

**CAPITAL STRUCTURE AND PERFORMANCE OF DEPOSIT MONEY BANK**

**BY**

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**NOVEMBER, 2025**

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**A PROJECT WRITTEN AND SUBMITTED TO THE DEPARTMENT OF FINANCE  
OF THE FACULTY OF MANAGEMENT SCIENCE IN PARTIAL FULFILMENT  
OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE  
(B.Sc.) DEGREE IN FINANCE OF THE UNIVERSITY OF BENIN, BENIN CITY**

**NOVEMBER, 2025**

## **DECLARATION**

I, **OSADIAYE OSARUGUE** do hereby declare that this project is entirely my work and composition. The work embodied in this project has not been submitted by another candidate for any degree and is not currently being submitted for any other degree. All references made to the works of other persons have been duly acknowledged.

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**OSADIAYE OSARUGUE**

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**DATE**

## **CERTIFICATION**

We, the undersigned certify that this research work was submitted by **OSADIAYE OSARUGUE** and it is hereby approved for the partial fulfilment of the requirement for the award of Bachelor of Science (B.Sc.) degree in Finance, University of Benin, Benin City.

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## **DEDICATION**

This project work is dedicated to Almighty God for his guidance during my undergraduate programme.

## ACKNOWLEDGMENT

With a heart full of gratitude, I return all glory to God Almighty, the author and finisher of our faith, for the strength, grace, and unending mercy that saw me through the successful completion of this project. Through every challenge and every milestone, His divine guidance upheld me. I remain eternally thankful to the giver of life for walking with me throughout this academic journey.

To my family—your love, prayers, and unwavering support have been my anchor. My deepest appreciation goes to my brother, Mr. Lovely Osadiaye, my greatest cheerleader and pillar of strength. To my wonderful parents, Mr. Aimuiemwosa Eric Osadiaye and Mrs. Faith Osadiaye, thank you for your sacrifices, your love, your constant prayers and moral support. To my amazing siblings, I'm beyond grateful for all you did, your encouragement means the world to me.

My heartfelt thanks go to my project supervisor, Mrs.A.S Airhavbere, for your guidance, patience, and the invaluable time you invested in me. I also appreciate all the lecturers, especially those in the prestigious Department of Finance, for the knowledge, support, and impact you've had on my academic growth.

To my cherished friends—Onose, Eseosa, Chinenye, Favour, Eloghosa, and Esther—thank you for your love, support, and the beautiful memories we created together. You made this journey brighter and unforgettable. And to my dear roommate Esohe, thank you for the bond we shared and all the little things that meant so much—I'll always treasure them.

Finally, to everyone who stood by me through this journey—your presence, support, and kindness did not go unnoticed. I am sincerely and profoundly grateful.

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## ABSTRACT

*This study examined the effect of capital structure on the financial performance of deposit money banks with international authorization listed on the Nigerian Exchange Group (NGX). The study covered seven banks over a six-year period (2018–2023), yielding a total of 42 bank-year observations. Secondary data were extracted from audited annual financial statements, while financial performance was proxied by Return on Assets (ROA). The capital structure variables included Total Debt Ratio (TDR), Equity Ratio (ER), Long-Term Debt (LTD), and Short-Term Debt (STD). Data were analysed using descriptive statistics, correlation analysis, diagnostic tests, and multiple regression techniques through SPSS 25.*

*The descriptive statistics revealed that Nigerian deposit money banks rely heavily on debt financing, particularly short-term debt. Correlation results showed no significant linear relationship between ROA and the capital structure variables, although strong internal correlations existed among TDR, ER, and STD. Diagnostic tests confirmed the absence of multicollinearity, heteroskedasticity, autocorrelation, and non-normality. Due to perfect multicollinearity between TDR and ER, both variables were excluded from the regression model, leaving LTD and STD as the final predictors.*

*The regression results showed that Long-Term Debt (LTD) had a positive but statistically insignificant effect on financial performance, while Short-Term Debt (STD) exerted a negative and insignificant effect. The model's explanatory power was weak ( $R^2 = 0.070$ ), indicating that capital structure accounts for only 7% of variations in bank profitability. Based on the 5% significance threshold, all hypotheses were accepted, showing that none of the capital structure variables significantly predicted financial performance during the period under review.*

*The study concludes that capital structure does not have a significant effect on the financial performance of internationally active Nigerian banks, suggesting that profitability in the banking sector is driven more by operational efficiency, asset quality, regulatory compliance, and macroeconomic factors than by leverage decisions. The study recommends that bank managers adopt balanced financing strategies while regulators strengthen policies that promote sustainable liquidity and risk management.*

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background to the Study**

The capital structure of financial institutions, particularly deposit money banks (DMBs), plays a pivotal role in shaping their financial health, risk posture, and long-term sustainability. Capital structure refers to the mix of debt and equity used by firms to finance their operations, growth, and investments (Abor & Biekpe, 2021). In the banking sector, where operations are highly regulated and capital adequacy is critical for depositor confidence and systemic stability, the decisions surrounding capital structure become even more significant (Olowe et al., 2022).

Among the key capital structure indicators are the debt-to-equity ratio, debt ratio, and equity-to-asset ratio. The debt-to-equity ratio captures the extent to which a bank relies on external debt relative to shareholders' equity, thereby reflecting leverage and risk appetite. A high debt-to-equity ratio may indicate aggressive financing strategies, which could amplify returns but also elevate risk exposure. In contrast, the debt ratio which assesses the proportion of total assets financed by debt offers insights into a bank's dependency on borrowed funds and potential vulnerability during financial downturns (Adeleke & Yusuf, 2023). The equity-to-asset ratio measures the proportion of total assets financed by equity and is widely regarded as a proxy for capital adequacy and solvency (CBN, 2023).

The financial performance of banks, typically assessed using indicators such as return on assets (ROA), is significantly influenced by capital structure decisions. ROA provides a clear measure of how efficiently a bank utilizes its total assets to generate profits. Studies suggest that an optimal capital structure enhances profitability by minimizing the weighted average cost of capital and improving financial flexibility (Yusuf et al., 2022). However, an imbalance—either through excessive debt or disproportionate equity—can adversely affect profitability and risk management outcomes.

According to the Central Bank of Nigeria (CBN) 2023 Financial Stability Report, Nigerian deposit money banks had an average capital adequacy ratio (CAR) of 13.8%, which is above the regulatory benchmark of 10% for national banks but still reflects a cautious approach to leverage. Despite this, the average debt ratio among top-tier banks rose to 68% in 2022, suggesting a continued dependence on borrowed funds to drive asset growth and profitability. Meanwhile, the average return on assets for DMBs in Nigeria hovered around 2.1% in 2022, slightly below the Sub-Saharan African average of 2.5% (World Bank, 2023).

Despite a series of reforms in the Nigerian banking sector particularly following the 2005 recapitalization exercise and the implementation of Basel III frameworks challenges persist in achieving optimal capital structuring. Issues such as non-performing loans (NPLs), exchange rate volatility, and declining asset quality continue to weigh on profitability and capital adequacy. As reported by the Nigeria Deposit Insurance Corporation (NDIC, 2023), the industry average NPL ratio stood at 4.8% in 2022, slightly below the 5% regulatory threshold,

yet still posing risks to capital buffers and financial performance. Moreover, the rise of fintechs and digital banking innovations is introducing new dimensions to capital allocation and competitive dynamics. Banks are under increasing pressure to invest in technology infrastructure while balancing their capital costs. This evolving financial landscape necessitates a deeper understanding of how capital structure influence overall performance metrics in deposit money banks. Therefore, this study is timely and essential. It seeks to investigate the empirical relationship between debt-to-equity ratio, debt ratio, and equity-to-asset ratio as key components of capital structure—and the financial performance of Nigerian deposit money banks, using return on assets (ROA) as a measure. By shedding light on these dynamics, the study aims to offer actionable insights for financial managers, policymakers, and investors.

## **1.2 Statement of the Problem**

The determination of an optimal capital structure is a critical and complex issue for deposit money banks (DMBs) in Nigeria, particularly for those with international authorization. In a volatile economic environment characterized by fluctuating interest rates, persistent inflation, regulatory reforms, and exchange rate uncertainties, these banks face the dual challenge of sustaining profitability while ensuring long-term solvency. Compounding this challenge are rising non-performing loans, weak capital adequacy levels, and inconsistent financial returns. These issues have raised serious concerns regarding the current capital structure strategies

employed by banks operating both locally and on the international stage (Central Bank of Nigeria [CBN], 2023; Nigeria Deposit Insurance Corporation [NDIC], 2023).

Existing studies have examined the relationship between capital structure and bank performance with varied results. For example, Uwalomwa, Uwuigbe, and Oyewo (2015) reported a significant positive impact of capital structure on financial performance for Nigerian listed banks; however, their analysis was limited to domestic contexts and primarily concentrated on the debt-to-equity ratio, neglecting other important measures like the equity-to-asset ratio. Similarly, Salim and Yadav (2019) identified a negative relationship between excessive leverage and profitability in Asian banks, but their findings may not be entirely applicable to Nigerian banks due to structural and regulatory differences. Adeleke and Yusuf (2023) focused on return on equity as an indicator of performance, overlooking the broader measure of return on assets (ROA) and ignoring the nuanced impact of disaggregated capital structure components such as the debt ratio and equity-to-asset ratio.

A notable gap in the literature is the underexploration of how capital structure affects the performance of deposit money banks that have attained international authorization, which adds a layer of complexity due to cross-border regulatory pressures, global market competition, and international risk management practices. This study, therefore, seeks to bridge this gap by examining the combined effect of debt-to-equity ratio, debt ratio, and equity-to-asset ratio on the financial performance (measured by ROA) of internationally authorized deposit money banks in Nigeria. By concentrating on these banks, the study aims

to provide a more nuanced and contextually relevant analysis that addresses both domestic challenges and international operational dynamics, offering valuable insights to policymakers, financial managers, and investors.

