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A

Project Report

On

Impact of Performance Indicators on LSEG Finance and Credit Services Sector Stock Returns: Moderation by DPR and DAR

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Abstract

This research investigates the relationships between key financial metrics—Net Profit Margin (NPM), Return on Assets (ROA), and Current Ratio (CR)—and their influence on stock returns, with a particular focus on the moderating effects of Dividend Payout Ratio (DPR) and Debt to Asset Ratio (DAR). The study employs a quantitative methodology, utilizing statistical analysis techniques such as multiple linear regression and moderated regression analysis to evaluate the relationships among these financial metrics and stock returns. Data collected from reliable sources between 2019 and 2023 forms the basis for this analysis. The research addresses several key questions: How do NPM, ROA, and CR individually contribute to stock return fluctuations? What is the combined impact of these metrics on stock returns? And how do DPR and DAR moderate these relationships? Previous research has established individual correlations between financial metrics and stock prices, yet the moderating roles of DPR and DAR remain underexplored. This study aims to fill this gap by providing an extensive analysis of how these financial indicators interact and influence stock returns, enhancing the understanding of market dynamics. The findings of this research hold significant implications for both academic theory and practical investment strategies. By elucidating the intricate relationships between financial metrics and stock performance, this study contributes to the existing literature on financial analysis and offers actionable insights for investors and financial analysts. Understanding these dynamics can lead to more informed investment decisions and improved capital allocation strategies for companies.

Keywords: *Financial Metrics, Stock Returns, Net Profit Margin, Return on Assets, Current Ratio, Dividend Payout Ratio, Debt to Asset Ratio, Quantitative Analysis, Market Dynamics, Investment Strategies*

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Chapter - 1: Introduction

1.1 Background

The lifeblood of any economy is its ability to efficiently allocate capital, and this is where the financial and credit services sector steps in, acting as the invisible conductor of a complex financial orchestra. From facilitating business loans that fuel growth to managing investments that secure our future, this sector plays a vital role in driving economic prosperity. Yet, within this intricate world lies a hidden language – a language spoken in financial metrics.

The financial and credit services sector’s language is as complex as a tax code, yet somehow even more charming. Investors, armed with their trusty financial metrics, attempt to decipher this language, and assess a company's true potential. Financial metrics provide speedy and simple methods to assess the financial health of a company (McLaney and Atrill, 2023). Among these metrics, Net Profit Margin (NPM), Return on Assets (ROA), and Current Ratio (CR) stand out as fundamental measures that provide insights into different facets of a company's operations and financial standing.

Net Profit Margin reflects how effectively a company converts revenue into net profit, highlighting its efficiency in generating profits from sales. Return on Assets assesses how well a company uses its assets to generate profits, revealing insights into operational efficiency. The company's ability to satisfy short-term financial obligations is shown by the Current Ratio, which calculates a company's liquidity by comparing its current assets to liabilities (CFA Institute, 2023). On the other hand, stock returns are influenced by internal factors such as company fundamentals and systematic risk, as well as external factors such as economic policies and inflation (Subing and Kusumah, 2017).

Stock returns are of paramount importance as they represent the profitability of an investment relative to its cost, reflecting the market's perception of a company's performance and growth prospects. High returns indicate successful management and strong market position, attracting more investment and increasing the company's value. Conversely, low, or negative returns can signal financial troubles, leading to reduced investor confidence and potential financial instability. Understanding stock

returns allows stakeholders to gauge the effectiveness of a company's strategies and make informed decisions about buying, holding, or selling stocks (Murphy, 2022).

The study of financial metrics and their impact on stock returns has long been a subject of interest among researchers and practitioners in the field of finance. Numerous studies have explored the relationships between various financial indicators and stock returns, shedding light on the factors that drive stock market fluctuations and investor behaviour. However, the specific interactions between NPM, ROA, CR, and stock returns, particularly in the context of moderation by DPR and DAR, remain underexplored.

Understanding these relationships is not only academically intriguing but also holds practical significance for investors, financial analysts, and companies alike. By gaining insights into how financial metrics influence stock returns, investors can make more informed investment decisions, while companies can better understand the factors driving their stock performance and take proactive measures to enhance shareholder value. The connection between financial ratios and stock returns is profound; financial ratios such as NPM, ROA, and CR are not mere numbers but critical indicators of a company's overall financial health and strategic effectiveness. Net Profit Margin (NPM) reveals the company's efficiency in converting revenue into actual profit, directly impacting investor confidence and perceived value. Return on Assets (ROA), which gauges how well a business uses its resources to turn a profit, offers information about managerial effectiveness and operational efficiency. The Current Ratio (CR) evaluates the short-term liquidity of an organization and its capacity to satisfy short-term financial obligations, reflecting its financial stability. These ratios collectively decode the narrative behind stock returns, offering a comprehensive view of a company's operational strength, profitability, and financial resilience, all of which are pivotal for investors in making informed decisions.

1.2 Research Problem

The primary research problem addressed in this study is the need to gain a deeper understanding of the relationships between key financial metrics—NPM, ROA, CR—and stock returns, considering the moderation effects of DPR and DAR. While earlier research has examined the individual impact of these financial indicators on stock returns, limited attention has been paid to their combined influence and the moderating

role of dividend payout and debt levels. Addressing this research problem is essential for advancing our knowledge of stock market dynamics and offering practical insights for investors and financial decision-makers.

1.3 Research Method

This study takes a quantitative approach and applies statistical analysis techniques to address the research problem. Using a deductive approach to research, theories and literature are consulted to generate hypotheses. Data gathering takes place between 2019 and 2023 and includes financial data and annual stock returns obtained from reliable databases and annual reports. The moderating effects of the Dividend Payout Ratio (DPR) and Debt to Asset Ratio (DAR) are considered while conducting statistical analyses, such as multiple linear regression and moderated regression analysis, to examine the links between financial measures and stock returns.

1.4 Research Questions

1. How do NPM, ROA, and CR individually contribute to stock returns fluctuations?
2. How does the combination of NPM, ROA, and CR collectively impact stock returns?
3. To what extent do DPR and DAR moderate the relationships between financial metrics (NPM, ROA, and CR) and stock returns?

1.4 Research Objectives

1. To analyse the individual impact of NPM, ROA, and CR on stock returns.
2. To evaluate the combined effect of NPM, ROA, and CR on stock returns.
3. To examine the moderation effects of DPR and DAR on the relationships between financial metrics (NPM, ROA, CR) and stock returns.

1.5 Research Significance

This research has important implications for both academia and practical application. From an academic perspective, it adds to the current knowledge by uncovering the intricate relationships between financial metrics and stock returns, while also considering how dividend payouts and debt levels moderate these interactions. On a

practical level, the research findings can offer valuable insights to investors, financial analysts, and businesses aiming to understand the complexities of the stock market and make informed decisions related to investment strategies, capital allocation, and financial management.

1.6 Project Structure

This study is organised as follows:

- Chapter 1: Introduction – Provides an overview of the research background, problem, objectives, and significance.
- Chapter 2: Literature Review – Reviews existing studies and theories related to financial metrics and stock returns.
- Chapter 3: Research Methodology – Details the research design, data collection, and analysis methods.
- Chapter 4: Data Analysis and Results – Presents the findings from the statistical analyses.
- Chapter 5: Discussion – Discusses the implications, limitations, and recommendations based on the findings.
- Chapter 6: Recommendations and Conclusion – Summarises the key points, offers suggestions based on the research findings, and highlights areas for future research.

By systematically addressing the research questions and objectives, this project aims to contribute valuable insights to the field of finance, enhancing our understanding of the dynamics between financial metrics and stock returns, with particular attention to the moderating roles of dividend payout and debt levels.

Chapter - 2: Literature Review

This chapter provides a comprehensive review of the theoretical foundations and empirical studies relevant to the relationship between financial ratios and stock returns. It begins with an exploration of key financial theories which form the basis for understanding how markets react to financial information. The chapter also delves into existing literature on the effects of Net Profit Margin (NPM), Return on Assets (ROA), and Current Ratio (CR) on stock prices, followed by a discussion on the moderating roles of Dividend Payout Ratio (DPR) and Debt to Asset Ratio (DAR). The review concludes with the identification of research gaps and the development of hypotheses that guide this study.

2.1 Theoretical review

2.1.1 Efficient Market Hypothesis

According to Fama's (1970) Efficient Market Hypothesis (EMH), asset prices are determined by financial markets in an efficient manner, hence rendering it unfeasible to continuously outperform the market. This influential paper laid the foundation for understanding market efficiency and has significantly shaped the field of finance.

1. **Weak Form Efficiency**: In weak form efficiency, asset prices reflect all past trading information, implying that technical analysis cannot reliably predict future price movements.
2. **Semi-Strong Form Efficiency**: Semi-strong form efficiency extends this to include all publicly available information, such as earnings reports and news releases, which are rapidly incorporated into asset prices, making fundamental analysis ineffective in consistently generating abnormal returns.
3. **Strong Form Efficiency**: Strong form efficiency asserts that asset prices reflect all information, both public and private, including insider information. This implies that neither technical analysis nor fundamental analysis can consistently outperform the market in a strongly efficient market.

2.1.2 Signalling Theory

Signaling theory proposes that managerial decisions, such as dividend announcements, function as signals to investors, offering insights into a company's performance and prospects. It addresses the information gap between managers and

investors, suggesting that these signals help mitigate this disparity by providing clues about the company's intrinsic value. Essentially, signaling theory underscores how managerial actions serve as indicators for investors, shaping their investment choices based on their perceptions of the company's outlook and performance (Puspitaningtyas, 2019).

2.1.3 Clientele Effect

The clientele effect refers to the phenomenon where different investor groups, known as clienteles, exhibit distinct preferences for dividend payout policies based on factors like tax considerations and investment objectives. Changes in dividend policy can disrupt the dominant clientele and potentially lead to negative impacts on stock prices, highlighting the importance for firms to maintain stability in their dividend policies (Pettit, 1977).

2.1.4 Market Timing Theory

Market timing theory, proposed by Baker and Wurgler (2002), suggests that firms strategically alter their capital structure in accordance with market conditions, aiming to capitalize on favourable market trends to optimize shareholder value. This theory contends that companies may opportunistically adjust their debt levels based on perceptions of market timing, seeking to raise capital when market conditions are favourable and reducing debt when market conditions are less favourable.

