CAPITAL STRUCTURE AND FIRM PERFORMANCE, THE CASE OF THE NIGERIAN BANKING INDUSTRY

BY

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BEING A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, UNIVERSITY OF LAGOS, AKOKA YABA LAGOS, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE MASTER OF SCIENCE (M.Sc.) DEGREE IN FINANCE

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DECLARATION

I, **Giwa Macnun Ademola** with Matriculation number **249025069**, declare that I carried out the research titled "**Capital Structure and Firm Performance, The Case of The Nigerian Banking Industry"** under the supervision of Dr. J. A. Oladimeji**,** and that the research has not been submitted anywhere for an award. Where other sources were used, they have been appropriately acknowledged.

The work incorporated in this dissertation is original and has not been submitted either in part or in full for any other degree or diploma of this university or any other institution of higher learning.

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CERTIFICATION

This is to certify that this research work entitled "**Capital Structure and Firm Performance, The Case of The Nigerian Banking Industry"** was submitted by **Giwa Macnun Ademola** with Matriculation Number **249025069** and was carried out by him under my supervision.

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Head of Department

DEDICATION

This project is dedicated to the Almighty God for the support, strength, and enablement bestowed on me throughout this program.

ACKNOWLEDGEMENTS

My utmost gratitude goes to God Almighty for His immense support and grace given to me to successfully complete this project.

I am very grateful to my amiable supervisor, Dr. J. A. Oladimeji., who despite tight schedules made time to effectively supervise my work. His thorough review, encouraging and positive suggestions and moral support are undoubtedly instrumental to the success of this project.

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ABSTRACT

This study examines the effect of capital structure on the profitability of Deposit Money Banks (DMBs) in Nigeria between 2014 and 2024 using yearly data. The research specifically investigates how debt-equity composition influences banks' financial performance, measured through return on equity (ROE). Employing a Panel Autoregressive Distributed Lag (P-ARDL) model, the study explores both short-run and long-run relationships between capital structure components and profitability. The findings reveal a significant long-run relationship between capital structure and profitability among the selected banks. Specifically, total debt and long-term debt were found to have negative but significant impacts on profitability, suggesting that excessive leverage reduces returns. Conversely, equity financing exhibited a positive influence on profitability, implying that banks with higher equity ratios tend to achieve better financial stability and performance. The study contributes to existing literature by providing empirical evidence from the Nigerian banking sector using recent post-reform data, thereby enhancing understanding of optimal financing strategies in emerging economies. It also offers valuable insights to policymakers, financial managers, and investors on maintaining a balanced capital structure to enhance profitability and mitigate financial risks.

Keywords: Capital Structure, Profitability, Panel ARDL, Debt-Equity Ratio, Deposit Money Banks

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

How a bank is able to meet the assumptions of its different stakeholders depends on the choice of capital structure it makes, which influences how it finances its operations using debt and equity (Damodaran, 2019). Several studies, such as Ibenta (2022), Inanga and Ajayi (2014), and Kester (2015), have been conducted to determine the form of market frictions most likely to affect firm value since Modigliani and Miller (2012) famously held that business value is indifferent to capital structure decisions in ideal capital markets. Nevertheless, the vast majority of these studies focus only on nonbanking institutions. But in deciding how to fund themselves for the ideal capital structure, businesses offset the advantages of tax relief and other gains against default risk. That is why the primary reasons for the funding of business operations through the use of debt are all about how expensive it is. Issuing debt also produces less administration costs since there is not always an underwriter (Pike & Neale, 2021). Kester (2015) distinguished between the two categories with the argument that what a company's capital structure is exactly observed in the different means whereby company funds itself, but its capital structure shows the relative amounts of long-term debt and equity capital. Therefore, the capital structure of a bank includes long-term debt as well as equity capital. Under corporate finance, the basic theory of reference regarding capital structure is certainly one of the toughest topics.