### **1.3 Research Questions**

1. What is the effect of total debt ratio on the financial performance of deposit money banks in Nigeria?
2. How does the equity ratio influence the financial performance of deposit money banks in Nigeria?
3. What impact does long-term debt have on the financial performance of deposit money banks in Nigeria?
4. How does short-term debt affect the financial performance of deposit money banks in Nigeria?

### **1.4 Research Objectives**

The main objective of this study is to examine the impact of capital structure on the financial performance of deposit money banks in Nigeria. The specific objectives are to:

1. To examine the effect of total debt ratio on the financial performance of deposit money banks in Nigeria.

2. To assess the influence of equity ratio on the financial performance of deposit money banks in Nigeria.
3. To determine the impact of long-term debt on the financial performance of deposit money banks in Nigeria.
4. To investigate the effect of short-term debt on the financial performance of deposit money banks in Nigeria.

### **1.5 Research Hypotheses**

**Ho1:** Total debt ratio has no significant effect on the financial performance of deposit money banks in Nigeria.

**Ho2:** Equity ratio has no significant effect on the financial performance of deposit money banks in Nigeria.

**Ho3:** Long-term debt has no significant effect on the financial performance of deposit money banks in Nigeria.

**Ho4:** Short-term debt has no significant effect on the financial performance of deposit money banks in Nigeria.

### **1.6 Significance of the Study**

**1.Bank Managers and Financial Analysts:** Bank managers will benefit from the findings by gaining practical guidance on how to strike a balance between debt and equity financing in a manner that maximizes returns while minimizing exposure to financial distress. Financial

analysts, on the other hand, will be equipped with a better framework for assessing the internal financial health of banks, enabling them to make more accurate evaluations and strategic recommendations.

**2. Regulators (e.g., Central Bank of Nigeria and NDIC):** The research findings will provide valuable insights to regulatory bodies in monitoring and enforcing capital adequacy and financial stability within the banking sector. By examining how specific capital structure ratios including total debt ratio, equity ratio, long term debt ratio, and short-term debt ratio relate to the financial performance of deposit money banks, regulators such as the Central Bank of Nigeria (CBN) and the Nigerian Deposit Insurance Corporation (NDIC) can strengthen their supervisory frameworks. This understanding will enable them to identify banks at risk, develop early warning systems for systemic threats, and design targeted policies to promote sustainable profitability and resilience, particularly given Nigeria's dynamic macroeconomic and regulatory environment.

**3. Academics and Researchers:** The study contributes to the existing body of literature on capital structure and financial performance, particularly within the context of developing economies like Nigeria. It adopts a multidimensional approach, meaning that it examines multiple facets of capital structure including total debt ratio, equity ratio, long-term debt, and short-term debt and their combined effects on financial performance, rather than focusing on a single indicator. This approach allows for a more comprehensive and nuanced understanding of how different components of capital structure interact and influence bank

performance. By addressing gaps in prior studies that often relied on limited ratios or isolated performance measures, the study provides a robust foundation for future research, comparative analyses, and theory-building in finance and banking.

**4. Investors and Shareholders:** Investors will benefit from the study by gaining deeper insights into the financial strategies of deposit money banks, particularly regarding how capital structure decisions influence risk and returns. These strategies include leverage management, debt financing versus equity financing, dividend policy planning, liquidity management, and long-term versus short-term debt allocation. The findings will enable investors to make more informed investment decisions, evaluate the sustainability of dividend policies, and assess the banks' long-term profitability prospects. Shareholders can also use the study's results to engage in informed dialogue with bank management regarding capital structure adjustments, such as optimizing the mix of debt and equity, that may impact shareholder value.

**5. Policy Makers and Governmental Agencies:** The study will provide empirical data that can aid public sector actors in formulating policies aimed at strengthening the financial services industry. It supports evidence-based decision-making in areas such as financial regulation, credit policy, and economic planning, particularly with regard to fostering a stable and efficient banking sector that supports national economic development.

## **1.7 Scope of the Study**

The study focuses on selected deposit money banks operating in Nigeria and covers a time frame of five years (2018–2023). This period is chosen because it provides recent and relevant data that captures both pre- and post-pandemic economic conditions, regulatory changes, and fluctuations in interest rates and inflation, allowing for a meaningful analysis of trends in capital structure and financial performance.

The independent variables for the study are debt-to-equity ratio, debt ratio, and equity-to-asset ratio, which reflect key aspects of a bank's capital structure. The dependent variable is financial performance, measured by return on assets (ROA). ROA is used as the performance metric because it reflects the bank's ability to efficiently utilize its total assets to generate profits, providing a comprehensive view of operational efficiency and profitability across banks of different sizes.

The study will rely on secondary data sourced from the audited annual reports of the selected banks, as well as publications from regulatory bodies such as the Central Bank of Nigeria (CBN) and the Nigeria Deposit Insurance Corporation (NDIC). This ensures the data are credible, consistent, and comparable over the study period.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This section contains the conceptual review, empirical review, theoretical review, summary of empirical studies and gap (s) in literature.

#### **2.2 Conceptual Review**

##### **2.2.1 Financial Performance**

Financial performance refers to the extent to which a bank utilizes its available resources to generate revenue, manage costs, and create value for shareholders. In deposit money banks, financial performance reflects the bank's ability to deliver sustainable profits while maintaining financial stability and meeting regulatory requirements. Commonly used indicators include profitability ratios, liquidity ratios, and efficiency ratios, which together provide a comprehensive view of the bank's financial health (Fosu, 2021; Nwanyanwu & Olayinka, 2022). Among these indicators, Return on Assets (ROA) and Return on Equity (ROE) are particularly significant, as they directly measure how well the bank is performing in terms of profit generation relative to its assets and equity base. Sound financial performance not only boosts investor confidence but also strengthens a bank's capacity to withstand economic fluctuations and competitive pressures (Arjoon & Sreedevi, 2020).

The following measures of financial performance are relevant for our study

### **Return on Equity (ROE)**

Return on Equity (ROE) is a key financial performance metric that measures a company's ability to generate profit from the equity invested by shareholders. Essentially, ROE reflects how effectively management uses shareholders' funds to create earnings. A higher ROE indicates that a bank or firm is efficiently utilizing its equity to produce profits, which is often interpreted as a signal of strong financial management and good shareholder value creation. In the context of deposit money banks, ROE is particularly significant because it provides investors with insights into how well the bank is leveraging shareholder capital to generate returns, thereby influencing investment decisions and market confidence. Studies and financial analyses emphasize that a consistently high ROE can enhance investor confidence and attract further capital (Fosu, 2021; Nwanyanwu & Olayinka, 2022).

### **Return on Assets (ROA)**

Return on Assets (ROA) measures the efficiency with which a company uses its total assets to generate profits. It is calculated as the ratio of net income to total assets and provides a clear picture of operational efficiency regardless of the company's size or capital structure. For deposit money banks, ROA indicates how effectively the bank is utilizing its lending, investments, and other asset bases to achieve profitability. A higher ROA suggests better asset utilization and operational efficiency, while a lower ROA may indicate underutilized

assets or inefficiencies in management. Scholars note that ROA is a critical tool for comparing performance across banks with varying sizes and asset compositions, making it a widely accepted indicator of financial health in the banking sector (Arjoon & Sreedevi, 2020; Fosu, 2021).

### **Return on Capital Employed (ROCE)**

Return on Capital Employed (ROCE) evaluates how efficiently a company generates profits from its total capital employed, which includes both equity and debt. It is calculated by dividing earnings before interest and taxes (EBIT) by capital employed. ROCE is particularly useful for capital-intensive industries, such as banking, where large investments in fixed and current assets are necessary for operations. For deposit money banks, ROCE offers insights into how effectively management is using both borrowed funds and shareholders' equity to generate operational profits. A higher ROCE indicates that the bank is deploying its capital efficiently to create returns, while a lower ROCE could highlight inefficiencies or excessive capital tied up in low-yielding assets. Recent financial literature emphasizes that ROCE is an important measure for assessing long-term profitability and strategic capital management in banks (Olowe, Bello, & Adebayo, 2022).

### **Return on Investment (ROI)**

Return on Investment (ROI) is a widely used measure to evaluate the efficiency or profitability of a particular investment relative to its cost. It is calculated by dividing the net

benefit or profit derived from an investment by the initial investment cost. ROI provides investors and bank managers with a simple but powerful tool to assess which projects or financial decisions yield the best returns. In the context of deposit money banks, ROI is critical for evaluating the performance of lending operations, investments in financial instruments, and other revenue-generating initiatives. A high ROI indicates that a bank is effectively generating profit from its investments, whereas a low ROI may signal poor investment choices or inefficiency. ROI is therefore essential for both strategic decision-making and performance monitoring in the financial sector (Yusuf, Okoro, & Ibe, 2022).

### **Return on Assets (ROA) as a Performance Measure**

Return on Assets (ROA) is a key indicator used to evaluate a bank's financial performance, as it measures the efficiency with which the bank's total assets are employed to generate net income. ROA is calculated by dividing net income by total assets, offering a clear picture of how effectively management is utilizing the bank's asset base (Ghosh & Poyry, 2021). In the banking sector, where asset management is central to operations, ROA serves as a crucial performance metric that reflects both profitability and operational efficiency.

As a performance measure, ROA allows stakeholders to assess the earning capacity of a bank relative to the size of its assets. A higher ROA suggests that the bank is efficiently converting its assets into profits, while a lower ROA may indicate inefficiencies or challenges in asset utilization (Arjoon & Sreedevi, 2020). Unlike Return on Equity (ROE), which focuses on returns to shareholders, ROA provides a broader assessment by considering the total

resources at the bank's disposal. This makes ROA particularly valuable for comparing banks of different sizes or operating in different environments (Bhaduri, 2020).

Furthermore, ROA plays a critical role in evaluating the impact of capital structure decisions. For instance, banks with higher leverage (more debt relative to equity) may report high ROE, but if their ROA is weak, it signals that profitability is being driven by financial leverage rather than genuine asset efficiency (Myers, 2020). Therefore, ROA is often considered a more stable and reliable measure of performance, especially in highly regulated sectors like banking where asset quality and risk management are paramount (Kahraman et al., 2022). In summary, ROA stands out as an essential tool for assessing financial performance in deposit money banks. It not only gauges profitability but also highlights the effectiveness of asset utilization, making it a preferred indicator for regulators, investors, and bank management when evaluating operational success and financial health.

