	Tangibility	-3.276	.473	-.440	-6.927	.000

Sales_Growth	.061	.037	.052	1.637	.105
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a. Sector_Name = Financials

b. Dependent Variable: ROCE

Sector_Name = Healthcare

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_ Size ^c	.	Enter

a. Sector_Name = Healthcare

b. Dependent Variable: ROCE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.932 ^b	.869	.842	.015933

a. Sector_Name = Healthcare

b. Predictors: (Constant), Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_Size

ANOVA^{a,b}

Model	Sum of Squares	df	Mean Square	F	Sig.
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1	Regression	.040	5	.008	31.885	.000 ^c
	Residual	.006	24	.000		
	Total	.047	29			

a. Sector_Name = Healthcare

b. Dependent Variable: ROCE

c. Predictors: (Constant), Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_Size

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.115	.472		.243	.810
	Leverage_Ratio	-2.377	1.717	-4.226	-1.384	.179
	Firm_Size_Log	.005	.043	.106	.124	.902

Interaction_Lev_Size	.206	.157	4.775	1.307	.204
Tangibility	.104	.083	.175	1.247	.225
Sales_Growth	.003	.055	.004	.048	.962

a. Sector_Name = Healthcare

b. Dependent Variable: ROCE

Sector_Name = Industrials

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
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1	Sales_Growth, Interaction_Lev_ Size, Tangibility, Firm_Size_Log, Leverage_Ratio ^c	.	Enter
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a. Sector_Name = Industrials

b. Dependent Variable: ROCE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.766 ^b	.586	.525	.124176

a. Sector_Name = Industrials

b. Predictors: (Constant), Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.743	5	.149	9.634	.000 ^c
	Residual	.524	34	.015		
	Total	1.267	39			

a. Sector_Name = Industrials

b. Dependent Variable: ROCE

c. Predictors: (Constant), Sales_Growth, Interaction_Lev_Size, Tangibility, Firm_Size_Log, Leverage_Ratio

Coefficients^{a,b}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	7.471	3.103		2.408	.022
	Leverage_Ratio	-13.976	7.204	-10.032	-1.940	.061
	Firm_Size_Log	-.716	.305	-2.477	-2.347	.025
	Interaction_Lev_Size	1.314	.705	7.757	1.865	.071
	Tangibility	-.052	.172	-.063	-.302	.765
	Sales_Growth	1.480	.271	.795	5.454	.000

a. Sector_Name = Industrials

b. Dependent Variable: ROCE

Sector_Name = Materials

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_ Size, Leverage_Ratio ^c		. Enter

a. Sector_Name = Materials

b. Dependent Variable: ROCE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.863 ^b	.746	.722	.039366

a. Sector_Name = Materials

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.245	5	.049	31.655	.000 ^c
	Residual	.084	54	.002		
	Total	.329	59			

a. Sector_Name = Materials

b. Dependent Variable: ROCE

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.295	.555		-2.332	.023
	Leverage_Ratio	4.683	1.659	3.294	2.824	.007
	Firm_Size_Log	.148	.047	2.531	3.138	.003
	Interaction_Lev_Size	-.542	.149	-3.017	-3.645	.001
	Tangibility	.238	.059	.346	4.070	.000
	Sales_Growth	.128	.042	.227	3.009	.004

a. Sector_Name = Materials

b. Dependent Variable: ROCE

Sector_Name = Media

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_ Size ^c	.	Enter

a. Sector_Name = Media

b. Dependent Variable: ROCE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.981 ^b	.963	.950	.018143

a. Sector_Name = Media

b. Predictors: (Constant), Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_Size

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.121	5	.024	73.278	.000 ^c
	Residual	.005	14	.000		
	Total	.125	19			

a. Sector_Name = Media

b. Dependent Variable: ROCE

c. Predictors: (Constant), Sales_Growth, Leverage_Ratio, Tangibility, Firm_Size_Log, Interaction_Lev_Size

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.844	1.913		2.009	.064
	Leverage_Ratio	-5.377	3.084	-5.238	-1.744	.103
	Firm_Size_Log	-.367	.167	-2.147	-2.206	.045
	Interaction_Lev_Size	.497	.315	3.840	1.579	.137
	Tangibility	.235	.438	.212	.537	.600
	Sales_Growth	.202	.075	.190	2.706	.017

a. Sector_Name = Media

b. Dependent Variable: ROCE

Sector_Name = Real Estate

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Firm_Size_Log, Leverage_Ratio, Tangibility, Interaction_Lev_ Size ^c	.	Enter

a. Sector_Name = Real Estate

b. Dependent Variable: ROCE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.766 ^b	.587	.439	.032672

a. Sector_Name = Real Estate

b. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Leverage_Ratio, Tangibility, Interaction_Lev_Size

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.021	5	.004	3.976	.019 ^c
	Residual	.015	14	.001		
	Total	.036	19			

a. Sector_Name = Real Estate

b. Dependent Variable: ROCE

c. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Leverage_Ratio, Tangibility, Interaction_Lev_Size