Experts have been in disagreement for long on the optimal capital structure to maximize the worth of a company (Omojefe, 2014). To make the problem less complicated, traditional research believed that the cost of debt and equity was irrelevant to capital structure and that the firm's net profit was the most significant factor to consider (Osaze, 2021). However, closer

examination proves that there seem to be significant costs of debt and equity. Since Modigliani and Miller reached the conclusion in 1958 that the decision about a firm's capital structure does not make any difference when there exist frictionless markets and homogeneous expectations, capital structure has been a relevant consideration in financing economic activity. Theories attempt to find out if there can be best capital structures through minimizing assumptions and finding their implications.

Over the last decades, a lot of work has been done on the connection between the capital structure and value of a company (Stohs & Maver, 2021). It remains one of the biggest and most challenging corporate finance issues to decide if a certain firm has an optimal capital structure. The business sector of the country includes an array of companies that operate in a very competitive and highly unregulated industry.

The economic environment under which companies undertake business has evolved since 1987 when the financial liberalization of the Structural Adjustment Program began (Ozkan, 2021. The government's fiscal and monetary policy has never remained the same, and the macroeconomic environment has never been favorable for business. The loan rate during the structural adjustment program increased; it started at 1.5 percent in 1980 and rose to its highest at 29.8 percent in 1992 (Oladeji & Olokoye, 2019).

However, it fell to 16.9% in 2006. Borrowing cost for the organized capital market must have been boosted by the high rate of interest, thereby raising operating expenses. The Structural Adjustment Programme (SAP), which boosted domestic demand for foreign goods even when domestic output was not competitive with foreign-made commodities, rendered Nigeria's economy more liberalized and open. The outcome was a negative balance of payment position worsened by the cost of borrowings and the worst devaluation of the Naira. Nigerian business

thus became unrealistic owing to the undue volatility of the exchange rate system (Patrick, Joseph & Kemi, 2018).

1.2 Statement of the problem

Primarily due to a wide research gap area, the majority of business businesses, especially in developing countries like Nigeria, operate under a dearth of knowledge of the intricate relationship between firm performance and capital structure. This lack of empirical evidence inspires the interest of the researcher to explore this very relevant area further, given the significance of business growth and sustainability. With minimal literature addressing this specific environment, exploring ancillary areas of research such as Capital Structure Determinants and Firm Performance offers an alternate way of thinking about forces in play. Banks, perhaps more so than most, are faced with sophisticated sweeps of variables when determining their best capital structure. The ongoing debate about the best mix of debt and equity financing underscores the widespread need for further research and empirical analysis in corporate finance (Nwankwo, 2020).

There is little empirical work examining the nexus between capital structure and the performance of deposit money banks in advanced and developing nations. Most of the available capital structure studies did not examine how capital structure affects deposit money institution performance but rather more about how capital structure is broken down into short- and long-term terms and added up to get total debt. By expanding the scope of the duration covered as well as the number of banks included in the data collection, this study seeks to fill this gap. Banks can make use of debt or equity financing in order to optimize business performance, so it's also necessary to explore how the two can complement each other. Deposit money banks consider debt over equity in making major financial decisions on how operations and assets are to be financed, as noted by Oladeji and Olokoye (2022). The Nigerian Banking Industry is in

dire need of research on organizational performance and capital structure. The research discusses the impact of capital structure on the performance of deposit money banks in Nigeria.

1.3 Objective of the study

The main objective of this study is to examine the impact of capital structure on performance of deposit money banks in Nigeria between 2014 and 2024. The specific objectives are to:

i. determine the influence on bonds on Profit After Tax (PAT) of Deposit Money Banks in Nigeria.
ii. examine the impact of preference shares on Profit After Tax (PAT) of Deposit Money Banks in Nigeria.
iii. examine the impact of ordinary shares on Profit After Tax (PAT) of Deposit Money Banks in Nigeria.

1.4 Research Questions

This study seeks to provide answers to the following research questions:

i. What is the effect of bonds on the Profit after Tax (PAT) of Deposit Money Banks in Nigeria?
ii. To what measures do Preference Shares have on the Profit After Tax of Deposit Money Banks in Nigeria?
iii. How does Ordinary Share affect Profit after Tax of Deposit Money Banks in Nigeria?

1.5 Research Hypotheses

The study is guided by the following null hypotheses:

H_{o1}: Bonds do not significantly affect the profit after tax (PAT) of Nigerian deposit money institutions.