### **2.2.2 Capital Structure**

Capital structure refers to the way in which a bank finances its operations and investments through a mix of debt and equity. Debt includes various forms of borrowing, such as loans, bonds, or credit lines, whereas equity comprises funds raised through shareholders' investments and retained earnings (Graham & Leary, 2020). The capital structure decision is critical for financial institutions like banks, as it influences their cost of capital, risk exposure, and overall financial performance (Frank & Goyal, 2021).

The core objective of capital structure decisions is to achieve an optimal balance that maximizes shareholder value by aligning profitability with risk. An optimal capital structure allows banks to leverage debt to enhance profitability while maintaining enough equity to absorb potential losses and ensure financial stability (Kahraman et al., 2022). This balance plays a significant role in managing financial risks, especially in the banking sector, where liquidity management and solvency are of utmost importance (Maksimovic & Pichler, 2020).

Debt financing allows banks to increase their asset base through leverage, potentially enhancing return on equity (ROE). However, it also increases the bank's exposure to financial risk, particularly in times of economic instability (Bhaduri, 2020). Equity financing, on the other hand, is less risky as it does not impose fixed obligations, but it often comes with a higher cost, especially when the bank has to issue new shares, leading to dilution of ownership (Chen & Guo, 2020).

The decision on capital structure is influenced by several factors. Market conditions, such as interest rates and investor confidence, play a critical role in the debt-equity mix. Additionally, the regulatory environment, including capital adequacy requirements set by the central bank or international regulatory frameworks like Basel III, further affects capital structure decisions (Sanchez & Zamorín, 2021). Debt financing is often more cost-effective due to tax advantages, as interest payments on debt are tax-deductible. However, excessive reliance on debt can lead to higher bankruptcy risk, especially during periods of financial crisis (Myers, 2020).

Recent studies emphasize that banks in emerging markets, such as those in Sub-Saharan Africa, often rely on equity financing to mitigate the higher risks associated with unstable economic environments, including fluctuating currencies, inflation, and political instability (Fosu, 2021). Conversely, banks in more stable economies with developed financial markets tend to use a more optimal blend of debt and equity to capitalize on growth opportunities while managing risk effectively (Zhang & Ma, 2021).

The relationship between capital structure and performance is dynamic and varies across institutions. A well-managed capital structure helps reduce the weighted average cost of capital (WACC), which in turn enhances profitability and market value. Conversely, poorly managed capital structures can increase financial risk, leading to lower performance and even insolvency (Brealey et al., 2021). Therefore, the optimal capital structure is one that minimizes financial distress costs while maximizing profitability through the appropriate use of debt and equity. In conclusion, capital structure is a vital element for determining a bank's financial performance and stability. The optimal capital structure should balance the cost of debt, financial risk, and profitability, allowing banks to meet their operational and financial objectives while managing external market pressures. The ongoing evolution of financial markets and regulatory frameworks continues to influence capital structure decisions, requiring banks to adapt their strategies to ensure long-term sustainability (Chen & Guo, 2020; Bhaduri, 2020).

The Following Are Measurement Of Capital Structure Used In This Study

## **Total Debt Ratio**

The **total debt ratio** is a measure of a firm's financial leverage, calculated as the proportion of total debt to total assets. It indicates the extent to which a bank relies on borrowed funds to finance its operations. A higher total debt ratio suggests greater reliance on debt, which may amplify both returns and financial risk, while a lower ratio indicates a more conservative financing approach. In the context of deposit money banks, the total debt ratio is critical for understanding how debt financing affects liquidity, solvency, and overall financial performance. Studies have highlighted that an optimal debt level can enhance profitability, but excessive debt may lead to financial distress and reduced investor confidence (Adeleke & Yusuf, 2023; Salim & Yadav, 2019).

## **Equity Ratio**

The **equity ratio** represents the proportion of total assets financed by shareholders' equity, reflecting a bank's financial strength and stability. A higher equity ratio indicates a lower dependence on debt, reducing the risk of insolvency and interest burden. Conversely, a low equity ratio may imply high leverage, which could improve returns if profits exceed debt costs but also increase financial vulnerability. For deposit money banks, the equity ratio is a vital indicator of capital adequacy and long-term resilience. Research has shown that maintaining an appropriate equity ratio supports sustainable profitability while enhancing regulatory compliance and stakeholder confidence (Uwalomwa, Uwuigbe, & Oyewo, 2015; Adeleke & Yusuf, 2023).

## **Long-Term Debt**

Long-term debt refers to borrowings that are due after one year and are used to finance long-term investments, expansion projects, or other strategic initiatives. In banks, long-term debt can provide stable financing for lending operations, infrastructure development, and technological upgrades. The use of long-term debt affects interest obligations, leverage, and risk management. While long-term debt can increase returns on equity when used efficiently, excessive reliance may reduce profitability and increase default risk. Empirical studies suggest that managing the proportion of long-term debt in the capital structure is essential for balancing risk and performance in deposit money banks (Olowe, Bello, & Adebayo, 2022; Salim & Yadav, 2019).

## **Short-Term Debt**

Short-term debt consists of borrowings and obligations due within one year, including bank loans, commercial paper, and other current liabilities. It is often used for managing working capital, liquidity needs, and day-to-day operations. For deposit money banks, short-term debt plays a crucial role in operational flexibility, enabling banks to meet immediate financial commitments and respond to liquidity shocks. However, excessive short-term borrowing may expose banks to refinancing risk and higher interest costs, potentially affecting profitability. Studies emphasize the importance of balancing short-term debt with other components of capital to maintain financial stability and enhance performance (Fosu, 2021; Yusuf, Okoro, & Ibe, 2022).

## **2.4 Empirical Review**

### **Total Debt Ratio and Financial Performance**

Several empirical studies have examined the relationship between the total debt ratio and the financial performance of deposit money banks, highlighting both positive and negative effects. Adeleke and Yusuf (2023) investigated Nigerian deposit money banks over the period 2018–2023, using pooled Ordinary Least Squares (OLS) to analyze the impact of capital structure on profitability. They found that moderate debt levels enhanced profitability by providing additional funds for investment; however, excessive debt adversely affected financial performance due to increased interest obligations and heightened risk of default. The authors recommended that banks carefully maintain an optimal debt level to maximize returns while mitigating financial risk.

Similarly, Uwalomwa, Uwuigbe, and Oyewo (2015) focused on listed Nigerian banks and reported that a higher total debt ratio was associated with lower returns on assets. Their findings suggested that over-reliance on debt could compromise operational efficiency and reduce profitability. The study underscored the importance for banks to carefully manage debt levels to avoid diminishing returns.

In a comparative context, Salim and Yadav (2019) examined Asian banks and found that a well-managed total debt ratio positively influenced financial performance. Their study highlighted that effective debt management and adherence to regulatory frameworks were

crucial for leveraging debt to improve profitability. Although conducted outside Nigeria, their findings provided insights into the potential benefits of optimizing debt levels.

Hussaini et al. (2015) also explored the impact of debt on Nigerian deposit money banks and observed that the debt-to-total-asset ratio positively affected profitability. Their analysis suggested that, when appropriately managed, debt could serve as a useful financial tool to enhance returns. The authors recommended that financial managers determine and maintain an optimal debt level to ensure that leverage contributes positively to bank performance.

Jeremiah Ogorry (2025) similarly examined Nigerian deposit money banks and concluded that the debt-to-total-asset ratio had a positive impact on profitability. The study emphasized that banks should strategically utilize debt to enhance performance, ensuring that the levels of borrowing do not exceed the capacity to generate sufficient returns.

Finally, Boneri et al. (2025) analyzed five selected deposit money banks over the period 2009–2018 using panel data analysis. The study found that while both short-term and long-term debts had positive effects on return on assets, these effects were statistically insignificant. This suggested that the debt structure alone might not significantly influence profitability, and banks should consider other operational and financial factors when designing their capital structures.

Collectively, these empirical studies illustrate that the total debt ratio has a nuanced relationship with the financial performance of Nigerian deposit money banks. While

moderate and well-managed debt can enhance profitability, excessive or poorly structured debt may undermine performance. The consistent recommendation across studies is the need for banks to identify an optimal debt level that maximizes returns while minimizing financial risk.

#### Equity Ratio and Financial Performance

Empirical studies have consistently highlighted the importance of the **equity ratio** in determining the financial performance of deposit money banks in Nigeria. Adeleke and Yusuf (2023) examined Nigerian deposit money banks over the period 2018–2023, employing pooled Ordinary Least Squares (OLS) to analyze the relationship between capital structure and profitability. Their study found that banks with a higher equity ratio experienced stronger profitability and resilience, as dependence on debt was reduced, mitigating financial risk. The authors recommended that banks maintain a solid equity base to enhance financial stability and support sustainable operations.

Similarly, Olowe, Bello, and Adebayo (2022) investigated Nigerian banks using panel data over the period 2015–2020, focusing on the impact of equity financing on bank performance. Their findings revealed that a strong equity base enabled banks to sustain operations during economic downturns and increased their capacity to invest in profitable ventures, ultimately improving overall financial performance. They suggested that bank management should prioritize equity financing to ensure long-term stability.

In a study by Uwalomwa, Uwuigbe, and Oyewo (2015), listed Nigerian banks were analyzed to determine the effects of capital structure components on financial performance. Their results indicated that higher equity ratios were associated with improved returns on assets, as banks relied less on debt and experienced lower financial risk. The study recommended that banks balance their capital structures with adequate equity financing to optimize performance.

Fosu (2021) examined the performance of banks in Sub-Saharan Africa, including Nigeria, from 2010–2018, using regression analysis. The study found that banks with higher equity ratios were better positioned to withstand financial shocks, maintain liquidity, and achieve consistent profitability. The authors highlighted that equity ratio is a crucial determinant of resilience and long-term financial performance.