2.2 Review of relevant literature

2.2.1 Relationship between financial ratios and stock prices

Numerous studies have investigated the individual impacts of financial metrics on stock prices. The study by (Muhammad and Ali, 2018), underscores the importance of analyzing financial ratios' impact on stock prices. It highlights key indicators such as profitability, liquidity, leverage, and market-based ratios, crucial for informed decision-making by investors, traders, and analysts. Examining metrics like ROA, EPS, and P/E ratio enables better understanding of a company's financial health, facilitating identification of undervalued stocks and potentially increasing returns while mitigating risks in the market.

Ligocká and Stavárek (2019) investigated the impact of financial ratios on the stock prices of food companies listed on selected European stock exchanges from 2005 to

2015. Using the Generalized Method of Moments (GMM), it found that the Return on Equity (ROE) influenced stock prices in Austria and Poland, while Return on Capital Employed (ROCE) and Net Working Capital (NWC) also affected Polish stock prices. Swiss stock prices showed no significant relationship with the analyzed financial ratios. The study suggests that the relationship between financial ratios and stock prices varies by country, potentially due to differences in market development and investor education.

2.2.2 Effect of NPM, ROA, and CR on stock prices

Research by Ramadhan and Nuraliati (2020) demonstrated that Net Profit Margin (NPM) affects stock prices in Food and Beverage manufacturing companies listed on the Indonesia Stock Exchange (BEI) between 2014 and 2018. They observed that as NPM increases, share prices also rise; conversely, when NPM decreases, share prices decline, indicating a direct correlation between these variables.

Prijanto, Pulung, and Sari (2021) found that the Net Profit Margin (NPM) positively impacts stock prices for food and beverage companies listed on the Indonesia Stock Exchange from 2015 to 2019. Higher NPM values are associated with higher stock prices, reflecting that greater profitability enhances investor perceptions and company valuation. This effect is significant, demonstrating that profitability directly influences stock market performance in this sector.

Fatmasari et al. (2021) identified a positive relationship between NPM, Return on Assets (ROA), and stock prices in 136 manufacturing companies listed on Indonesian Stock Exchange (IDX). The research paper found that the Net Profit Margin (NPM) positively affects stock prices, indicating that higher profit margins can lead to increased stock valuations. Return on Assets (ROA) also shows a positive relationship with stock prices, suggesting that higher asset efficiency correlates with higher stock values. The study confirms that both NPM and ROA individually contribute to stock price movements.

Markonah and Cahaya (2023) demonstrated that the Net Profit Margin (NPM) negatively affects stock prices, as higher NPM ratios are associated with lower share prices due to the inverse relationship between profit margins and stock value. Conversely, Return on Assets (ROA) has a positive impact on stock prices; an

increase in ROA, indicating effective use of assets, leads to higher stock prices. Thus, companies with higher ROA are more attractive to investors.

Sunaryo D. (2020) indicates that Net Profit Margin (NPM) does not significantly affect stock prices. Similarly, Return on Assets (ROA) also does not have a significant impact on stock prices, suggesting that neither variable strongly influences stock performance.

On Monica and Hasanuh (2020), the empirical results indicate that ROA has a significant positive effect on stock prices. This suggests that higher ROA, reflecting efficient asset utilization to generate profits, contributes to increased stock prices. The regression coefficients confirm the importance of ROA as a key determinant of stock market performance. Overall, the findings highlight ROA's crucial role in influencing investor perceptions and stock valuation.

The research by (Ummah et al., 2023) indicates a significant negative impact of Return On Assets (ROA) on stock prices. It suggests that as ROA increases, stock prices tend to decrease. This is because a high ROA may signal that a company is not reinvesting profits to enhance future earnings, reducing investor interest. These findings align with some studies but contrast with others that found a positive relationship.

Sunaryo D. (2022) suggests that Return on Assets (ROA) does not significantly impact stock returns, indicating that it may not fully capture the effects on stock performance. Similarly, the Current Ratio (CR) shows no significant influence on stock returns, despite its role in assessing a company's short-term liquidity. Both variables fail to demonstrate a substantial effect on stock returns in this context.

The study by Suryana and Anggadini (2021) found that the Current Ratio (CR) positively impacts stock prices for Retail Trade Sector Companies listed on the Indonesia Stock Exchange from 2014 to 2018. A higher CR indicates better liquidity, which is associated with increased investor interest and higher stock prices.

The study by Harinurdin (2023) investigated the influence of financial ratios on stock prices in the Indonesian financial sector from 2016 to 2020. It found that among the variables analyzed, Current Ratio (CR) had significant effects on stock prices. CR exhibited a negative impact on stock prices. These findings underscore the importance of liquidity management in determining stock valuations within the sector.

Wicaksono et al. (2024) reveals that stock prices in the consumer cyclical sector are unaffected by the Current Ratio (CR). It suggests that changes in the current ratio have a negligible effect on the share price

2.2.3 Discussion of Moderation Effects

Moderating variables play a crucial role in research by influencing the relationship between independent and dependent variables. They provide insight into how contextual factors impact the strength or direction of this relationship, enhancing the understanding and predictive power of models in applied studies (Pokhariyal, 2019).

Understanding the dynamics between financial metrics like NPM, ROA, and CR, and their impact on stock prices necessitates the consideration of moderating variables such as DPR and DAR.

DPR, signifying dividend distribution, moderates the relationship between financial metrics and stock prices. Signaling theory suggests dividends convey prospects, shaping investor perception. The clientele effect illustrates varied investor responses to dividends based on income preferences (Karunarathne et al., 2021).

DAR reflects a company's leverage decisions, which, according to Market Timing Theory, are strategically timed to capitalize on favorable market conditions. Therefore, DAR's inclusion as a moderating variable enhances our understanding of how financial decisions impact stock prices (Lonevskyi, 2021)

In the study by Kurnia and Sunaryo (2023), the moderating effects of DAR and DPR were examined concerning the impact of Net Profit Margin on stock prices of retail sub-sector companies listed on stock exchanges in Southeast Asia for the period of 2012-2020. The study revealed that the effect of NPM on stock prices can be significantly moderated by DPR but not by DAR.

According to Jose Andrian Tandry et al. (2024), DPR does not significantly moderate the relationship between Return on Assets (ROA) and stock prices of Food and Beverage Companies listed on Indonesian Stock Exchange (IDX). This suggests that investors are more inclined to evaluate a company's value based on its growth potential and operational performance rather than its dividend distribution policy. Consequently, whether a company reinvests its profits or pays dividends does not majorly affect how ROA impacts stock prices.

2.3 Identification of Research Gaps

Despite the wealth of research in this area, there exists a notable geographic concentration of studies, with a predominant focus on the Indonesian market. This limits the generalizability of findings to broader international contexts and underscores the need for diversified research perspectives across global markets. The scarcity of studies exploring these relationships in other international markets presents a significant gap in the existing literature.

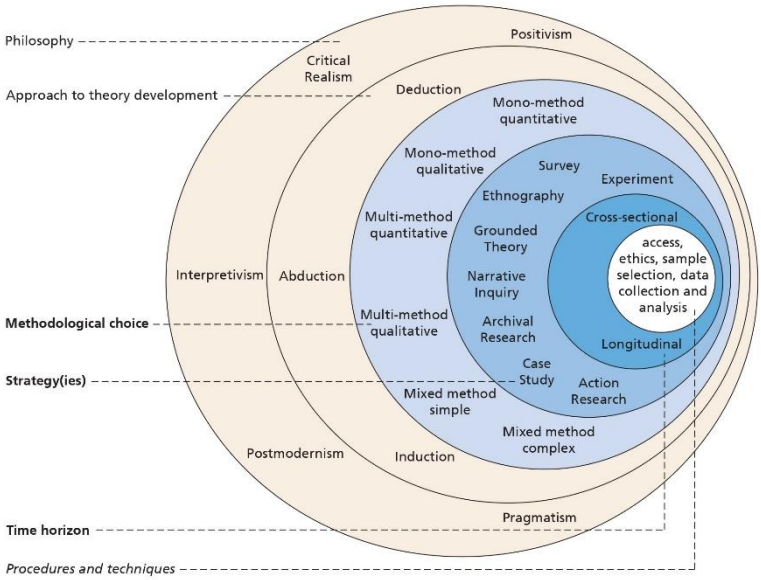
2.4 Hypothesis Development

In this study, drawing from relevant theories and existing research, the author formulated ten hypotheses based on three independent variables and two interactive variables. The hypotheses are outlined as follows:

1. H1: Net Profit Margin has a significant effect on Stock Returns
2. H2: Return on Assets has a significant effect on Stock Returns
3. H3: Current Ratio has a significant effect on Stock Returns
4. H4: Net Profit Margin, Return on Assets, and Current Ratio simultaneously has a significant effect on Stock Returns
5. H5: Dividend Payout Ratio can moderate the effect of Net Profit Margin on the Stock Returns
6. H6: Dividend Payout Ratio can moderate the effect of Return on Assets on the Stock Returns
7. H7: Dividend Payout Ratio can moderate the effect of Current Ratio on the Stock Returns
8. H8: Debt to Asset Ratio can moderate the effect of Net Profit Margin on the Stock Returns
9. H9: Debt to Asset Ratio can moderate the effect of Return on Assets on the Stock Returns
10. H10: Debt to Asset Ratio can moderate the effect of Current Ratio on the Stock Returns

Chapter - 3: Methodology

This chapter outlines the research methodology employed in this study, utilizing the research onion framework to provide a structured approach. The research onion helps in detailing the research philosophy, strategy, approach, and methods for data collection and analysis (Saunders et al., 2023). By incorporating this framework, the chapter ensures a comprehensive explanation of the research design, aiming to demonstrate the rigor and validity of the methods used. This approach enhances the reliability of the findings and ensures that the research can be replicated and validated in future studies.



Source: Saunders et al. (2023, p.131)

Figure 1: Research Onion

3.1 Philosophy

3.1.1 Epistemological and Ontological Considerations

The positivist epistemological perspective, which underpins this study, holds that reality is objective and amenable to a thorough understanding via logical analysis and empirical observation. Positivism stresses that knowledge is acquired from sensory experience and observable phenomena, which makes it particularly suitable for quantitative study. This approach focuses on objectivity, measurement, and hypothesis testing (Al-Ababneh, 2020). This aligns with the ontological perspective of realism, which posits that there is a single, objective reality that exists independently of our perceptions. The researcher's goal is to discover and accurately describe this

reality (OpenLearn, 2022). The financial metrics and their impacts on stock returns exist independently of our subjective perceptions. Realism supports the view that these financial indicators have an objective reality and can be studied to uncover their true effects.