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.453	6.415		-1.006	.332
	Leverage_Ratio	20.074	19.146	.13.658	1.048	.312
	Firm_Size_Log	.677	.666	.2.879	1.017	.326
	Interaction_Lev_Size	-2.165	2.038	-.14.481	-1.062	.306
	Tangibility	.228	.581	.091	.393	.700
	Sales_Growth	.377	.125	.631	3.003	.009

a. Sector_Name = Real Estate

b. Dependent Variable: ROCE

Sector_Name = Services

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_ Size, Leverage_Ratio ^c		. Enter

a. Sector_Name = Services

b. Dependent Variable: ROCE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.821 ^b	.675	.607	.022062

a. Sector_Name = Services

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.024	5	.005	9.949	.000 ^c
	Residual	.012	24	.000		
	Total	.036	29			

a. Sector_Name = Services

b. Dependent Variable: ROCE

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

Coefficients^{a,b}

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.853	.782		-1.090	.287
	Leverage_Ratio	2.976	2.597	3.757	1.146	.263
	Firm_Size_Log	.128	.082	1.930	1.561	.132
	Interaction_Lev_Size	-.382	.277	-4.344	-1.380	.180
	Tangibility	-.084	.089	-.200	-.941	.356
	Sales_Growth	.075	.048	.211	1.569	.130

a. Sector_Name = Services

b. Dependent Variable: ROCE

Sector_Name = Technology

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio ^c		. Enter

a. Sector_Name = Technology

b. Dependent Variable: ROCE

c. Tolerance = .000 limit reached.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.945 ^b	.893	.807	.002694

a. Sector_Name = Technology

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.000	4	.000	10.380	.012 ^c
	Residual	.000	5	.000		

Total	.000	9			
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a. Sector_Name = Technology

b. Dependent Variable: ROCE

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.244	.098		2.484	.056
	Leverage_Ratio	-.164	.091	-.735	-1.799	.132
	Firm_Size_Log	-.003	.011	-.103	-.286	.786
	Tangibility	.122	.279	.096	.437	.680
	Sales_Growth	-.032	.031	-.154	-1.022	.354

a. Sector_Name = Technology

b. Dependent Variable: ROCE

Excluded Variables^{a,b}

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
					Tolerance
1 Interaction_Lev_Size	10.386 ^c	.432	.688	.211	4.446E-5

a. Sector_Name = Technology

b. Dependent Variable: ROCE

c. Predictors in the Model: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Leverage_Ratio

Sector_Name = Telecoms

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Firm_Size_Log, Interaction_Lev_ Size, Tangibility, Leverage_Ratio ^c	.	Enter

a. Sector_Name = Telecoms

b. Dependent Variable: ROCE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988 ^b	.976	.967	.006038

a. Sector_Name = Telecoms

b. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Interaction_Lev_Size, Tangibility, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.021	5	.004	112.742	.000 ^c
	Residual	.001	14	.000		
	Total	.021	19			

a. Sector_Name = Telecoms

b. Dependent Variable: ROCE

c. Predictors: (Constant), Sales_Growth, Firm_Size_Log, Interaction_Lev_Size, Tangibility, Leverage_Ratio

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.844	.502		1.680	.115
	Leverage_Ratio	.908	1.152	.961	.789	.444
	Firm_Size_Log	-.028	.045	-.488	-.633	.537
	Interaction_Lev_Size	-.088	.100	-.932	-.881	.393
	Tangibility	-.589	.176	-.253	-3.343	.005
	Sales_Growth	.061	.030	.105	2.021	.063

a. Sector_Name = Telecoms

b. Dependent Variable: ROCE

Sector_Name = Utilities

Variables Entered/Removed^{a,b}

Model	Variables Entered	Variables Removed	Method
1	Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio ^c		Enter

a. Sector_Name = Utilities

b. Dependent Variable: ROCE

c. All requested variables entered.

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
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1	.917 ^b	.842	.818	.008168
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a. Sector_Name = Utilities

b. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

ANOVA^{a,b}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.012	5	.002	36.106	.000 ^c
	Residual	.002	34	.000		
	Total	.014	39			

a. Sector_Name = Utilities

b. Dependent Variable: ROCE

c. Predictors: (Constant), Sales_Growth, Tangibility, Firm_Size_Log, Interaction_Lev_Size, Leverage_Ratio

Coefficients^{a,b}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.398	.404		-.985	.332
Leverage_Ratio	.886	.712	4.577	1.245	.222
Firm_Size_Log	.059	.039	2.418	1.501	.143
Interaction_Lev_Size	-.105	.073	-4.413	-1.438	.160
Tangibility	-.041	.047	-.110	-.875	.388
Sales_Growth	.008	.024	.025	.315	.755

a. Sector_Name = Utilities

b. Dependent Variable: ROCE

Appendix 9: Sectoral Graphs (SPSS-Generated)