Yusuf, Okoro, and Ibe (2022) conducted a study on the effects of financial leverage on Nigerian deposit money banks, analyzing data from 15 banks over 2012–2021. Their results suggested that banks with a stronger equity base enjoyed higher profitability metrics, as reduced reliance on debt decreased financial risk exposure. The study recommended that policymakers encourage adequate capitalization of banks to enhance stability and investor confidence.

Finally, Salim and Yadav (2019), in a comparative study of Asian banks, also highlighted the positive relationship between equity ratio and bank performance. Although conducted outside Nigeria, their findings reinforced the idea that a strong equity base supports sustainable

profitability, reduces reliance on debt, and minimizes financial vulnerability, which can be applied to the Nigerian banking context.

Collectively, these studies underscore the critical role of the equity ratio in promoting sustainable profitability, financial stability, and operational resilience in deposit money banks. The empirical evidence consistently suggests that banks with higher equity financing are better positioned to navigate economic challenges, enhance investor confidence, and improve overall financial performance.

### **Long-Term Debt and Financial Performance**

Long-term debt plays a crucial role in providing financing for large-scale projects and strategic investments in deposit money banks. Empirical studies have shown that the relationship between long-term debt and financial performance is multifaceted. Yusuf, Okoro, and Ibe (2022) investigated Nigerian deposit money banks over the period 2012–2021, analyzing the effects of financial leverage on profitability. Their study found that judicious use of long-term debt contributed positively to financial performance by providing stable funding for lending operations and infrastructure investments. However, the study also noted that excessive reliance on long-term debt increased interest obligations, potentially eroding net profits and reducing returns, indicating the need for careful debt management.

Similarly, Fosu (2021) examined Sub-Saharan African banks, including Nigeria, from 2010–2018 using regression analysis, and highlighted that excessive long-term borrowings without

corresponding income generation could reduce profitability and heighten financial risk. The study emphasized that while long-term debt can support bank growth and operations, it must be matched with prudent planning and revenue generation.

Adeleke and Yusuf (2023) analyzed Nigerian deposit money banks between 2018 and 2023, using pooled Ordinary Least Squares (OLS). They reported that banks strategically utilizing long-term debt for expansion and investment projects achieved higher profitability, but banks over-leveraged with long-term obligations experienced diminishing financial returns. They recommended that banks carefully monitor the proportion of long-term debt in their capital structures to avoid undermining financial performance.

Olowe, Bello, and Adebayo (2022) conducted a panel data study of Nigerian banks from 2015–2020, focusing on capital structure dynamics. Their findings indicated that banks with a balanced long-term debt portfolio could fund growth initiatives effectively, enhancing operational efficiency and profitability. The study suggested that financial managers develop long-term debt policies aligned with investment objectives and income capacity.

Uwalomwa, Uwuigbe, and Oyewo (2015) investigated listed Nigerian banks to assess the influence of various debt components on returns. They found that banks relying excessively on long-term debt without matching asset growth experienced lower returns on assets, highlighting the importance of aligning debt maturity with income-generating activities. They recommended careful structuring of long-term liabilities to optimize financial performance.

Finally, Salim and Yadav (2019), in a study of Asian banks, noted that appropriate levels of long-term debt positively influenced bank performance, particularly when debt was used to fund productive investments rather than to cover operational deficits. Though the study was conducted outside Nigeria, the findings support the argument that effective long-term debt management can enhance profitability and financial stability in banking institutions

### **Short-Term Debt and Financial Performance**

Short-term debt is critical for deposit money banks as it facilitates liquidity management and enables institutions to meet immediate financial obligations. Empirical studies indicate that its impact on financial performance is nuanced, depending largely on how effectively it is managed. Adeleke and Yusuf (2023), in their study of Nigerian deposit money banks from 2018–2023 using pooled Ordinary Least Squares (OLS), found that banks that efficiently utilized short-term debt for working capital management experienced higher operational efficiency and improved profitability. However, banks that overly relied on short-term borrowings faced refinancing risks and elevated interest costs, which negatively affected profitability. The authors recommended that banks carefully manage their short-term debt to balance liquidity needs with cost considerations.

Olowe, Bello, and Adebayo (2022) conducted a panel data study of Nigerian banks covering 2015–2020 and found that maintaining a balanced short-term debt portfolio enabled banks to optimize liquidity management while sustaining stable financial performance. Their findings

highlighted that strategic short-term borrowing could support daily operations and ensure timely fulfillment of obligations without compromising profitability.

Fosu (2021) examined the performance of Sub-Saharan African banks, including Nigerian banks, over 2010–2018 and reported that excessive short-term debt could introduce liquidity pressures and increase financial risk, whereas moderate use supported operational flexibility and profitability. The study suggested that financial managers monitor short-term borrowing relative to cash flow needs to avoid potential liquidity crises.

Yusuf, Okoro, and Ibe (2022) analyzed 15 Nigerian deposit money banks over the period 2012–2021 and found that judicious short-term debt usage contributed positively to performance by ensuring that working capital requirements were met without incurring excessive costs. Their study emphasized that aligning short-term borrowing with operational cycles enhances financial efficiency.

Uwalomwa, Uwuigbe, and Oyewo (2015) examined listed Nigerian banks and concluded that while short-term debt could improve performance through better liquidity management, overdependence led to high-interest expenses and volatility in returns on assets. The study recommended that banks implement prudent short-term debt management strategies to optimize profitability.

Finally, Salim and Yadav (2019), in a comparative study of Asian banks, reported that short-term debt could positively influence performance if carefully structured and aligned with

operational requirements. Excessive reliance on short-term obligations, however, increased refinancing risk and reduced net returns. The study reinforced the notion that strategic short-term borrowing is a key determinant of financial performance, which can be applied to the Nigerian banking context.

## **2.5 Theoretical Review**

### **2.5.1 Trade-Off Theory**

The Trade-Off Theory of capital structure was formally introduced by Kraus and Litzenberger (1973). It suggests that firms strive to balance the tax advantages of debt financing with the potential costs of financial distress, such as bankruptcy and agency costs. The theory proposes that there is an optimal capital structure where the marginal benefit of debt equals the marginal cost. In essence, firms are expected to weigh the advantages of the tax shield on interest payments against the risks associated with increased leverage.

This theory is particularly relevant to deposit money banks, which operate in highly regulated environments where financial stability is crucial. In applying this theory to the banking sector, it suggests that banks can enhance profitability and value by carefully managing their capital structure—maintaining a balance between debt and equity that does not expose them to excessive risk. Thus, this study anchors on the Trade-Off Theory in examining how capital structure decisions affect the financial performance of deposit money banks in Nigeria.

### **2.5.2 Pecking Order Theory**

The Pecking Order Theory was developed by Myers and Majluf (1984). It posits that firms follow a hierarchy in financing decisions: they prefer to use internal funds (retained earnings) first, then debt, and resort to issuing new equity only as a last option. This preference arises from the information asymmetry between management and investors; issuing new equity could signal that a firm is overvalued, potentially leading to a drop in share price.

In the context of banking, the theory implies that banks prefer to utilize internally generated funds to finance operations and investments. When internal financing is insufficient, they turn to debt, and only issue new equity when absolutely necessary. This behavior minimizes signaling costs and ownership dilution. The Pecking Order Theory helps to explain why some banks may maintain high levels of retained earnings and exhibit conservative borrowing practices. Therefore, this study also draws on the Pecking Order Theory to analyze how Nigerian banks' financing preferences impact their financial performance.

### **2.5.3 Modigliani and Miller Theory (MM Theory)**

Developed by Franco Modigliani and Merton Miller in 1958, the MM Theory originally stated that in a perfect market, a firm's value is independent of its capital structure. In a revised version (1963), they introduced taxes and argued that because interest is tax-deductible, leveraging can increase firm value. This theory is important for understanding the foundational principles of capital structure and provides a contrast to more realistic models

that consider market imperfections. It is highly relevant in evaluating how Nigerian banks can use leverage strategically to improve performance.

#### **2.5.4 Agency Theory**

The Agency Theory was introduced by Jensen and Meckling (1976). It explains the conflict of interest between principals (shareholders) and agents (managers). Capital structure decisions can mitigate or worsen agency problems. For instance, high levels of debt may discipline managers to act in shareholders' interests due to fixed obligations, but excessive debt may lead to risk-shifting or underinvestment. In Nigerian deposit money banks, understanding agency costs is crucial for aligning management decisions with shareholder wealth maximization.

This study is anchored on the Trade-Off Theory, as it provides the conceptual foundation for examining how Nigerian deposit money banks with international authorization manage their capital structure in pursuit of financial performance. By applying this theory, the study seeks to investigate whether these banks effectively balance the trade-offs between debt and equity to achieve optimal financial outcomes, consistent with the theory's proposition that a firm's value is maximized at its optimal capital structure.

## 2.6 Summary of Empirical Studies

Numerous empirical studies have highlighted the importance of capital structure in determining the financial performance of deposit money banks. Research has shown that moderate debt levels can improve profitability, while excessive debt increases financial risk. Similarly, higher equity financing offers greater stability but may lead to lower profitability. The capital adequacy ratio is an important factor in ensuring financial performance, as banks with stronger capital bases tend to be more resilient and profitable.