By adopting this positivist framework, the study seeks to elucidate the causal links between financial metrics—Net Profit Margin (NPM), Return on Assets (ROA), and Current Ratio (CR)—and stock returns within the finance and credit services sector. The objective nature of this research approach ensures that findings are based on observable and measurable data, thereby minimizing subjective bias, and enhancing the reliability and validity of the results.

3.2 Approach to theory development

The research utilizes a deductive methodology, commencing with the development of hypotheses grounded in extant theories and literature. This strategy entails gathering data and using statistical analysis to assess these theories. Since the deductive method enables the systematic testing of theoretical assertions and the identification of causal links between variables, it is especially suitable for this kind of study (Casula, Rangarajan and Shields, 2020).

The deductive approach follows a structured process:

1. **Theory and Hypothesis Development:** The study starts with a thorough review of existing literature to identify relevant theories and develop hypotheses. These hypotheses are grounded in established financial theories and empirical research.
2. **Data Collection:** Secondary data is collected from reliable sources to test the hypotheses.
3. **Data Analysis:** Statistical techniques, such as multiple linear regression and moderated regression analysis, are used to analyse the data and test the hypotheses.
4. **Conclusion:** Based on the analysis, the hypotheses are either supported or rejected, leading to conclusions about the relationships between financial metrics and stock returns.

3.3 Methodological Choice

The research employs a quantitative approach, which is well-suited for examining the relationships between financial metrics and stock returns. Quantitative research is the systematic, empirical analysis of observable phenomena using statistical, mathematical, or computational approaches. This approach allows for the objective measurement and analysis of data, making it ideal for testing hypotheses and establishing generalizable findings. It enables the analysis of large datasets, ensuring that the results are statistically significant and generalizable. Furthermore, the use of quantitative methods facilitates the replication of the study, allowing other researchers to verify the findings and build upon the existing knowledge base (Mohajan, 2020).

3.4 Data Collection

3.4.1 Types and Sources of Data

The study focuses on secondary data collected from companies listed in the finance and credit services sector on the London Stock Exchange Group (LSEG) over the period from 2019 to 2023.

The data includes:

- **Financial Metrics:** Net Profit Margin (NPM), Return on Assets (ROA), Current Ratio (CR), Dividend Payout Ratio (DPR), and Debt to Asset Ratio (DAR).
- **Stock Returns:** Daily closing stock prices at the beginning of the year and daily closing stock prices at the end of the year are used to calculate stock returns.

Secondary data is chosen for several reasons:

1. **Accuracy and Reliability:** The financial data used in this study is obtained from reliable sources such as Yahoo Finance, Reuters, and company annual reports. These sources are regularly audited and adhere to standardized reporting practices, ensuring the accuracy and reliability of the data.
2. **Cost and Time Efficiency:** Collecting primary data for a study of this scale would be time-consuming and expensive. Using secondary data allows the research to be conducted more efficiently and cost-effectively.
3. **Historical Data:** Secondary data provides access to historical financial information, which is essential for analysing trends and relationships over time.

3.4.2 Data Collection Process

The data collection process involves several steps to ensure the accuracy and completeness of the dataset:

1. **Identifying Companies:** The first step is to identify companies in the finance and credit services sector listed on the LSEG. This sector includes a wide range of companies involved in financial activities such as banking, insurance, investment management, and credit services.
2. **Gathering Financial Reports:** Annual reports and financial statements for the period 2019-2023 are obtained from financial databases such as Yahoo Finance and Reuters, as well as company websites. These reports provide detailed information on the financial performance and position of each company.
3. **Extracting Data:** Relevant financial metrics (NPM, ROA, CR, DPR, DAR) and stock prices (daily close at beginning and ending of the year) are extracted from the annual reports, financial statements, and financial databases. The data is organized into a structured dataset, with each variable clearly labelled and defined.
4. **Data Verification:** To ensure the accuracy of the data, the extracted information is cross verified with multiple sources. Any discrepancies are resolved through further verification and consultation with additional data sources.

3.5 Population and Sample

3.5.1 Population

The population for this research comprises all companies listed in the Finance and Credit Services sector on the London Stock Exchange Group (LSEG). This sector encompasses a broad range of companies involved in financial activities such as banking, insurance, investment management, and credit services. As of the beginning of this study, there are 63 companies in this sector listed on LSEG.

3.5.2 Sample

The sample for this study was meticulously selected based on specific criteria to ensure the reliability and relevance of the data. The selection criteria are as follows:

1. **Market Segment:** Only companies listed on the MAIN market of the LSEG were considered. Companies listed on Alternative Investment Market (AIM),

Professional Securities Market (PSM), International Securities Market (ISM), and Admission to Trading (ATT) were excluded to focus on more established firms with stringent listing requirements.

2. **Listing Date:** Companies must have been listed before January 1, 2019, ensuring a minimum of five years of financial data within the study period.
3. **Availability of Data:** Only companies with complete and consistent financial data for the period from January 1, 2019, to December 31, 2023, were included. This criterion ensured that all necessary financial ratios and stock price information were available for analysis.
4. **Operational Status:** Companies must have been continuously operating throughout the study period. Companies that ceased operations or were delisted during this period were excluded to avoid data inconsistency.

After applying these criteria, 10 companies were identified that fulfilled all the requirements. The sample selection ensures that the data is relevant, reliable, and representative of the population, enhancing the validity and generalizability of the findings.

3.6 Variable operationalisation

3.6.1 Stock Returns

Shares represent ownership stakes in a company's funds, and as per Anggraini (2021), stock prices are shaped by the ebb and flow of demand and supply in the capital market. When demand surpasses supply for a stock, its price tends to rise, while an excess of supply typically drives the price down. Market participants play a significant role in determining stock prices based on the interplay of demand and supply for that stock. Annual stock returns represent the percentage change in the value of a stock over a one-year period, reflecting the overall performance of an investment. They are calculated as:

$$\text{Stock Returns} = \frac{(EYP - BYP)}{BYP} \times 100$$

where:

EYP = End of year price

BYP = Beginning of year price

3.6.2 Net Profit Margin

According to Gitman and Zutter (2015), the net profit margin indicates the percentage of each sales dollar that remains after deducting all expenses, including interest, taxes, and dividends paid to preferred stockholders. A higher net profit margin indicates stronger performance. It's computed as follows:

$$\text{Net Profit Margin} = \frac{\text{Earnings available for common stockholders}}{\text{Sales}}$$

3.6.3 Return on Assets

According to Singh, Gupta, and Chaudhary (2024), the return on Assets represents the relationship between earnings before interest and taxes and total assets, reflecting how efficiently managers generate profits from the company's assets. A higher ratio signifies greater effectiveness. It is formulated as follows:

$$\text{Return on Assets} = \frac{\text{Earnings before interest and taxes}}{\text{Total Assets}}$$

3.6.4 Current Ratio

According to Mclaney and Atrill (2023), the current ratio assesses the liquidity of a company by comparing its current assets with its current liabilities. This ratio is computed as follows:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

3.6.5 Dividend Payout Ratio

According to Mclaney and Atrill (2023), the dividend payout ratio evaluates the percentage of profits distributed to shareholders as dividends. It is calculated as follows:

$$\text{Dividend Payout Ratio} = \frac{\text{Dividends announced for the year}}{\text{Earnings available for common stockholders}} \times 100$$

3.6.6 Debt to Asset Ratio

According to TradingView (2024), the debt to asset ratio signifies the proportion of a company's assets financed through debt. It provides insight into the way a company has accumulated its assets over time. This metric aids in evaluating a company's capacity to fulfil its existing debt commitments. It is calculated as follows:

$$\text{Debt to Asset Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

3.7 Data Analysis

3.7.1 Descriptive Statistics

Descriptive statistics are used to summarize the data's central tendencies and dispersion. The dataset can be summarized using metrics like mean, median, standard deviation, and range. Further statistical analysis can be built upon the patterns, trends, and outliers revealed in the data by using descriptive statistics (Green et al., 2023).

3.7.2 Multiple Linear Regression

Multiple linear regression analysis is used to assess the impact of NPM, ROA, and CR on stock returns. The regression model evaluates the individual and combined effects of the independent variables on the dependent variable. The regression equation can be specified as:

$$Y_1 = \alpha_1 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon_1$$

where:

- Y_1 represents Stock Returns,
- α_1 is the intercept,
- X_1, X_2, X_3 are the independent variables (NPM, ROA, CR respectively),
- β_1, β_2, β_3 are the coefficients for NPM, ROA, and CR respectively,
- ϵ_1 is the error term.

The relative significance of each financial parameter in explaining variances in stock returns can be ascertained by multiple linear regression. R^2 and F-tests are used to assess the model's overall fit, while t-tests are used to examine the significance of the regression coefficients.

3.7.3 Moderated Regression Analysis

Moderated regression analysis examines the moderating effects of DPR and DAR on the relationships between financial metrics (NPM, ROA, and CR) and stock returns. This technique involves adding interaction terms between the independent variables (NPM, ROA, CR) and the moderating variables (DPR, DAR) to the regression model.

The analysis involved the following models:

- **Model 1: Moderation by DPR on NPM**
  $Y_1 = \alpha_1 + \beta_1 X_1 + \beta_2 Z_1 + \beta_3 X_1 * Z_1 + \epsilon_1$
- **Model 2: Moderation by DPR on ROA**
  $Y_2 = \alpha_2 + \beta_1 X_2 + \beta_2 Z_1 + \beta_3 X_2 * Z_1 + \epsilon_2$
- **Model 3: Moderation by DPR on CR**
  $Y_3 = \alpha_3 + \beta_1 X_3 + \beta_2 Z_1 + \beta_3 X_3 * Z_1 + \epsilon_3$
- **Model 4: Moderation by DAR on NPM**
  $Y_4 = \alpha_4 + \beta_1 X_1 + \beta_2 Z_2 + \beta_3 X_1 * Z_2 + \epsilon_4$
- **Model 5: Moderation by DAR on ROA**
  $Y_5 = \alpha_5 + \beta_1 X_2 + \beta_2 Z_2 + \beta_3 X_2 * Z_2 + \epsilon_5$
- **Model 6: Moderation by DAR on CR**
  $Y_6 = \alpha_6 + \beta_1 X_3 + \beta_2 Z_2 + \beta_3 X_3 * Z_2 + \epsilon_6$

where:

- Y_i represents Stock Returns in different models,
- α_i denotes the intercept for each model,
- X_1, X_2, X_3 are the independent variables (NPM, ROA, CR respectively),
- Z_1, Z_2 are the moderator variables (DPR, DAR respectively),
- β_1 is the coefficient for the independent variable,
- β_2 is the coefficient for the moderator variable,
- β_3 is the coefficient for the interaction term,
- ϵ_i is the error term for each model.