H_{o2}: Preference Shares have no significant effect on Deposit Money Banks' Profit after Tax (PAT) in Nigeria.

H_{o3}: The profit after tax (PAT) of Nigerian deposit money institutions is not significantly affected by ordinary shares.

1.6 Scope of the study

This study focuses on the Impact of Capital Structure on the Performance of Deposit Money Banks in Nigeria between 2014 and 2024. It utilizes a secondary data usual technique to obtain data and covers 11 years of time series data. Geographically, Nigeria is the study's primary point since it is one of the developing countries where not much pertinent research seems to have been done. This research used all of the Nigerian Deposit Money Banks listed. These include First Bank of Nigeria, United Bank for Africa, Guaranty Trust Bank, Access Bank (which purchased Diamond Bank) and Zenith Bank. The research's data sources were included the selected banks' financial statements and the CBN Statistical Bulletin 2025.

1.7 Limitations of the study

Given a need to get sufficient information regarding the relationship and correlation between the numerous variables associated with capital structure and deposit money banks, this study aimed at including all variables used as indicators of the capital structure and performance of deposit money banks in Nigeria. The scope that is aimed cannot be achieved since the topic of

research regretfully narrowed its scope to the Performance of Deposit Money Banks, that is, only in the banking sector of the Nigerian economy. Furthermore, not all sectors are well-documented to such an extent as to show significant differences. Only those measurements that were conducted by Deposit Money Banks listed on the Nigerian Exchange (NGX) were able to effectively capture these capital arrangements. The capital structure of Deposit Money Bank was the subject of study. All these deposit money institutions have the bonds, common shares, and preference shares listed above. Moreover, since it has a small profit after tax, it is difficult to calculate the performance of these deposit money institutions. Even though there are numerous factors that might affect these two variables, here in this research they will be considered only for twenty-two years.

1.8 Significance of the Study

Survival is not all about stock for a firm. However, since they do not know the numerous benefits of debt financing, most organizations rely on equity for independence or target a low debt capital structure. There are businesses that do not care about how capital structures are built as long as they are profitable now and in the future; others view capital structures as being purely theoretical, which do not need or deserve to be formally designed. Once this study has taken place, everything would be different. The research results are based on previous studies on the relationship between share price, debt funding, earnings per share, and shareholders' capacity to delay paying tax. In addition, it adds significantly to existing knowledge on capital structure in the Nigerian Banking Industry in recognizing the ambiguity in the use of EPS as a performance measure. Our research study will be very useful to the following:

i. **Management:** it is particularly beneficial for Deposit Money Bank management because it highlights the strengths of debt financing as well as equity financing in various economic conditions. The management of a company is tasked with carrying

out inquiries and financial decision-making. Thus, being aware of these findings, they will make improved decisions.

ii. **The General Public:** The overall population at large, especially those who would like to invest in the banking sector, are greatly impacted by how Deposit Money Banks conduct their activities. The public are a company's major source of stakeholders. The general public should therefore be made aware of the capital structure decisions that have been made.

iii. **Investors and corporate manager:** Bond holders, share investors, and any other person who has invested in any of the other deposit money institutions fall in this category. They must understand the consequence of their act.

iv. **Researchers and Scholars:** This research contributes to the previous discussion on capital structure.

Briefly, the study is precious and worth it for the students and researchers who carry out research in finance. These limited areas suffice, but its value cannot be exaggerated.

1.9 Definition of terms

Below is the list of important terminologies used within the study with definitions.

i. **Capital structure:** The company will use loans, common stock, bonds and preferred stock as its sources of funds.

ii. **Debt:** These firm borrowings or loans are also divided into two: short-term loans that are part of capital structure and long-term loans.

iii. **Equity:** It is the aggregate amount of money initially put into a company for receiving shares of stock.

iv. **Common Stock:** It can raise capital by offering to the public or private shareholders the opportunity to purchase its stock.

CHAPTER TWO

LITERATURE REVIEW

2.1 Preamble

This chapter provides a review of existing literature which contains a conceptual review, theoretical review, and empirical review of the study.