**Table 2.1: Summary of Empirical Studies on Capital Structure Ratios and Financial Performance of Nigerian Deposit Money Banks**

<b>Independent Variable</b>	<b>Study &amp; Year</b>	<b>Period Under Study</b>	<b>Sample Size</b>	<b>Methodology</b>	<b>Key Findings</b>	<b>Recommendations</b>
<b>Total Debt Ratio</b>	Adeleke & Yusuf (2023)	2018–2023	Nigerian DMBs	Pooled OLS	Moderate debt enhances profitability; excessive debt reduces performance	Maintain optimal debt level to maximize returns and minimize risk
	Uwalomwa, Uwuigbe & Oyewo (2015)	Not specified	Listed Nigerian banks	Not specified	Higher total debt ratio lowers returns on assets	Manage debt levels carefully to avoid diminishing returns
	Salim & Yadav	Not specified	Asian banks	Not specified	Well-managed total debt	Implement robust debt management

<b>Independent Variable</b>	<b>Study &amp; Year</b>	<b>Period Under Study</b>	<b>Sample Size</b>	<b>Methodology</b>	<b>Key Findings</b>	<b>Recommendations</b>
	(2019)				ratio positively influences performance	strategies
	Hussaini et al. (2015)	Not specified	Listed Nigerian DMBs	Not specified	Debt to total asset ratio positively impacts profitability	Determine and maintain optimal debt level
	Jeremiah Ogorry (2025)	Not specified	Not specified	Not specified	Positive impact of debt on profitability	Find satisfactory debt level to improve profitability
	Boneri et al. (2025)	2009–2018	5 DMBs	Panel data analysis	Short-term and long-term debt positive but insignificant on ROA	Reconsider debt structure and focus on other performance factors
<b>Equity Ratio</b>	Adeleke & Yusuf (2023)	2018–2023	Nigerian DMBs	Pooled OLS	Higher equity ratio improves profitability and resilience	Maintain solid equity base to enhance financial stability
	Olowe, Bello & Adebayo (2022)	2015–2020	Nigerian banks	Panel data analysis	Strong equity base sustains operations in downturns	Prioritize equity financing for long-term stability
	Uwalomwa, Uwuigbe & Oyewo	Not specified	Listed Nigerian	Not specified	Higher equity ratio associated	Balance capital structure with adequate equity

<b>Independent Variable</b>	<b>Study &amp; Year</b>	<b>Period Under Study</b>	<b>Sample Size</b>	<b>Methodology</b>	<b>Key Findings</b>	<b>Recommendations</b>
	(2015)		banks		with improved ROA	financing
	Fosu (2021)	2010–2018	Sub-Saharan African banks	Regression analysis	Higher equity ratio improves resilience and profitability	Equity ratio crucial for financial stability
	Yusuf, Okoro & Ibe (2022)	2012–2021	15 Nigerian DMBs	Not specified	Strong equity base leads to higher profitability	Encourage adequate capitalization of banks
	Salim & Yadav (2019)	Not specified	Asian banks	Not specified	Positive relationship between equity and performance	Strong equity reduces financial vulnerability
<b>Long-Term Debt</b>	Yusuf, Okoro & Ibe (2022)	2012–2021	Nigerian DMBs	Not specified	Judicious long-term debt positively impacts performance; over-reliance reduces ROA	Careful debt management required
	Fosu (2021)	2010–2018	Sub-Saharan African banks	Regression analysis	Excessive long-term borrowings reduce profitability	Align long-term debt with income generation

<b>Independent Variable</b>	<b>Study &amp; Year</b>	<b>Period Under Study</b>	<b>Sample Size</b>	<b>Methodology</b>	<b>Key Findings</b>	<b>Recommendations</b>
	Adeleke & Yusuf (2023)	2018–2023	Nigerian DMBs	Pooled OLS	Strategic long-term debt enhances profitability	Monitor long-term debt proportion in capital structure
	Olowe, Bello & Adebayo (2022)	2015–2020	Nigerian banks	Panel data	Balanced long-term debt portfolio improves operations	Develop long-term debt policies aligned with investments
	Uwalomwa, Uwuigbe & Oyewo (2015)	Not specified	Listed Nigerian banks	Not specified	Excessive long-term debt without asset growth lowers ROA	Align long-term liabilities with income-generating activities
	Salim & Yadav (2019)	Not specified	Asian banks	Not specified	Appropriate long-term debt enhances profitability	Effective long-term debt management improves stability
<b>Short-Term Debt</b>	Adeleke & Yusuf (2023)	2018–2023	Nigerian DMBs	Pooled OLS	Proper short-term debt improves efficiency and profitability; over-reliance increases risk	Manage short-term debt carefully to balance liquidity and cost
	Olowe, Bello & Adebayo	2015–2020	Nigerian banks	Panel data	Balanced short-term debt optimizes	Maintain strategic short-term debt portfolio

<b>Independent Variable</b>	<b>Study &amp; Year</b>	<b>Period Under Study</b>	<b>Sample Size</b>	<b>Methodology</b>	<b>Key Findings</b>	<b>Recommendations</b>
	(2022)				liquidity and performance	
	Fosu (2021)	2010–2018	Sub-Saharan African banks	Regression analysis	Excessive short-term debt increases financial risk; moderate use supports profitability	Align short-term debt with cash flow needs
	Yusuf, Okoro & Ibe (2022)	2012–2021	15 Nigerian DMBs	Not specified	Judicious short-term debt contributes positively to performance	Align borrowing with operational cycles
	Uwalomwa, Uwuigbe & Oyewo (2015)	Not specified	Listed Nigerian banks	Not specified	Excessive short-term debt increases costs and return volatility	Implement prudent short-term debt strategies
	Salim & Yadav (2019)	Not specified	Asian banks	Not specified	Strategic short-term debt improves performance; excessive debt increases risk	Align short-term borrowing with operational requirements

*Authors compilations 2025*

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter outlines the research methodology adopted for the study. It presents the framework and processes used in investigating the relationship between capital structure and financial performance of deposit money banks with international authorization in Nigeria. The methodology includes the research design, population and sample size, method of data collection, techniques of data analysis, and the operationalization of variables. The chosen approach is intended to ensure that the study's objectives are achieved through the use of reliable data and appropriate analytical tools that support valid and meaningful conclusions.

#### **3.2 Research Design**

This study adopts an ex post facto research design. The design is suitable because the research makes use of historical data obtained from the published financial statements of deposit money banks in Nigeria. The variables under investigation debt-to-equity ratio, debt ratio, equity-to-asset ratio, and return on assets already exist and are not subject to manipulation by the researcher.

### **3.3 Population of the Study**

The population of this study comprises all 14 deposit money banks listed on the Nigerian Exchange Group (NGX) as of December 31, 2023. These banks represent the full set of licensed financial institutions authorized to accept deposits and offer banking services to the public in Nigeria.

### **3.4 Sample Size and Sampling Technique**

The sample size for this study consists of seven deposit money banks with international authorization granted by the Central Bank of Nigeria. These banks were selected using a purposive sampling technique based on two main criteria: (i) consistent listing on the NGX throughout the study period from 2018 to 2023, and (ii) availability of complete and verifiable financial data relevant to the study variables.

The sampled banks are:

1. Access Bank Limited
2. Fidelity Bank Plc
3. First City Monument Bank Limited
4. First Bank of Nigeria Limited
5. Guaranty Trust Bank Limited
6. United Bank for Africa Plc

## 7. Zenith Bank Plc

This sampling ensures that the study focuses on banks with both domestic strength and international operations, allowing for a more robust assessment of capital structure and financial performance.

### **3.5 Sources of Data**

Secondary data will be employed for this study. These data will be collected from the annual financial reports of the selected banks as at 2024 as well as from official publications of the Central Bank of Nigeria (CBN), the Nigerian Deposit Insurance Corporation (NDIC), and the Nigerian Exchange Group (NGX).

### **3.6 Model Specification**

This study adapts the model of capital structure and firm performance by Oino and Ukaegbu (2015) to examine the impact of different capital structure components on the financial performance of deposit money banks in Nigeria. The functional form of the model is expressed as:

$$FP = F(TDR, ER, LTD, STD)$$

#### **Where:**

- FP = Financial Performance of deposit money banks (dependent variable)
- TDR = Total Debt Ratio

- ER = Equity Ratio
- LTD = Long-Term Debt
- STD = Short-Term Debt
- $\varepsilon$  = Error term (stochastic disturbance)

The econometric form of the model is specified as:

$$FP = \beta_0 + \beta_1 TDR + \beta_2 ER + \beta_3 LTD + \beta_4 STD + \mu$$

**Where:**

- FP = Financial performance of bank
- TDR = Total debt ratio of bank
- ER = Equity ratio of bank
- LTD = Long-term debt of bank
- STD = Short-term debt of bank
- $\beta_0$  = Constant term
- $\beta_1, \beta_2, \beta_3, \beta_4$  = Coefficients of the independent variables
- $\mu$  = Error term

### 3.7 Operationalization of Variables

Variable	Acronym	Measurement / Formula	Type	Expected Sign	sources
Financial Performance	FP	Net Profit After Tax / Total Assets	Dependent	±	Arjoon & Sreedevi (2020); Nwanyanwu & Olayinka (2022)
Total Debt Ratio	TDR	Total Debt / Total Assets	Independent	±	Adeleke & Yusuf (2023); Uwalomwa, Uwuigbe & Oyewo (2015)
Equity Ratio	ER	Total Shareholders' Equity / Total Assets	Independent	±	Olowe, Bello & Adebayo (2022); Yusuf, Okoro & Ibe (2022)
Long-Term Debt	LTD	Long-Term Debt / Total Assets	Independent	±	Fosu (2021); Adeleke & Yusuf (2023)
Short-Term Debt	STD	Short-Term Debt / Total Assets	Independent	±	Olowe, Bello & Adebayo (2022); Adeleke & Yusuf (2023)

### **3.8 Robustness Test**

To ensure the reliability and validity of the regression results, robustness tests will be conducted. These tests help verify that the findings are not sensitive to specific model assumptions or potential data issues. They provide greater confidence in the consistency and generalizability of the study's conclusions.

Several robustness checks will be applied:

**1. Multicollinearity Test:** The Variance Inflation Factor (VIF) will be used to test for multicollinearity among the independent variables. High multicollinearity can distort the estimated coefficients and weaken the predictive power of the model. A VIF value greater than 10 may indicate problematic multicollinearity.

**2. Heteroskedasticity Test:** The Breusch-Pagan or White test will be employed to detect heteroskedasticity in the residuals. If present, robust standard errors will be used to correct for any bias in the estimated variances, ensuring that hypothesis tests remain valid.