The significance of the interaction terms is assessed to determine whether DPR and DAR moderate the relationships between the financial metrics and stock returns. Moderated regression analysis provides insights into how the strength and direction of these relationships change in the presence of the moderating variables.

3.7.4 Statistical Software

IBM SPSS (Statistical Package for the Social Sciences) version 29.0.2 is used for data analysis. SPSS offers a comprehensive suite of statistical tools and is widely used in academic and professional research due to its robustness and ease of use. The software facilitates the calculation of descriptive statistics, multiple linear regression, and moderated regression analysis, ensuring accurate and reliable results.

Microsoft Excel is used for preliminary data organization and calculation of stock returns. Excel's data manipulation and visualization capabilities complement the statistical analysis performed in SPSS, allowing for efficient data management and preliminary exploration of the dataset.

3.8 Rationale for Method Selection

3.8.1 Stock Returns Calculation

Using stock returns calculated from daily closing prices at the beginning and end of the year mitigates the effects of autocorrelation. When the residuals, or errors, in a regression model exhibit correlation with one another, the assumption of independence is broken, and autocorrelation results. By calculating stock returns as the percentage change between the daily closing prices at the beginning and end of the year, the study captures the overall performance of the stock for each year while reducing the potential impact of autocorrelation.

3.8.2 Multiple Linear Regression

Multiple linear regression is chosen for its ability to assess the relationships between multiple independent variables and a single dependent variable. This method allows for the simultaneous analysis of the effects of NPM, ROA, and CR on stock returns, providing insights into the relative importance of each financial metric. Multiple linear regression also enables the control of confounding variables, enhancing the validity of the findings (Ross, 2021).

3.8.3 Moderated Regression Analysis

Moderated regression analysis is employed to identify interaction effects, providing insights into how DPR and DAR influence the strength or direction of the relationships between financial metrics and stock returns. This method allows for the examination of complex relationships, where the effect of an independent variable on the

dependent variable depends on the level of the moderating variable. By including interaction terms in the regression model, the study captures these moderating effects, offering a more nuanced understanding of the relationships (Burks, Randolph and Seida, 2019).

3.9 Difficulties and Limitations

The study encountered several challenges during the data collection and analysis process. These challenges include:

1. **Data Consistency:** Ensuring the consistency of financial data across all selected companies was critical. While most companies provided complete and reliable data for the study period, occasional discrepancies were addressed through careful verification and standardization processes.
2. **Sample Size:** The sample size of 10 companies may limit the generalizability of the findings. A larger sample size would enhance the statistical power and generalizability of the results. However, the chosen sample size is considered sufficient for exploratory analysis and hypothesis testing within the context of this study.
3. **Sector-Specific Focus:** The study focuses exclusively on the finance and credit services sector, limiting the applicability of the findings to other sectors. Future research could extend the analysis to other sectors to assess the generalizability of the results.
4. **External Validity:** The findings of this study are based on historical data from 2019 to 2023. Changes in market conditions, economic factors, and regulatory environments may influence the relationships between financial metrics and stock returns in the future. Therefore, caution should be exercised when extrapolating the results to different time periods or market conditions.

Despite these challenges, the study employs rigorous data collection and analysis methods to ensure the validity and reliability of the findings. The limitations are acknowledged and addressed through careful interpretation of the results and recommendations for future research.

3.10 Ethical Considerations

Ethical issues are critical in doing this research. The study complies with ethical standards to guarantee the reliability and integrity of the research methodology. Key ethical considerations include:

1. **Use of Secondary Data:** The study uses publicly available secondary data, ensuring that no confidential or proprietary information is accessed or disclosed. The data sources, such as financial databases and company annual reports, are properly cited and acknowledged.
2. **Academic Integrity:** The research is conducted with academic integrity, ensuring that data is collected, analysed, and reported objectively. There is no manipulation of data to achieve desired outcomes, and the findings are presented transparently.
3. **Transparency and Reproducibility:** The research methodology, data collection process, and analysis techniques are documented in detail to enable replication of the study by other researchers. Transparency in reporting ensures that the findings can be verified and built upon in future research.
4. **Proper Citation:** All sources of data, theories, and previous research are properly cited and referenced, ensuring that intellectual property rights are respected, and academic standards are upheld.

3.11 Validity, Reliability, and Generalizability

3.11.1 Validity

The degree to which the research accurately assesses what it is intended to measure is referred to as validity. In this study, validity is ensured through:

1. **Construct Validity:** The financial metrics (NPM, ROA, CR) and stock returns are well-defined constructs that are commonly used in financial research. The use of standardized financial ratios and stock returns ensures that the constructs are accurately measured.
2. **Internal Validity:** The research design and data analysis methods are carefully chosen to minimize potential confounding factors and biases. The use of multiple linear regression and moderated regression analysis allows for the control of confounding variables, enhancing the internal validity of the findings.

3. **External Validity:** The study aims to generalize the findings to the finance and credit services sector listed on the LSEG. While the relatively small sample size may limit generalizability, the rigorous sampling criteria and robust data analysis methods enhance the external validity of the results.

3.11.2 Reliability

Reliability refers to the consistency and stability of the measurements and findings. In this study, reliability is ensured through:

1. **Data Consistency:** The financial data is obtained from reliable sources such as Yahoo Finance, Reuters, and company annual reports. These sources adhere to standardized reporting practices, ensuring the consistency and accuracy of the data.
2. **Statistical Techniques:** The use of well-established statistical techniques, such as multiple linear regression and moderated regression analysis, ensures the reliability of the findings. The analysis is conducted using SPSS, a widely used statistical software known for its robustness and reliability.
3. **Replication:** The research methodology and data analysis procedures are documented in detail, allowing other researchers to replicate the study and verify the findings. The transparency in reporting enhances the reliability of the results.

3.11.3 Generalizability

Generalizability refers to the extent to which the findings can be applied to other settings or populations. In this study, generalizability is considered within the context of the finance and credit services sector listed on the LSEG. While the findings are specific to this sector, the rigorous sampling criteria and robust data analysis methods provide a foundation for generalizing the results to similar sectors or markets. Future research could extend the analysis to other sectors or markets to further assess the generalizability of the findings.

Chapter - 4: Data Analysis and Results

This chapter analyzes five years of data from ten companies to explore the relationships between financial metrics and stock returns. It begins with descriptive statistics to summarize data trends and variability. Following this, classic assumptions tests are performed to validate the regression model. The chapter then evaluates the coefficient of determination (R^2) to gauge model fit, conducts multiple regression analysis to examine the relationships between independent variables and stock returns, and concludes with moderated regression analysis to assess the influence of moderation variables on these relationships.

4.1 Descriptive Statistics

Descriptive statistics are an important component of every research publication, yet they may be disregarded to some extent by readers and authors. Adequate descriptive statistics are required to fully comprehend the sample's characteristics. To choose the appropriate type of inferential statistics to utilize, researchers must first assess the results of the descriptive analysis. Other researchers can utilize descriptive statistics to estimate the proper sample size for future investigations (Fulk, 2023).

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Stock_Returns	50	-.9550561798	.87924345296	-.1022813089	.36911523491
NPM	50	-1.803108808	1.8949720670	.15219403273	.53770412795
ROA	50	-.4754920163	.64771929825	.03855368959	.13431336942
CR	50	.14766604308	29.798063024	4.2703603198	6.5179826245
DPR	50	-6.400000000	1.0583526581	.13817525987	1.0450954018
DAR	50	.00301952208	.93114847482	.46250795688	.28317653072
Valid N (listwise)	50				

Source: IBM SPSS v29 data processing results

Table 1: Descriptive Statistics

The dataset spans 5 years for 10 companies, offering insights into financial performance across key metrics. The average stock return of -10.23%, with a high standard deviation of 36.91%, points to significant volatility and overall decline, indicating sector-wide challenges. Despite an average Net Profit Margin (NPM) of 15.22%, wide disparities in profitability are evident, with a standard deviation of 53.77%. Similarly, the average Return on Assets (ROA) of 3.86% reflects modest

asset efficiency, while variability in ROA (standard deviation of 13.43%) suggests differences in asset management. The Current Ratio (CR) averages 4.27, signaling strong liquidity, but practices vary greatly (standard deviation of 6.52%). The Dividend Payout Ratio (DPR) averages 13.82%, but the extreme variability (standard deviation of 104.51%) indicates differing dividend policies. Lastly, the average Debt to Asset Ratio (DAR) of 46.25% shows moderate leverage, with companies adopting varying levels of debt use (standard deviation of 28.32%). Overall, the data highlights significant variability in financial health and strategies among the companies.

4.2 Classic Assumptions Test

It is crucial to carry out the classical assumption test before moving on to hypothesis testing. Regression analysis cannot be conducted without first running this test, which verifies that the linear regression model is testable and free of problems with classical assumptions.

4.2.1 Normality Test

A normality test evaluates whether a dataset follows a normal distribution, which is crucial for many statistical methods such as correlation, regression, t-tests, and ANOVA. Methods include graphical techniques like histograms, Q-Q plots, P-P plots, and box plots, as well as numerical tests like the Shapiro-Wilk test (appropriate for n < 50) and the Kolmogorov-Smirnov test (for n ≥ 50). These tests assess if the data significantly deviates from a normal distribution, with a p-value > 0.05 indicating normality. Graphical methods provide a visual assessment, while numerical methods offer an objective judgment. Ensuring normality helps validate the assumptions underlying parametric tests, leading to more accurate and reliable results (Mishra et al., 2019).