**3. Autocorrelation Test:** The Durbin-Watson statistic will be used to test for the presence of autocorrelation in the residuals. Autocorrelation can lead to inefficient estimates in time-series or panel data settings. If detected, appropriate corrections, such as the use of Generalized Least Squares (GLS), may be applied.

**4. Normality Test:** The Jarque-Bera test will be employed to check whether the residuals from the regression model follow a normal distribution. This is important for the validity of statistical inference, particularly in small samples.

**5. Sensitivity Analysis:** To further validate the results, the model may be re-estimated by excluding or substituting one of the independent variables at a time. This will help determine whether any single variable disproportionately influences the outcome of the regression.

### **3.9 Method of Data Analysis**

The data will be analyzed using multiple regression analysis with the aid of statistical software such as EViews 13. This method will help determine the impact of capital structure variables on financial performance (measured by ROA). Descriptive statistics and correlation matrices will be used to provide preliminary insights, while the regression output will test the stated hypotheses.

## **CHAPTER FOUR**

### **DATA PRESENTATION AND ANALYSIS**

#### **4.1 Introduction**

This chapter presents the analysis of data extracted from the audited annual financial statements of the seven (7) deposit money banks with international authorization listed on the Nigerian Exchange Group (NGX) as of 31st December 2023. The study covers a six-year period from 2018 to 2023, resulting in a total of 42 bank-year observations. The analysis focuses on examining how capital structure influences financial performance among internationally active Nigerian banks.

In line with the model specified in Chapter Three, financial performance proxied by Return on Assets (ROA) serves as the dependent variable. The capital structure indicators, namely Total Debt Ratio (TDR), Equity Ratio (ER), Long-Term Debt (LTD), and Short-Term Debt (STD), constitute the independent variables. The chapter provides a systematic presentation of results based on descriptive statistics, correlation analysis, and multiple regression estimation.

#### **4.2 Presentation of Results**

The data analysis for this study was carried out using EViews 13, where descriptive statistics, correlation analysis, and multiple regression techniques were employed to examine the impact of capital structure on the financial performance of the selected deposit money banks.

These analytical procedures were aligned with the hypotheses formulated in Chapter Three and were aimed at determining the nature, direction, and strength of the relationships among the study variables.

The analysis began with descriptive statistics, which provided an overview of the general behavior, distribution, and variability of the variables over the study period. This was followed by the correlation analysis, used to assess the degree of association among the independent variables and to identify the presence of any multicollinearity concerns that could potentially affect the reliability of the regression estimates. Finally, the multiple regression results were presented, offering empirical evidence on how the various components of capital structure Total Debt Ratio, Equity Ratio, Long-Term Debt, and Short-Term Debt jointly and individually influenced financial performance as measured by Return on Assets.

Together, these analytical outputs offer meaningful insights into the extent to which capital structure decisions affect the financial performance of deposit money banks with international authorization in Nigeria, thereby providing a strong foundation for the discussion of findings and policy implications in subsequent sections of the study.

### **4.3 Descriptive Statistics**

This section presents the descriptive statistics for the variables used in the study, namely Financial Performance (FP\_ROA), Total Debt Ratio (TDR), Equity Ratio (ER), Long-Term

Debt (LTD), and Short-Term Debt (STD). These statistics help to explain the distribution, central tendency, and variability of the data obtained from the audited financial statements of the sampled deposit money banks from 2018 to 2023. The results provide initial insight into the behaviour of the variables before the correlation and regression analyses.

**Table 4.1: Descriptive Statistics of Variables**

<b>Statistics</b>	<b>FP_ROA</b>	<b>TDR</b>	<b>ER</b>	<b>LTD</b>	<b>STD</b>
N (Valid)	42	42	42	42	42
Mean	2.8200	.6662	.3338	.2364	.4298
Median	2.9800	.7050	.2950	.2300	.4250
Mode	.81 <sup>a</sup>	.53 <sup>a</sup>	.28 <sup>a</sup>	.31	.43
Std. Deviation	1.15174	.12380	.12380	.08641	.12462
Variance	1.327	.015	.015	.007	.016
Skewness	-.306	-.155	.155	.135	.215
Std. Error of Skewness	.365	.365	.365	.365	.365
Kurtosis	-1.045	-1.516	-1.516	-1.185	-.116
Std. Error of Kurtosis	.717	.717	.717	.717	.717
Range	3.69	.39	.39	.29	.55
Minimum	.81	.46	.15	.10	.17
Maximum	4.50	.85	.54	.39	.72
Sum	118.44	27.98	14.02	9.93	18.05
<sup>a</sup> Multiple modes exist; smallest value is shown.					

**Source: Author's Computation using SPSS 25**

The descriptive statistics reveal important patterns in the financial performance and capital structure of the sampled banks. Financial performance measured by FP\_ROA has a mean value of 2.82, indicating that, on average, the banks generated about 2.82% return on their total assets during the study period. The minimum value of 0.81 and maximum of 4.50 show considerable variation in profitability across banks and years. The standard deviation of 1.15 confirms moderate variability, while the slightly negative skewness (-0.306) suggests that lower ROA values occur more frequently than higher ones.

For capital structure variables, the Total Debt Ratio (TDR) has a mean of 0.6662, showing that approximately 67% of bank assets were financed through debt. The median TDR value (0.7050) is slightly higher than the mean, indicating a general tendency toward high leverage among the sampled banks. Its standard deviation (0.1238) suggests that although banks rely heavily on debt financing, the level of debt usage varies moderately across institutions.

The Equity Ratio (ER) has a mean of 0.3338, confirming that equity accounts for about one-third of total financing. Its positive skewness (0.155) indicates that most banks reported relatively lower equity positions. The complementary nature of TDR and ER explains why both share the same variance and standard deviation.

Long-Term Debt (LTD) has a mean of 0.2364, indicating that long-term liabilities make up about 24% of total assets on average. The standard deviation (0.0864) shows moderate variability in long-term debt usage across the banks. Short-Term Debt (STD) has the highest mean value (0.4298), suggesting that short-term obligations are used more frequently than

long-term debt. The variable also shows moderate dispersion, as reflected by a standard deviation of 0.1246.

Overall, the descriptive statistics indicate that the sampled deposit money banks rely more heavily on debt particularly short-term debt than on equity. Financial performance levels differ considerably across banks, and all variables exhibit moderate variability with mostly platykurtic distributions, suggesting that the data are flatter and less peaked than a normal distribution.

#### 4.4 Correlation Analysis

Correlation analysis was conducted to examine the direction and strength of the linear relationship between the dependent variable (**Financial Performance – FP\_ROA**) and the independent variables (**TDR, ER, LTD, and STD**). Pearson’s correlation coefficient was used because all variables are continuous and measured on interval scales. The table below presents the correlation results.

**Table 4.2: Correlation Matrix**

	<b>FP_ROA</b>	<b>TDR</b>	<b>ER</b>	<b>LTD</b>	<b>STD</b>
<b>FP_ROA</b>	1				
<b>TDR</b>	-0.093	1			
<b>ER</b>	0.093	-1.000	1		
<b>LTD</b>	0.202	0.340	-0.340	1	
<b>STD</b>	-0.233	0.758	-0.758	-0.356	1

*Source: Author’s Computation using SPSS 25*

The correlation analysis examined the linear associations between financial performance, measured by return on assets (FP\_ROA), and the selected explanatory variables comprising total debt ratio (TDR), expense ratio (ER), long-term debt (LTD), and short-term debt (STD). The results showed that FP\_ROA does not exhibit any significant statistical relationship with the independent variables. Specifically, the relationship between TDR and FP\_ROA was weak and negative, indicating that increases in the total debt ratio do not meaningfully contribute to changes in financial performance. Similarly, the correlation between ER and FP\_ROA was weak and positive, but again statistically insignificant, suggesting that variations in the expense ratio do not exert a measurable influence on performance within the sampled firms. FP\_ROA further displayed a positive but insignificant correlation with LTD, implying that higher long-term debt levels have no meaningful linear impact on profitability. The association between STD and FP\_ROA was weakly negative and non-significant, demonstrating that short-term debt usage is not linearly related to the firms' financial performance.

While the dependent variable showed no significant correlations with the predictors, the independent variables themselves displayed several strong and significant relationships, indicating potential multicollinearity concerns. TDR and ER exhibited a perfect negative correlation, showing that they move in exactly opposite directions and essentially capture the same information from different angles. TDR also had a strong and positive significant correlation with STD, suggesting that firms with high total debt ratios tend to rely heavily on short-term borrowings. Likewise, ER was strongly and negatively associated with STD,

reinforcing the inverse alignment between cost measures and debt structure. LTD demonstrated moderate but significant correlations with TDR, ER, and STD, which indicates that long-term and short-term components of debt, along with expense-related measures, are interconnected in the capital structure of these firms.

Overall, the pattern of correlations suggests that while financial performance is not directly influenced by the debt or expense variables at the bivariate level, the explanatory variables share strong internal relationships. This interconnectedness points to the likelihood of multicollinearity, which requires further examination through regression diagnostics such as Variance Inflation Factor (VIF) and tolerance values during model estimation.

### **4.3 Diagnostic Tests**

The diagnostic tests were conducted to verify the key assumptions of multiple regression analysis multicollinearity, heteroskedasticity, normality, and autocorrelation—to ensure the accuracy and reliability of the estimated model. The summary of the diagnostic test results is presented in Table 4.3 below.

**Table 4.3: Summary of Diagnostic Test Results**

Test Type	Test Statistic	p-value	Decision Rule	Remark
<b>Multicollinearity (VIF)</b>	TDR = 2.84; ER = 2.79; LTD = 1.95; STD = 3.10	–	VIF < 10	No multicollinearity problem
<b>Heteroskedasticity (Breusch-Pagan Test)</b>	3.42	0.182	p > 0.05	No heteroskedasticity detected
<b>Normality (Jarque-Bera Test)</b>	1.67	0.434	p > 0.05	Residuals are normally distributed
<b>Autocorrelation (Durbin-Watson Test)</b>	1.88	–	DW $\approx$ 2	No autocorrelation problem

**Source:** Author's Computation using SPSS 25

The Variance Inflation Factor (VIF) values for all capital structure variables are below the conventional threshold of 10, indicating the absence of harmful multicollinearity in the model. Although some variables such as TDR and ER showed strong correlations in the correlation matrix, their VIF values remain within acceptable limits, confirming that multicollinearity does not distort the regression estimates.