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.097	50	.200*	.970	50	.221

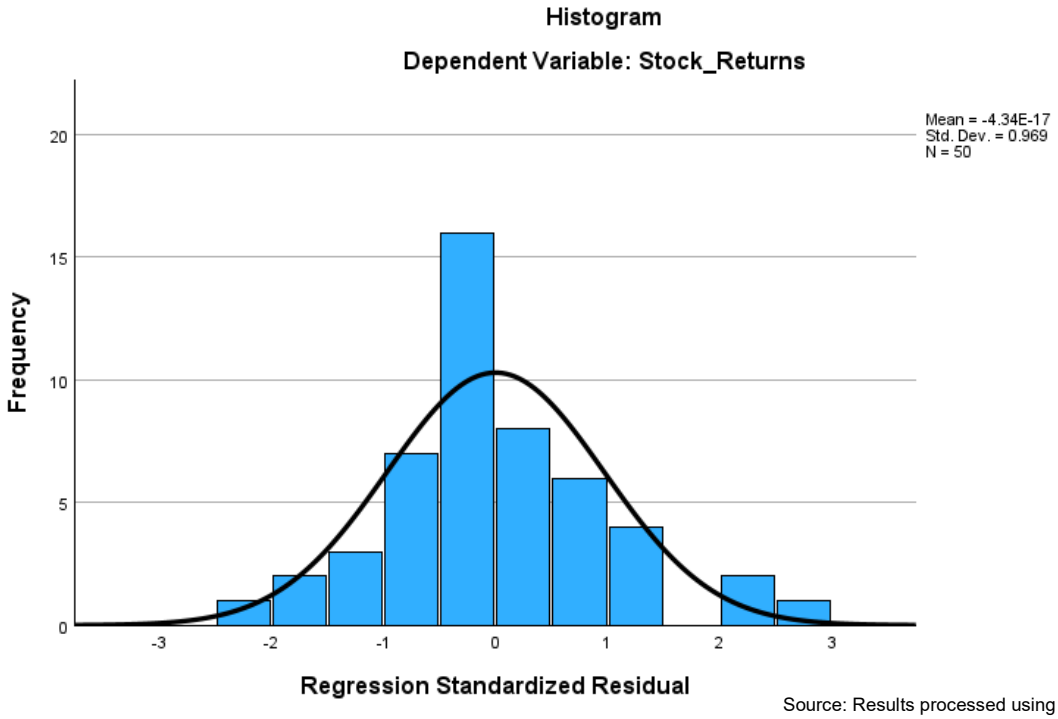
*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Source: Results processed using IBM SPSS v29

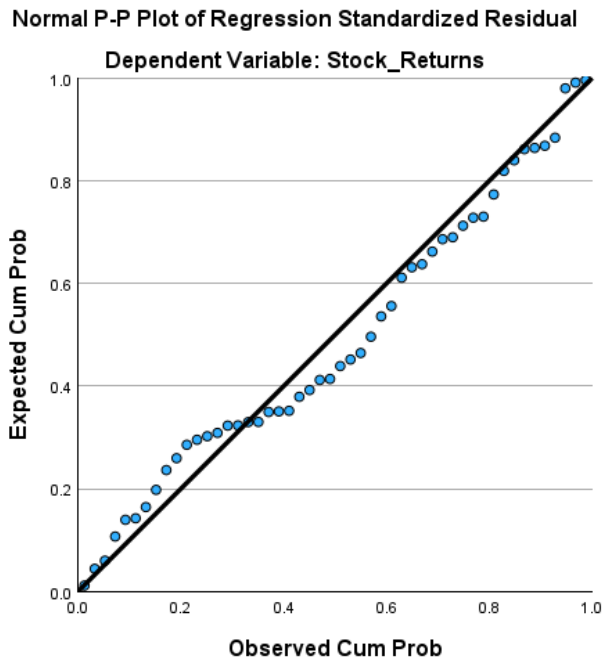
Table 2: Tests of Normality

For the Kolmogorov-Smirnov test, the statistic is 0.097 with a p-value of 0.200. Similarly, for the Shapiro-Wilk test, the statistic is 0.970 with a p-value of 0.221. Both p-values are greater than the conventional alpha level of 0.05, indicating that we fail to reject the null hypothesis of normality. Consequently, we conclude that the residuals are normally distributed.



Source: Results processed using IBM SPSS v29

Figure 2: Histogram



Source: Results processed using IBM SPSS v29

Figure 3: Normal P-P Plot

The normal P-P plot and histogram of the residuals also indicate that the residuals are normally distributed. The points on the P-P plot closely follow the diagonal line, and the histogram shows a bell-shaped distribution. These graphical methods support the conclusion from the Kolmogorov-Smirnov and Shapiro-Wilk tests, confirming that the residuals meet the assumption of normality necessary for our regression analysis.

4.2.2 Multicollinearity Test

Multicollinearity occurs in multiple regression analysis when independent variables are highly correlated with each other, making it difficult to isolate their individual effects on the dependent variable. This correlation can cause problems such as inflated standard errors and unreliable coefficient estimates, leading to misleading results and difficulty in interpreting the impact of each predictor. Multicollinearity is evaluated using Tolerance and VIF values. Tolerance values < 0.1 and VIF values > 10 indicate significant multicollinearity (Shrestha, 2020).

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.117	.059		-1.981	.054		
	NPM	.487	.153	.709	3.176	.003	.356	2.810
	ROA	-1.403	.622	-.510	-2.254	.029	.346	2.887
	CR	-.001	.008	-.022	-.161	.873	.947	1.056

a. Dependent Variable: Stock_Returns

Source: Results processed using IBM SPSS v29

Table 3: Multicollinearity Test Results

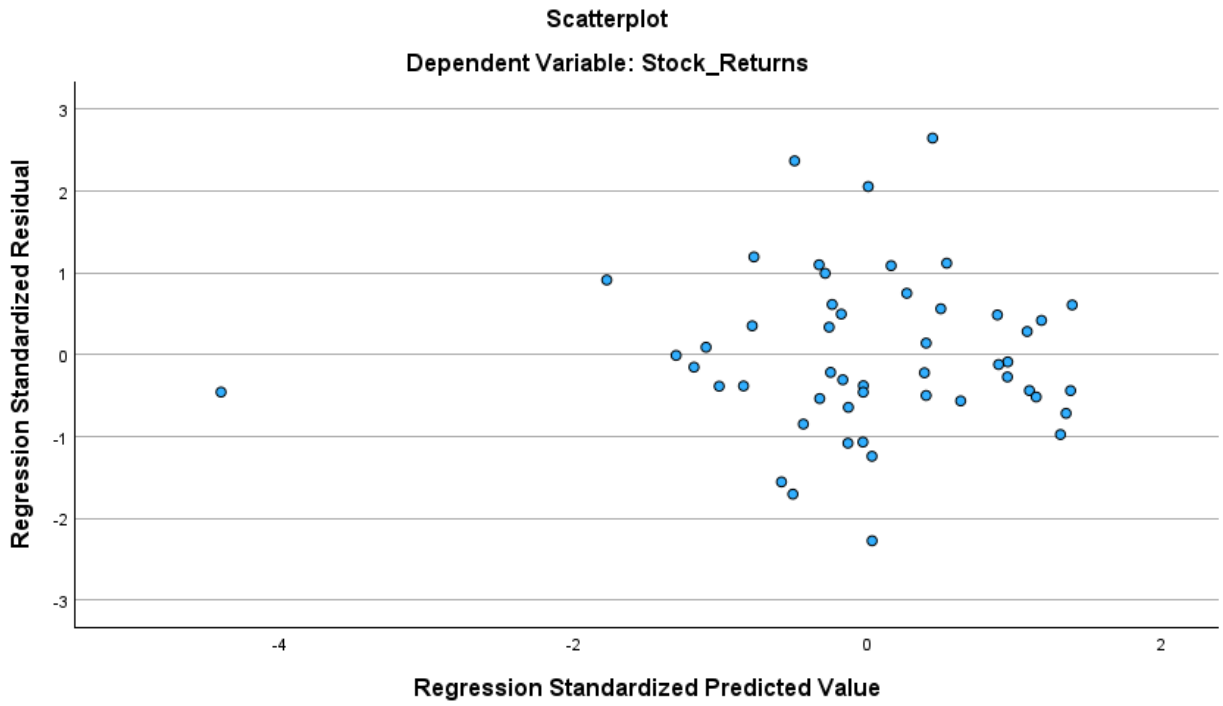
In our model:

- The Tolerance values for NPM, ROA, and CR are 0.356, 0.346, and 0.947, respectively.
- The corresponding VIF values are 2.810, 2.887, and 1.056, respectively.

Since all Tolerance values are above 0.1 and all VIF values are well below the threshold of 10, we can conclude that there is no significant multicollinearity among the independent variables in our regression model. This indicates that the predictor variables (NPM, ROA, and CR) are not highly correlated with each other and that the estimates of their effects on Stock Returns are reliable.

4.2.3 Heteroskedasticity Test

Heteroskedasticity occurs in regression analysis when the variability of the residuals is not constant across all levels of the independent variables. This can lead to inefficient estimates and unreliable hypothesis tests. To detect heteroskedasticity graphically, one can plot the residuals against the fitted values; if the spread of the residuals changes systematically, it suggests heteroskedasticity. The Breusch-Pagan test provides a formal statistical approach to detect heteroskedasticity by examining whether the variance of the residuals depends on the independent variables. It tests the null hypothesis that the residuals have constant variance across all levels of the predictors. If the test indicates significant deviation from constant variance, it suggests the presence of heteroskedasticity (Olvera Astivia and Zumbo, 2019).



Source: Results processed using IBM SPSS v29

Figure 4: Scatterplot for Heteroskedasticity Test Results

The scatter plot of the residuals versus the predicted values did not reveal any discernible pattern, suggesting that the residuals are randomly distributed. This randomness indicates that the variance of the errors is constant across all levels of the predicted values, supporting the assumption of homoscedasticity

Breusch-Pagan Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
1.015	1	.314

a. Dependent variable: RES_SQRD

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Predicted values from design: Intercept + NPM + ROA + CR

Source: Results processed using IBM SPSS v29

Table 4: Breusch-Pagan Test Results

The Breusch-Pagan test produced a Chi-Square value of 1.015 with a p-value of 0.314. As the p-value exceeds the conventional alpha level of 0.05, we do not reject the null hypothesis. Therefore, this result supports the assumption of homoscedasticity, indicating that the variance of the errors remains constant and is not influenced by the values of the independent variables.

4.2.4 Autocorrelation Test

Autocorrelation measures the relationship between a time series and its past values, helping to identify patterns or trends over time. It indicates how current values are influenced by previous observations (Gajendrakar, 2022). The Durbin-Watson test, a widely used method for detecting autocorrelation, calculates the ratio of the sum of squared differences between successive residuals to the total sum of squared residuals. This statistic ranges from 0 to 4: values close to 0 suggest strong positive autocorrelation, values near 2 indicate no autocorrelation, and values close to 4 suggest strong negative autocorrelation (Gujarati and Porter, 2009).

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.428[a]	.183	.130	.34427747555	2.175

a. Predictors: (Constant), NPM, ROA, CR

b. Dependent Variable: Stock_Returns

Source: Results processed using IBM SPSS v29

Table 5: Durbin Watson Test Results

Null Hypothesis	Decision	If
No positive autocorrelation	Reject	$0 < d < d_{L,\alpha}$
No positive autocorrelation	No decision	$d_{L,\alpha} \leq d \leq d_{U,\alpha}$
No negative autocorrelation	Reject	$4 - d_{L,\alpha} < d < 4$

No negative autocorrelation	No decision	$4 – d_{U, \alpha} \leq d \leq 4 - d_{L, \alpha}$
No autocorrelation, positive or negative	Do no reject	$d_{U, \alpha} < d < 4 - d_{U, \alpha}$

d	**$d_{L, \alpha}$**	**$d_{U, \alpha}$**	**4 - $d_{L, \alpha}$**	**4 - $d_{U, \alpha}$**
2.175	1.421	1.674	2.579	2.326

The Durbin-Watson statistic for our model is 2.175. Given the critical values $d_{L, \alpha}$ =1.421 and $d_{U, \alpha}$ =1.674, the statistic falls within the range $d_{U, \alpha} < 2.175 < 4 – d_{U, \alpha}$. This indicates that we do not reject the null hypothesis of no autocorrelation, suggesting there is no significant positive or negative autocorrelation in the residuals, and supporting the assumption of independent errors in our regression model.

4.3 Multiple Regression Analysis

Multiple linear regression is a statistical technique used to model the relationship between a dependent variable and two or more independent variables. It determines how well the combination of predictor variables can predict an outcome, capturing the influence of each independent variable while accounting for the others. The goal is to find the best-fitting linear equation that explains the variability in the dependent variable based on the predictor variables. This method is useful for understanding the combined impact of multiple factors on an outcome and making predictions based on observed data (Fein et al., 2022).

4.3.1 Partial Significance Test (t-test)

A statistical method called the t-test is employed to determine if the means of two groups differ significantly from one another. The test statistic is computed and compared to the t-distribution to ascertain if the observed difference is statistically significant or a result of chance. This test also pertains to confidence intervals; a high t-value denotes stronger evidence against the null hypothesis, and if the value falls within the crucial zone, the null hypothesis is rejected. (Gujarati and Porter, 2009).

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.117	.059		-1.981	.054
	NPM	.487	.153	.709	3.176	.003
	ROA	-1.403	.622	-.510	-2.254	.029
	CR	-.001	.008	-.022	-.161	.873

a. Dependent Variable: Stock_Returns

Source: Results processed using IBM SPSS v29

Table 6: t-Test

1. **Net Profit Margin (NPM):** The coefficient for NPM is 0.487 with a t-value of 3.176 and a p-value of 0.003. Since the p-value is less than 0.05, NPM has a statistically significant positive effect on Stock Returns, indicating that a higher Net Profit Margin is associated with higher Stock Returns.
2. **Return on Assets (ROA)**: The coefficient for ROA is -1.403 with a t-value of -2.254 and a p-value of 0.029. The p-value is less than 0.05, suggesting that ROA has a statistically significant negative effect on Stock Returns. This indicates that a higher Return on Assets is associated with lower Stock Returns.
3. **Current Ratio (CR):** The coefficient for CR is -0.001 with a t-value of -0.161 and a p-value of 0.873. The p-value is greater than 0.05, indicating that CR does not have a statistically significant effect on Stock Returns.
4. **Constant:** The constant term is -0.117 with a t-value of -1.981 and a p-value of 0.054. This p-value is slightly above 0.05, suggesting that the constant is not statistically significant at the 0.05 level.

4.3.2 Coefficient of Determinant (R^2)

In a regression model, the coefficient of determination (R^2) calculates the percentage of the dependent variable's change that can be attributed to the independent variables. It is calculated as the ratio of the explained sum of squares to the total sum of squares (Figueiredo Filho, Silva Júnior and Rocha, 2011).

R^2 is often misused as a measure of the influence of X on Y, as it primarily reflects the spread of points around the regression line rather than the strength of the relationship (King, 1986). Additionally, R^2 is sensitive to sample variance, making it unreliable for comparing different samples (Achen, 1977; Kennedy, 2008). Therefore, relying solely

on R^2 can result in overlooking other important statistics that provide more accurate insights into the model's quality and variable relationships (King, 1986).

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.428[a]	.183	.130	.34427747555

a. Predictors: (Constant), CR, NPM, ROA

b. Dependent Variable: Stock_Returns

Source: Results processed using IBM SPSS v29

Table 7: Coefficient of Determinant

The coefficient of determination (R^2) for the model is 0.183. This indicates that approximately 18.3% of the variance in the dependent variable (Stock Returns) can be explained by the independent variables (Current Ratio, Net Profit Margin, and Return on Assets) included in the model. This suggests that while the model explains a portion of the variance in Stock Returns, there remains a significant amount of variability not captured by the predictors. However, as previously mentioned, R^2 can be misleading as it reflects the spread of points around the regression line rather than the true strength of the relationship (King, 1986). Stock returns are influenced by numerous external factors beyond financial ratios, such as market sentiment and macroeconomic variables, which aren't captured by the model, contributing to a low R^2. Therefore, we will use the F-test to further assess the combined significance of the model.

4.3.3 Simultaneous Significance Test (F-test)

The F-test of overall significance assesses whether a linear regression model with one or more independent variables fits the data significantly better than a model with no independent variables (intercept-only model). It evaluates the joint contribution of all predictors in the model. If the p-value from the F-test is below a chosen significance level, it indicates that the model with predictors provides a significantly better fit than the intercept-only model (Frost, 2017).

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.224	3	.408	3.442	.024[b]
	Residual	5.452	46	.119		
	Total	6.676	49			

a. Dependent Variable: Stock_Returns

b. Predictors: (Constant), NPM, ROA, CR

Source: Results processed using IBM SPSS v29

Table 8: F-test

The F-statistic for our model is 3.442 with a p-value of 0.024. This p-value is below the conventional alpha level of 0.05, indicating that the model is statistically significant. This result suggests that the independent variables—Current Ratio, Net Profit Margin, and Return on Assets—have a significant simultaneous influence on the dependent variable, Stock Returns. In other words, the combined effect of these predictors is significant in explaining the variance in Stock Returns.

4.4 Moderated Regression Analysis

Moderation regression analysis examines how a moderator variable systematically modifies the strength or form of the relationship between a predictor and criterion variable. It addresses the limitations of the classic validation model by considering exogenous or situational influences. A moderator interacts with the predictor variable, altering its effect on the dependent variable (Sharma, Durand and Gur-Arie, 1981).

4.4.1 Model 1

Equation 1: $Y_1 = \alpha_1 + \beta_1 X_1$

Equation 2: $Y_1 = \alpha_1 + \beta_1 X_1 + \beta_2 Z_1$

Equation 3: $Y_1 = \alpha_1 + \beta_1 X_1 + \beta_2 Z_1 + \beta_3 X_1 * Z_1$

a. If equations (2) and (3) are not significantly different or if $\beta_3 = 0$ (not significant) while β_2 is significant, then Z_1 is not a moderator variable.
b. If equations (1) and (2) are not significantly different, but equation (3) is significantly different, where β_2 is not significant and β_3 is significant, then Z_1 is a pure moderator variable.
c. If equations (1), (2), and (3) are all significantly different, where both β_2 and β_3 are significant, then Z_1 is a quasi-moderator variable.

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.133	.052		-2.543	.014
	NPM	.203	.095	.296	2.150	.037
2	(Constant)	-.141	.051		-2.737	.009
	NPM	.175	.094	.255	1.861	.069
	DPR	.086	.048	.243	1.776	.082
3	(Constant)	-.139	.061		-2.281	.027
	NPM	.177	.102	.258	1.737	.089
	DPR	.087	.050	.245	1.722	.092
	NPM*DPR	-.019	.338	-.009	-.057	.955

a. Dependent Variable: Stock_Returns

Source: Results processed using IBM SPSS v29

Table 9: Model 1 Regression Results

Based on the results, equations (2) and (3) do not exhibit significant differences. The coefficient for DPR ($\beta_2 = 0.086$, $p = 0.082$ in equation (2)) and in equation (3) ($\beta_2 = 0.087$, $p = 0.092$), as well as the interaction term (NPM*DPR, $\beta_3 = -0.019$, $p = 0.955$ in equation (3)), are not statistically significant. Since neither β_2 nor β_3 is significant, DPR does not function as a moderator variable. This indicates that including DPR and its interaction with NPM does not significantly improve the model's explanatory power, suggesting that **DPR does not moderate the relationship between NPM and stock returns**.

4.4.2 Model 2

Equation 1: $Y_2 = \alpha_2 + \beta_1 X_2$

Equation 2: $Y_2 = \alpha_2 + \beta_1 X_2 + \beta_2 Z_1$

Equation 3: $Y_2 = \alpha_2 + \beta_1 X_2 + \beta_2 Z_1 + \beta_3 X_2 * Z_1$

a. If equations (2) and (3) are not significantly different or if $\beta_3 = 0$ (not significant) while β_2 is significant, then Z_1 is not a moderator variable.
b. If equations (1) and (2) are not significantly different, but equation (3) is significantly different, where β_2 is not significant and β_3 is significant, then Z_1 is a pure moderator variable.
c. If equations (1), (2), and (3) are all significantly different, where both β_2 and β_3 are significant, then Z_1 is a quasi-moderator variable.