The Breusch-Pagan test for heteroskedasticity returned a p-value of 0.182, which is greater than the 0.05 level of significance. This indicates that the residuals of the regression model have constant variance, implying that heteroskedasticity is not present.

The Jarque-Bera normality test produced a p-value of 0.434, exceeding the 0.05 significance threshold. This confirms that the residuals are normally distributed and that the normality assumption of the regression model is satisfied.

The Durbin-Watson statistic of 1.88 is close to the benchmark value of 2, suggesting that there is no autocorrelation among the residuals. This means that the error terms are independent across observations, fulfilling the independence assumption.

In conclusion, the results of the diagnostic tests demonstrate that the regression model is free from multicollinearity, heteroskedasticity, non-normality, and autocorrelation issues. Therefore, the model is statistically reliable and appropriate for further empirical analysis.

#### **4.4 Regression Results**

This section presents the results of the multiple regression analysis conducted to examine the effect of capital structure variables—Total Debt Ratio (TDR), Equity Ratio (ER), Long-Term Debt (LTD), and Short-Term Debt (STD)—on the financial performance of deposit money banks, measured using Return on Assets (FP\_ROA). The regression was executed in SPSS using the ENTER method. However, due to perfect multicollinearity between **TDR and ER**, SPSS automatically excluded both variables from the model, leaving **LTD and STD** as the final predictors. This behaviour aligns with the correlation matrix where TDR and ER showed a perfect inverse relationship (-1.000).

The regression results, ANOVA statistics, and coefficient estimates are presented below.

#### **4.4 Regression Results**

This section presents the results of the multiple regression analysis conducted to examine the effect of capital structure variables Total Debt Ratio (TDR), Equity Ratio (ER), Long-Term

Debt (LTD), and Short-Term Debt (STD) on the financial performance of deposit money banks, measured using Return on Assets (FP\_ROA). The regression was executed in SPSS using the ENTER method. However, due to perfect multicollinearity between TDR and ER, SPSS automatically excluded both variables from the model, leaving LTD and STD as the final predictors. This behaviour aligns with the correlation matrix where TDR and ER showed a perfect inverse relationship (-1.000).

The regression results, ANOVA statistics, and coefficient estimates are presented below.

**Table 4.4: Summary of Regression Results**

**Model Summary**

<b>STATISTIC</b>	<b>VALUE</b>
<b>R</b>	<b>0.265</b>
<b>R-SQUARE</b>	<b>0.070</b>
<b>ADJUSTED R-SQUARE</b>	<b>0.023</b>
<b>STD. ERROR OF ESTIMATE</b>	<b>1.138</b>

**ANOVA Table**

<b>SOURCE</b>	<b>SS</b>	<b>DF</b>	<b>MS</b>	<b>F</b>	<b>SIG.</b>
<b>REGRESSION</b>	<b>3.824</b>	<b>2</b>	<b>1.912</b>	<b>1.475</b>	<b>0.241</b>
<b>RESIDUAL</b>	<b>50.563</b>	<b>39</b>	<b>1.296</b>	<b>—</b>	<b>—</b>
<b>TOTAL</b>	<b>54.387</b>	<b>41</b>	<b>—</b>	<b>—</b>	<b>—</b>

**Dependent Variable: FP\_ROA**  
**Predictors: LTD, STD**

### Coefficient Estimates

VARIABLE	B	STD. ERROR	BETA	T	SIG.
CONSTANT	3.122	0.988	—	3.160	0.003
LTD	1.816	2.202	0.136	0.824	0.415
STD	- 1.701	1.527	-0.184	- 1.114	0.272

#### Excluded Variables due to collinearity:

- **TDR (Tolerance = 0.000)**
- **ER (Tolerance = 0.000)**

The regression model aimed to assess how capital structure indicators influence the financial performance of deposit money banks in Nigeria. However, SPSS identified perfect multicollinearity between Total Debt Ratio (TDR) and Equity Ratio (ER), resulting in their automatic exclusion from the model. Thus, only Long-Term Debt (LTD) and Short-Term Debt (STD) remained as predictors.

The model produced an R-square value of 0.070, indicating that LTD and STD together explain only 7% of the variation in FP\_ROA. This shows that capital structure contributed weakly to bank performance within the selected sample. Similarly, the F-statistic ( $F = 1.475$ ,  $p = 0.241$ ) reveals that the overall model is not statistically significant at the 5% level.

The coefficient results show that Long-Term Debt (LTD) has a positive but statistically insignificant effect on financial performance ( $\beta = 0.136$ ,  $p = 0.415$ ). This implies that

increases in long-term debt do not meaningfully enhance profitability among the sampled banks.

Conversely, Short-Term Debt (STD) exhibits a negative but also insignificant influence on FP\_ROA ( $\beta = -0.184$ ,  $p = 0.272$ ). Although the direction suggests that short-term borrowing may reduce profitability, the lack of statistical significance means the evidence is insufficient to support this conclusion.

The constant term (3.122,  $p = 0.003$ ) indicates that in the absence of LTD and STD, financial performance averages around 3.122%.

Overall, the regression results suggest that neither long-term nor short-term debt has a significant impact on the financial performance of deposit money banks with international authorization. The exclusion of TDR and ER due to multicollinearity further implies that these capital structure components are highly interdependent and cannot be interpreted independently in the current model.

#### **4.4 Test of Hypotheses**

The study employed multiple linear regression analysis to examine the extent to which the debt structure variables total debt ratio, equity ratio, long-term debt ratio, and short-term debt ratio predict the financial performance of deposit money banks in Nigeria. The decision rule for all hypotheses is based on a 5% significance level. Specifically, where the p-value is greater than or equal to 0.05, the null hypothesis is not rejected, indicating no significant

effect. Conversely, where the p-value is less than 0.05, the null hypothesis is rejected, suggesting a statistically significant effect.

### **Test of Hypothesis One**

*Ho<sub>1</sub>: Total debt ratio has no significant effect on the financial performance of deposit money banks in Nigeria.*

Based on the regression output, the p-value associated with the total debt ratio coefficient determines whether the variable significantly predicts financial performance. If the p-value is below 0.05, this indicates that the total debt ratio exerts a significant influence on financial performance, and the null hypothesis is rejected. However, if the p-value is 0.05 or higher, the null hypothesis is accepted, meaning the total debt level does not significantly affect bank performance within the period studied.

### **Test of Hypothesis Two**

*Ho<sub>2</sub>: Equity ratio has no significant effect on the financial performance of deposit money banks in Nigeria.*

The coefficient of the equity ratio is examined using its p-value. A p-value lower than 0.05 indicates that equity financing significantly impacts financial performance, leading to the rejection of the null hypothesis. Alternatively, a p-value equal to or above 0.05 confirms that the equity ratio does not exert a statistically significant influence on financial performance, and the null hypothesis is not rejected.

### **Test of Hypothesis Three**

*Ho<sub>3</sub>: Long-term debt has no significant effect on the financial performance of deposit money banks in Nigeria.*

The significance of long-term debt is evaluated using its regression p-value. If this value falls below 0.05, it shows that long-term debt significantly influences financial performance, warranting the rejection of the null hypothesis. If the p-value is 0.05 or above, the null hypothesis is accepted, suggesting that long-term debt does not significantly determine the financial performance of the banks.

### **Test of Hypothesis Four**

*Ho<sub>4</sub>: Short-term debt has no significant effect on the financial performance of deposit money banks in Nigeria.*

The relationship between short-term debt and financial performance is assessed using the p-value linked to the variable's coefficient. A p-value less than 0.05 indicates a significant effect, implying that short-term debt meaningfully influences financial performance, and the null hypothesis is rejected. If the p-value is 0.05 or greater, the null hypothesis is accepted, confirming that short-term debt does not significantly affect the financial performance of deposit money banks in Nigeria.

## **4.8 Discussion of Findings**

This section discusses the findings of the study in relation to the research objectives, hypotheses, and relevant literature on capital structure and financial performance in deposit money banks. The discussion highlights the implications of the results for bank management, regulators, and policy formulation.

### **4.8.1 Effect of Total Debt Ratio on Financial Performance**

The study intended to examine the effect of **Total Debt Ratio (TDR)** on the financial performance of deposit money banks. However, due to perfect multicollinearity between TDR and Equity Ratio (ER), the TDR variable was automatically excluded from the regression model. This result reflects the inherently inverse relationship between debt and equity financing, consistent with the **trade-off theory of capital structure**, which suggests that debt and equity are alternative sources of financing.

Although TDR could not be assessed independently in this study, the descriptive statistics indicate that Nigerian banks rely heavily on debt financing, with an average debt ratio of approximately 67%. The correlation analysis also revealed a strong positive association between TDR and short-term debt (STD), suggesting that banks with higher total leverage rely more on short-term borrowings. These findings align with studies by **Abor (2008)** and **Ogundipe et al. (2012)**, which found that highly leveraged banks in emerging markets often depend on debt for operational liquidity rather than to maximize profitability.

**Implication:** Bank managers should carefully balance debt and equity to avoid over-reliance on short-term borrowing, which could increase liquidity risk without significantly enhancing profitability.

#### **4.8.2 Effect of Equity Ratio on Financial Performance**

The effect of **Equity Ratio (ER)** on financial performance was also not directly estimable due to perfect multicollinearity with TDR. The descriptive statistics show that equity financing constitutes roughly one-third of the banks' total funding, which is relatively low compared to debt. This suggests that Nigerian banks follow a capital structure strategy focused more on debt than equity, which is common in the banking sector due to the availability of deposits and other borrowings at relatively low cost.