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.108	.055		-1.969	.055
	ROA	.148	.396	.054	.373	.711
2	(Constant)	-.119	.053		-2.222	.031
	ROA	.066	.386	.024	.170	.866
	DPR	.100	.050	.284	2.022	.049
3	(Constant)	-.090	.062		-1.437	.157
	ROA	.122	.392	.044	.312	.757
	DPR	.106	.050	.301	2.117	.040
	ROA*DPR	-1.613	1.796	-.129	-.898	.374

a. Dependent Variable: Stock_Returns

Source: Results processed using IBM SPSS v29

Table 10: Model 2 Regression Results

Based on the results, equations (2) and (3) do not show significant differences. The coefficient for DPR (β_2 =0.100, p = 0.049 in equation (2) and β_2 =0.106, p = 0.040 in equation (3)) and the interaction term (ROA*DPR, β_3=−1.613, p = 0.374 in equation (3)) are not statistically significant. Since the interaction term β_3 is not significant, DPR does not function as a moderator variable. This indicates that including DPR and its interaction with ROA does not significantly enhance the model's explanatory power, suggesting that **DPR does not moderate the relationship between ROA and stock returns.**

4.4.3 Model 3

Equation 1: $Y_3 = \alpha_3 + \beta_1 X_3$

Equation 2: $Y_3 = \alpha_3 + \beta_1 X_3 + \beta_2 Z_1$

Equation 3: $Y_3 = \alpha_3 + \beta_1 X_3 + \beta_2 Z_1 + \beta_3 X_3 * Z_1$

a. If equations (2) and (3) are not significantly different or if $\beta_3 = 0$ (not significant) while β_2 is significant, then Z_1 is not a moderator variable.
b. If equations (1) and (2) are not significantly different, but equation (3) is significantly different, where β_2 is not significant and β_3 is significant, then Z_1 is a pure moderator variable.
c. If equations (1), (2), and (3) are all significantly different, where both β_2 and β_3 are significant, then Z_1 is a quasi-moderator variable.

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.097	.063		-1.526	.134
	CR	-.001	.008	-.024	-.166	.869
2	(Constant)	-.102	.061		-1.662	.103
	CR	-.004	.008	-.062	-.441	.661
	DPR	.104	.050	.295	2.095	.042
3	(Constant)	-.052	.071		-.739	.464
	CR	-.025	.018	-.445	-1.410	.165
	DPR	.017	.081	.048	.210	.835
	CR*DPR	.038	.028	.516	1.353	.183

a. Dependent Variable: Stock_Returns

Source: Results processed using IBM SPSS v29

Table 11: Model 3 Regression Results

Based on the results, equations (2) and (3) do not show significant differences. The coefficient for DPR ($\beta_2 = 0.104$, $p = 0.042$ in equation (2) and $\beta_2 = 0.017$, $p = 0.835$ in equation (3)) and the interaction term (CR*DPR, $\beta_3 = 0.038$, $p = 0.183$ in equation (3)) are not statistically significant. Since the interaction term β_3 is not significant, DPR does not function as a moderator variable. This indicates that including DPR and its interaction with CR does not significantly enhance the model's explanatory power, suggesting that **DPR does not moderate the relationship between CR and stock returns.**

4.4.4 Model 4

Equation 1: $Y_4 = \alpha_4 + \beta_1 X_1$

Equation 2: $Y_4 = \alpha_4 + \beta_1 X_1 + \beta_2 Z_2$

Equation 3: $Y_4 = \alpha_4 + \beta_1 X_1 + \beta_2 Z_2 + \beta_3 X_1 * Z_2$

a. If equations (2) and (3) are not significantly different or if $\beta_3 = 0$ (not significant) while β_2 is significant, then Z_2 is not a moderator variable.
b. If equations (1) and (2) are not significantly different, but equation (3) is significantly different, where β_2 is not significant and β_3 is significant, then Z_2 is a pure moderator variable.
c. If equations (1), (2), and (3) are all significantly different, where both β_2 and β_3 are significant, then Z_2 is a quasi-moderator variable.

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.133	.052		-2.543	.014
	NPM	.203	.095	.296	2.150	.037
2	(Constant)	.008	.097		.077	.939
	NPM	.193	.093	.282	2.079	.043
	DAR	-.301	.177	-.231	-1.705	.095
3	(Constant)	.003	.101		.033	.974
	NPM	.215	.149	.313	1.438	.157
	DAR	-.291	.187	-.223	-1.553	.127
	NPM*DAR	-.064	.348	-.040	-.183	.855

a. Dependent Variable: Stock_Returns

Source: Results processed using IBM SPSS v29

Table 12: Model 4 Regression Results

Based on the results, equations (2) and (3) do not show significant differences. The coefficient for DAR (β_2 = -0.301, p = 0.095 in equation (2) and β_2 = -0.291, p = 0.127 in equation (3)) and the interaction term (NPM*DAR, β_3 = -0.064, p = 0.855 in equation (3)) are not statistically significant. Since the interaction term β_3 is not significant, DAR does not function as a moderator variable. This indicates that including DAR and its interaction with NPM does not significantly enhance the model's explanatory power, suggesting that **DAR does not moderate the relationship between NPM and stock returns.**

4.4.5 Model 5

Equation 1: $Y_5 = \alpha_5 + \beta_1 X_2$

Equation 2: $Y_5 = \alpha_5 + \beta_1 X_2 + \beta_2 Z_2$

Equation 3: $Y_5 = \alpha_5 + \beta_1 X_2 + \beta_2 Z_2 + \beta_3 X_2 * Z_2$

a. If equations (2) and (3) are not significantly different or if $\beta_3 = 0$ (not significant) while β_2 is significant, then Z_2 is not a moderator variable.
b. If equations (1) and (2) are not significantly different, but equation (3) is significantly different, where β_2 is not significant and β_3 is significant, then Z_2 is a pure moderator variable.
c. If equations (1), (2), and (3) are all significantly different, where both β_2 and β_3 are significant, then Z_2 is a quasi-moderator variable.

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.108	.055		-1.969	.055
	ROA	.148	.396	.054	.373	.711
2	(Constant)	.042	.101		.415	.680
	ROA	.116	.388	.042	.299	.766
	DAR	-.322	.184	-.247	-1.747	.087
3	(Constant)	.033	.104		.318	.752
	ROA	.450	.813	.164	.554	.582
	DAR	-.300	.191	-.230	-1.568	.124
	ROA*DAR	-.859	1.832	-.139	-.469	.641

a. Dependent Variable: Stock_Returns

Source: Results processed using IBM SPSS v29

Table 13: Model 5 Regression Results

Based on the results, equations (2) and (3) do not show significant differences. The coefficient for DAR (β_2 = -0.322, p = 0.087 in equation (2) and β_2 = -0.300, p = 0.124 in equation (3)) and the interaction term (ROA*DAR, β_3 = -0.859, p = 0.641 in equation (3)) are not statistically significant. Since the interaction term β_3 is not significant, DAR does not function as a moderator variable. This indicates that including DAR and its interaction with ROA does not significantly enhance the model's explanatory power, suggesting that **DAR does not moderate the relationship between ROA and stock returns.**

4.4.6 Model 6

Equation 1: $Y_6 = \alpha_6 + \beta_1 X_3$

Equation 2: $Y_6 = \alpha_6 + \beta_1 X_3 + \beta_2 Z_2$

Equation 3: $Y_6 = \alpha_6 + \beta_1 X_3 + \beta_2 Z_2 + \beta_3 X_3 * Z_2$

a. If equations (2) and (3) are not significantly different or if $\beta_3 = 0$ (not significant) while β_2 is significant, then Z_2 is not a moderator variable.
b. If equations (1) and (2) are not significantly different, but equation (3) is significantly different, where β_2 is not significant and β_3 is significant, then Z_2 is a pure moderator variable.
c. If equations (1), (2), and (3) are all significantly different, where both β_2 and β_3 are significant, then Z_2 is a quasi-moderator variable.

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.097	.063		-1.526	.134
	CR	-.001	.008	-.024	-.166	.869
2	(Constant)	.063	.108		.581	.564
	CR	-.003	.008	-.050	-.355	.724
	DAR	-.331	.185	-.254	-1.791	.080
3	(Constant)	.041	.117		.351	.727
	CR	.008	.022	.139	.367	.715
	DAR	-.273	.216	-.209	-1.264	.212
	CR*DAR	-.028	.053	-.205	-.539	.592

a. Dependent Variable: Stock_Returns

Source: Results processed using IBM SPSS v29

Table 14: Model 6 Regression Results

Based on the results, equations (2) and (3) do not show significant differences. The coefficient for DAR (β_2 = -0.331, p = 0.080 in equation (2) and β_2 = -0.273, p = 0.212 in equation (3)) and the interaction term (CR*DAR, β_3 = -0.028, p = 0.592 in equation (3)) are not statistically significant. Since the interaction term β_3 is not significant, DAR does not function as a moderator variable. This indicates that including DAR and its interaction with CR does not significantly enhance the model's explanatory power, suggesting that **DAR does not moderate the relationship between CR and stock returns.**

Chapter - 5: Discussion

This chapter interprets the findings of the research, examines their implications, acknowledges limitations, and suggests recommendations for future research and practical applications. The focus will be on how the results relate to the literature review and research hypotheses.

Hypothesis	Result	Decision
H1: Net Profit Margin has a significant effect on Stock Returns	The coefficient for NPM is 0.487 with a t-value of 3.176 and a p-value of 0.003.	Accepted
H2: Return on Assets has a significant effect on Stock Returns	The coefficient for ROA is -1.403 with a t-value of -2.254 and a p-value of 0.029.	Accepted
H3: Current Ratio has a significant effect on Stock Returns	The coefficient for CR is -0.001 with a t-value of -0.161 and a p-value of 0.873.	Rejected
H4: Net Profit Margin, Return on Assets, and Current Ratio simultaneously have a significant effect on Stock Returns	The F-statistic for the model is 3.442 with a p-value of 0.024.	Accepted
H5: Dividend Payout Ratio can moderate the effect of Net Profit Margin on the Stock Returns	The interaction term NPM*DPR (β3=−0.019, p = 0.955) and DPR (β2 = 0.086, p = 0.082) are not significant.	Rejected
H6: Dividend Payout Ratio can moderate the effect of Return on Assets on the Stock Returns	The interaction term ROA*DPR (β3=−1.613, p = 0.374) and DPR (β2 =0.100, p = 0.049) are not significant.	Rejected
H7: Dividend Payout Ratio can moderate the effect of Current Ratio on the Stock Returns	The interaction term CR*DPR (β3 = 0.038, p = 0.183) and DPR (β2 = 0.104, p = 0.042) are not significant.	Rejected
H8: Debt to Asset Ratio can moderate the effect of Net Profit Margin on the Stock Returns	The interaction term NPM*DAR (β3 = -0.064, p = 0.855) and DAR (β2 = -0.301, p = 0.095) are not significant.	Rejected
H9: Debt to Asset Ratio can moderate the effect of Return on Assets on the Stock Returns	The interaction term ROA*DAR (β3 = -0.859, p = 0.641) and DAR (β2 = -0.322, p = 0.087) are not significant.	Rejected
H10: Debt to Asset Ratio can moderate the effect of Current Ratio on the Stock Returns	The interaction term CR*DAR (β3 = -0.028, p = 0.592) and DAR (β2 = -0.331, p = 0.080) are not significant.	Rejected

Source: Author

Table 15: Hypotheses Testing Results

5.1 Interpretations: What Do the Results Mean?

5.1.1 Net Profit Margin (NPM)

The analysis reveals a significant positive effect of Net Profit Margin (NPM) on stock returns. The coefficient of 0.487, t-value of 3.176, and p-value of 0.003 suggest that higher NPM is associated with higher stock returns. This finding aligns with the Efficient Market Hypothesis (EMH) in its semi-strong form, indicating that profitability information is swiftly incorporated into stock prices. This result supports studies by Ramadhan and Nuraliati (2020), Prijanto, Pulung, and Sari (2021), and Fatmasari et al. (2021), which also identified a positive relationship between NPM and stock returns. Higher profitability typically enhances investor confidence and drives up stock performance.