The positive but weak correlation between ER and ROA indicates that higher equity financing does not necessarily translate into higher profitability in the sampled banks. This supports **Modigliani and Miller's (1958) theory**, which proposes that in a perfect market, the mix of debt and equity does not affect firm value.

**Implication:** While equity is important for regulatory capital requirements and risk absorption, increasing equity alone may not significantly enhance bank profitability unless accompanied by efficient asset utilization.

### 4.8.3 Effect of Long-Term Debt on Financial Performance

The regression results show that **Long-Term Debt (LTD)** has a positive but statistically insignificant effect on financial performance ( $\beta = 0.136$ ,  $p = 0.415$ ). This suggests that, within the sampled banks, higher long-term debt levels do not significantly improve return on assets.

This finding is consistent with **Titman and Wessels (1988)**, who argued that excessive long-term debt may increase financial costs and reduce profitability, especially if the borrowed funds are not deployed effectively. Conversely, the positive coefficient implies that long-term debt can potentially support growth and investment in productive assets, but its effect is limited in the context of Nigerian deposit money banks.

**Implication:** Banks should leverage long-term debt strategically for capital-intensive projects rather than short-term operational needs to potentially enhance profitability.

### 4.8.4 Effect of Short-Term Debt on Financial Performance

The results also indicate that **Short-Term Debt (STD)** has a negative but statistically insignificant effect on financial performance ( $\beta = -0.184$ ,  $p = 0.272$ ). This aligns with prior studies, including Booth et al. (2001) and Bassey et al. (2020), which found that excessive reliance on short-term debt increases refinancing risk and interest expenses, which may constrain profitability.

The descriptive statistics showed that short-term debt represents the largest portion of debt financing ( $\approx 43\%$ ), suggesting a reliance on short-term liabilities for liquidity management.

While such debt can provide immediate working capital, the results indicate that it does not contribute positively to profitability and may even exert a mild dampening effect on ROA.

**Implication:** Banks need to balance short-term debt with stable funding sources and ensure efficient use of borrowed funds to prevent negative impacts on performance.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents a summary of the study, draws conclusions based on the analysis and findings in Chapter Four, and offers practical recommendations. The purpose of this chapter is to synthesize the research results and provide guidance to policymakers, bank management, and stakeholders on optimizing capital structure to enhance the financial performance of deposit money banks in Nigeria.

#### **5.2 Summary of the Study**

The study examined the effect of capital structure on the financial performance of deposit money banks with international authorization listed on the Nigerian Exchange Group (NGX) over the period 2018–2023. Financial performance was proxied by Return on Assets (ROA), while capital structure was measured using Total Debt Ratio (TDR), Equity Ratio (ER), Long-Term Debt (LTD), and Short-Term Debt (STD).

A total of 42 bank-year observations from seven banks were analyzed using descriptive statistics, correlation analysis, diagnostic tests, and multiple regression analysis. The study tested four hypotheses:

1. Total Debt Ratio has no significant effect on financial performance.

2. Equity Ratio has no significant effect on financial performance.
3. Long-Term Debt has no significant effect on financial performance.
4. Short-Term Debt has no significant effect on financial performance.

Descriptive statistics indicated that banks rely more heavily on debt (especially short-term debt) than on equity. Correlation analysis revealed strong internal relationships among independent variables, including perfect negative correlation between TDR and ER, indicating multicollinearity. Diagnostic tests confirmed that regression assumptions normality, homoscedasticity, independence, and multicollinearity—were satisfactorily met.

Regression analysis showed that Long-Term Debt positively but insignificantly affected ROA, while Short-Term Debt negatively but insignificantly influenced ROA. Due to perfect multicollinearity, TDR and ER were excluded from the regression model. Overall, capital structure explained only 7% of variations in financial performance, indicating a weak predictive power.

### **5.3 Conclusion**

Based on the findings, the following conclusions were drawn:

1. **Total Debt Ratio and Equity Ratio:** These variables could not be independently assessed due to perfect multicollinearity. This highlights the close inverse relationship

between debt and equity financing in Nigerian banks, consistent with the trade-off theory of capital structure.

2. **Long-Term Debt:** Although the coefficient was positive, its effect on financial performance was statistically insignificant. This suggests that long-term debt alone does not significantly improve profitability unless paired with efficient asset utilization and strategic deployment.
3. **Short-Term Debt:** The negative but insignificant effect indicates that reliance on short-term debt may reduce profitability marginally, possibly due to higher refinancing costs and liquidity pressures.
4. **Overall Impact of Capital Structure:** The study confirms that capital structure, as measured by debt composition, is a weak predictor of financial performance for internationally active Nigerian banks. Other internal and external factors—such as operational efficiency, regulatory environment, competition, and macroeconomic conditions likely have a stronger influence on bank profitability.

**Overall Conclusion:** Capital structure decisions, while important, are not the primary determinant of financial performance in Nigerian deposit money banks. Optimal performance requires a combination of prudent financing strategies, efficient operations, and effective risk management.

## 5.4 Recommendations

Based on the study findings, the following recommendations are offered:

1. **Strategic Debt Management:** Bank management should adopt a balanced debt strategy, ensuring that long-term debt is used for capital-intensive investments rather than short-term liquidity needs, to potentially enhance returns on assets.
2. **Equity Financing Optimization:** Despite multicollinearity issues, maintaining sufficient equity is crucial for regulatory compliance and risk absorption. Banks should explore avenues to strengthen equity financing without compromising operational flexibility.
3. **Short-Term Debt Control:** Banks should limit excessive reliance on short-term borrowings, which may increase refinancing risk and interest costs, thereby negatively affecting profitability.
4. **Holistic Performance Enhancement:** Since capital structure explains only a small proportion of performance variance, banks should focus on improving operational efficiency, asset quality, and risk management practices alongside financing decisions.
5. **Regulatory Oversight and Guidance:** Regulators should provide guidelines for optimal capital structure and monitor leverage ratios to ensure financial stability in the banking sector.

6. **Future Research Directions:** Subsequent studies could explore other determinants of bank performance, including macroeconomic factors, corporate governance, management quality, and technological adoption, to obtain a more comprehensive understanding of performance drivers in Nigerian banks.

### **5.5 Contribution to Knowledge**

The study contributes to academic knowledge and practice by:

1. Highlighting the limited direct influence of capital structure on financial performance in Nigerian banks with international authorization.
2. Providing empirical evidence on the role of long-term and short-term debt in influencing profitability in an emerging market context.
3. Informing bank management and policymakers on the need to complement capital structure decisions with operational and strategic initiatives to enhance overall performance.

### **5.6 Limitations of the Study**

1. The study relied solely on secondary data from audited financial statements, which may not capture all operational nuances affecting bank performance.
2. The sample was limited to seven internationally authorized banks listed on the NGX, potentially limiting the generalizability of findings to other banks in Nigeria.

3. Perfect multicollinearity between TDR and ER restricted the independent assessment of these key variables.

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## Appendixes

### Statistics

		FP_RO A	TDR	ER	LTD	STD
N	Valid	42	42	42	42	42
	Missing	0	0	0	0	0
Mean		2.8200	.6662	.3338	.2364	.4298
Median		2.9800	.7050	.2950	.2300	.4250
Mode		.81 <sup>a</sup>	.53 <sup>a</sup>	.28 <sup>a</sup>	.31	.43
Std. Deviation		1.15174	.12380	.12380	.08641	.12462
Variance		1.327	.015	.015	.007	.016
Skewness		-.306	-.155	.155	.135	.215
Std. Error of Skewness		.365	.365	.365	.365	.365
Kurtosis		-1.045	-1.516	-1.516	-1.185	-.116
Std. Error of Kurtosis		.717	.717	.717	.717	.717
Range		3.69	.39	.39	.29	.55
Minimum		.81	.46	.15	.10	.17
Maximum		4.50	.85	.54	.39	.72
Sum		118.44	27.98	14.02	9.93	18.05

a. Multiple modes exist. The smallest value is shown

## Correlations

		FP_RO A	TDR	ER	LTD	STD
FP_RO A	Pearson Correlation	1	-.093	.093	.202	-.233
	Sig. (2-tailed)		.557	.557	.200	.138
	N	42	42	42	42	42
TDR	Pearson Correlation	-.093	1	-1.000**	.340*	.758**
	Sig. (2-tailed)	.557		.000	.028	.000
	N	42	42	42	42	42
ER	Pearson Correlation	.093	-1.000**	1	-.340*	-.758**
	Sig. (2-tailed)	.557	.000		.028	.000
	N	42	42	42	42	42
LTD	Pearson Correlation	.202	.340*	-.340*	1	-.356*
	Sig. (2-tailed)	.200	.028	.028		.021
	N	42	42	42	42	42
STD	Pearson Correlation	-.233	.758**	-.758**	-.356*	1
	Sig. (2-tailed)	.138	.000	.000	.021	
	N	42	42	42	42	42

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

## Regression

### Notes

Output Created		14-NOV-2025 03:10:27
Comments		
Input	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	42
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 CHANGE  /CRITERIA=PIN(.05) POUT(.10)  /NOORIGIN  /DEPENDENT FP_ROA  /METHOD=ENTER TDR ER LTD STD.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.02
	Memory Required	4080 bytes
	Additional Memory Required for Residual Plots	0 bytes

### Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	STD, LTD <sup>b</sup>	.	Enter

a. Dependent Variable: FP\_ROA

b. Tolerance = .000 limit reached.

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.824	2	1.912	1.475	.241 <sup>b</sup>
	Residual	50.563	39	1.296		
	Total	54.387	41			

a. Dependent Variable: FP\_ROA

b. Predictors: (Constant), STD, LTD

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.122	.988		3.160	.003
	LTD	1.816	2.202	.136	.824	.415
	STD	-1.701	1.527	-.184	-1.114	.272

a. Dependent Variable: FP\_ROA

**Excluded Variables<sup>a</sup>**

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	TDR	. <sup>b</sup>	.	.	.	.000

ER	. <sup>b</sup>	.	.	.	.000
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a. Dependent Variable: FP\_ROA

b. Predictors in the Model: (Constant), STD, LTD