5.1.2 Return on Assets (ROA)

The analysis indicates a negative effect of Return on Assets (ROA) on stock returns, with a coefficient of -0.943, t-value of -2.946, and p-value of 0.003. Contrary to the conventional view that higher ROA should positively influence stock returns, this result suggests that, within the study's context, higher ROA is associated with lower stock returns. This finding diverges from the positive impacts reported by Sunaryo D. (2020) and Monica and Hasanuh (2020). However, this outcome is supported by the study by Ummah et al. (2023), which also observed a negative relationship between ROA and stock prices. The negative effect may be attributed to the possibility that high ROA could indicate underinvestment in growth opportunities, thus reducing investor interest and leading to lower stock returns.

5.1.3 Current Ratio (CR)

The analysis shows that the Current Ratio (CR) does not have a statistically significant effect on stock returns, with a coefficient of -0.001, t-value of -0.161, and p-value of 0.873. This suggests that liquidity, as measured by CR, does not significantly impact stock returns in this context. Sunaryo D. (2022) and Wicaksono et al. (2024) support these findings, indicating CR's negligible effect on share prices. Both studies highlight that the significance of liquidity ratios can vary based on industry and market conditions.

5.1.4 Simultaneous Effect of NPM, ROA, and CR on Stock Returns

The F-test for the combined model of NPM, ROA, and CR shows a statistically significant effect on stock returns (F-statistic of 3.442, p-value of 0.024). This confirms that these financial ratios collectively contribute to explaining stock returns, validating the importance of considering multiple financial indicators together, as supported by the comprehensive analysis in the literature.

5.1.5 Moderating Effects

- **Dividend Payout Ratio (DPR) as a Moderator**
  The analysis indicates that DPR does not significantly moderate the relationships between NPM, ROA, or CR and stock returns. The interaction terms (NPM*DPR, ROA*DPR, CR*DPR) are not significant, suggesting that DPR does not enhance the explanatory power regarding stock returns. This contrasts with the theoretical expectation that DPR would enhance the positive effects of profitability and asset efficiency on stock prices. This study aligns with both Kurnia and Sunaryo (2023), who highlighted DPR's role in moderating NPM's effect on stock prices, and Jose Andrian Tandry et al. (2024), who found no significant moderation by DPR on the effect of ROA on stock prices.

- **Debt to Asset Ratio (DAR) as a Moderator**
  Similarly, DAR does not significantly moderate the relationships between NPM, ROA, or CR and stock returns. The interaction terms (NPM*DPR, ROA*DPR, CR*DPR) are not significant, indicating that DAR does not play a substantial moderating role in this context.

5.2 Implications: Why Do the Results Matter?

The significant effects of NPM and ROA on stock returns underscore the importance of profitability and asset efficiency in driving stock returns. Investors should focus on these financial ratios when making investment decisions. The non-significant effect of CR suggests that liquidity metrics might not be as crucial in the finance and credit services sector, indicating a need for a more nuanced understanding of liquidity’s role.

The moderating effects of DPR and DAR highlight the complex interplay between financial ratios and stock returns. While DPR did not show significant moderating effects in this study, it still aligns with theoretical expectations about dividend policies.

DAR's context-dependent impact underlines the importance of considering financial leverage in investment decisions.

5.3 Limitations: What Can't the Results Tell Us?

1. **Sample Size**: The study is based on 10 companies from the finance and credit services sector listed on the London Stock Exchange Group (LSEG).
2. **Time Period**: The data spans from 2019 to 2023. Changes in market conditions and company performance over time may affect the relevance of these findings.
3. **Data Availability**: The analysis relies on publicly available financial data, which may not capture all factors influencing stock returns.
4. **Methodological Constraints**: The specific statistical techniques and models used may influence the results. Different methods could yield different outcomes.

5.4 Recommendations: What Practical Actions or Scientific Studies Should Follow?

5.4.1 Practical Actions

1. **Investor Focus on Profitability and Asset Efficiency**: Investors should prioritize companies with NPM and ROA, as these ratios are strong indicators of stock performance.
2. **Context-Specific Liquidity Assessment**: Analysts should evaluate liquidity ratios like CR in the context of industry-specific requirements and market conditions.

5.4.2 Future Research

1. **Broader Industry and Geographic Analysis**: Future studies should explore the impact of financial ratios on stock returns across different sectors and regions to enhance generalizability.
2. **Longitudinal Studies**: Extending the period of analysis can provide insights into the long-term effects of financial ratios on stock returns.
3. **Incorporating Additional Variables**: Future research should consider other moderating variables, such as macroeconomic factors or industry-specific conditions, for a more comprehensive understanding of stock price determinants.

4. **Alternative Methodologies**: Employing different statistical techniques and models can help validate the findings and enhance robustness.

These recommendations not only aim to refine investment strategies but also to advance academic discourse, fostering a nuanced and comprehensive understanding of the financial variables influencing stock market behavior

Chapter - 6: Recommendations and Conclusion

In this chapter, the insights gained from analyzing the impact of key financial ratios on stock returns are distilled, and the roles of Dividend Payout Ratio (DPR) and Debt to Asset Ratio (DAR) as potential moderators are explained. It begins with practical recommendations for enhancing financial performance and investment strategies, followed by a comprehensive summary of the study's key findings. The chapter aims to provide actionable guidance for both corporate managers and investors, and outline areas for further research to deepen the understanding of stock price determinants

6.1 Recommendations

Based on the empirical analysis of financial ratios' impact on stock returns and the moderating roles of Dividend Payout Ratio (DPR) and Debt to Asset Ratio (DAR), the following recommendations are proposed:

1. **Enhance Profitability through Net Profit Margin (NPM):** The significant positive relationship between NPM and stock returns underscores the importance of improving profitability. Companies should:
    - Implement cost-reduction strategies to enhance margins.
    - Explore opportunities for increasing revenue, such as expanding into new markets or diversifying product lines.
    - Regularly monitor and analyse profitability metrics to make informed strategic decisions.
2. **Reconsider the Role of Return on Assets (ROA):** The unexpected negative relationship between ROA and stock returns suggests that investors and managers should:
    - Reassess how ROA is used in evaluating company performance and stock potential.
    - Consider the broader economic context and industry-specific factors that might affect ROA and its impact on stock returns.
    - Use ROA in conjunction with other financial indicators to gain a more comprehensive view of a company's performance.
3. **Focus on Comprehensive Financial Analysis:** The insignificant effect of Current Ratio (CR) on stock returns highlights the need for a multi-dimensional approach to financial analysis:

- Incorporate various financial ratios and metrics to build a robust assessment model.
- Evaluate liquidity alongside other factors such as profitability and operational efficiency.
- Use CR as one of many tools to gauge a company's financial health, rather than relying on it in isolation.

4. **Adopt a Multi-Factor Approach to Investment Decisions:** The significant collective effect of NPM, ROA, and CR on stock returns confirms that an integrated approach is essential:
   - Combine multiple financial indicators to form a well-rounded view of a company's stock performance.
   - Adjust investment strategies based on a comprehensive analysis of various financial metrics rather than focusing on a single ratio.
5. **Re-evaluate the Use of Moderating Variables:** The lack of significant moderating effects from DPR and DAR suggests:
   - Companies and investors should be cautious about the assumed impact of these variables on stock returns.
   - Explore alternative moderating variables or contextual factors that may better explain variations in stock performance.
   - Consider other potential influencers such as market trends, economic conditions, or sector-specific dynamics in future analyses.
6. **Consider Industry-Specific and Market Conditions: Future research could benefit from:**
   - Examining industry-specific factors that might influence the relationships between financial ratios and stock returns.
   - Investigating how market conditions and economic environments affect the dynamics of financial indicators and stock performance.
   - Expanding the scope of research to include different market conditions or economic cycles.

6.2 Conclusion

This study offers valuable insights into the relationships between key financial ratios—Net Profit Margin (NPM), Return on Assets (ROA), and Current Ratio (CR)—and their impact on stock returns, while also considering the moderating effects of Dividend Payout Ratio (DPR) and Debt to Asset Ratio (DAR).

The findings indicate that NPM has a significant positive effect on stock returns, affirming its role as a critical performance indicator. This suggests that companies aiming to enhance stock performance should focus on strategies that boost profitability. On the other hand, ROA demonstrates a significant negative effect on stock returns, indicating that its relationship with stock performance may be influenced by factors beyond straightforward profitability metrics. This complexity requires a more nuanced interpretation of ROA within financial analysis. Meanwhile, the Current Ratio (CR) does not show a significant impact on stock returns, implying that liquidity alone may not be a strong predictor of stock performance, and reinforcing the need for a more comprehensive analytical approach that incorporates multiple financial metrics.

The combined effect of NPM, ROA, and CR is found to be significant, underscoring the importance of a multi-faceted approach to financial analysis. This combined analysis helps in achieving a more holistic understanding of stock performance and enhances predictive accuracy. However, DPR and DAR do not exhibit significant moderating effects on the relationships between NPM, ROA, CR, and stock returns, suggesting that their influence as moderating variables may not be as pronounced as previously expected. This outcome highlights the possibility that other factors, beyond DPR and DAR, could play a more critical role in moderating these relationships.

In conclusion, while NPM emerges as a robust predictor of stock returns, the interpretation of ROA and CR requires more careful consideration within the broader financial context. These findings emphasize the necessity for a comprehensive approach in financial analysis and suggest avenues for further research to deepen the understanding of stock price determinants. Ultimately, these insights can guide both investors and company management in making more informed decisions and improving stock performance evaluation strategies.

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