2.2 Theoretical Framework

The theory of capital structure forms the basis for this study. The Modigliani-Miller (MM) theory, proposed by Modigliani and Miller in 2012, posits that a firm's capital structure has little impact on its value under certain ideal conditions. In their construct, the capital market operates perfectly with seamless internal and external fund substitution, absence of transaction costs, bankruptcy fees, taxes, and full information accessibility. According to this hypothesis, a company's value should not be influenced by its capital structure. Instead, valuation should be based on market value and Weighted Average Cost of Capital (WACC), which reflect the risks and returns associated with the company's operations rather than its financing methods. Miller further refined the theory, asserting that corporate decisions regarding capital structure, including both corporate and individual taxes, are inconsequential (Miller, 2012).

2.2.1 Theory of Capital Structure

According to Modigliani and Miller (MM), (2012), a firm's capital structure has minimal effect on its value if a few important criteria are met. Everyone believes that the capital market is ideal in the universe that Modigliani and Miller constructed, with perfect internal and external fund substitution, no transaction costs, no bankruptcy fees, no taxes, and free information available to both insiders and outsiders. According to the M-M hypothesis (2012), a company's

valuation shouldn't be based on its capital structure. The idea went on to say that a business's valuation should be assessed equally across all capital structure levels using its market value and Weighted Average Cost of Capital (WACC), which should be determined by the risks and return associated with the operations of the company rather than how those activities are financed. Miller released a revised version of the capital structure theory of irrelevance. According to him, corporate choices on capital structure that include both company and individual taxes are meaningless (Miller 2012).

The value of the company may start to be impacted by capital structure if these fundamental presumptions are broken. As a result, research has contributed to describing the effects and easing the optimal assumptions. The argument against this notion is that a perfect market is never possible in real-world circumstances. The static trade-off theory was developed as a result of attempts to loosen these assumptions, especially the ones about no taxes and no costs related to filing for bankruptcy (Miller 2012).

2.2.2 Agency Cost Theory of Capital Structure

The interaction between the firm's management, which acts as the principle's representative, and the shareholders, who comprise the principle, lies at the heart of this concept. This implies that the company may be seen as the hub of a vague system of agreements between resource owners. When one or more people referred to as principals hire one or more other people referred to as agents to provide a service and then grant the agent decision-making power, an agency relationship is formed (Gang, 2014). Agency theory was introduced by Berle and Means (2014), who contended that ownership and control become more distinct when a large firm continuously dilutes its ownership of shares. Professional management should now prioritize their interests above the interests of the shareholders.

Gang (2014) argued that a capital structure would be able to achieve the ideal debt level with the support of lower agency costs, which result from managers' competing interests with shareholders and loan holders. They recommend either increasing managers' ownership stake in the company to better align their interests with the owners' or encouraging managers to utilize debt as a means of curbing their propensity for extravagant spending. Dimitris and Psillaki (2015) talk about an agency dilemma with free-cash flow. They proposed that by reducing managers' access to "free" cash, raising the amount of debt in the capital structure or the managers' ownership share in the company may assist in resolving the free cash flow issue. Decision-making authority is thus diminished for managers of companies with a high debt load compared to managers of companies with a high equity financing ratio. Because of this, debt may be used as a tool for control, and lenders and shareholders play a big part in corporate governance.

2.2.3 Pecking Order Theory of Capital Structure

One of the most important theories of corporate leverage is Donaldson's 1961 Pecking Order Theory of Capital Structure. It contradicts the notion that businesses may reduce their cost of capital by the use of a certain mix of debt and equity financing. It makes the case that actual company leverage levels often mirror the well-known business practice of using internal resources to finance new initiatives wherever possible and issuing debt in lieu of equity when outside funding is needed. The primary refutation of the trade-off theory is this. It indicates capital structure objectives instead of reflecting them. A stock offering is often seen as a costly last alternative, in accordance with the pecking order idea. According to Chaplinsky and Niehaus (2017), a firm has a predetermined list of preferred sources of financing that it employs when determining how to fund its long-term objectives. It says that before going to outside equity and loans, a company should employ its own capital, or profits. According to

Huang and Song (2015), prosperous companies often take out less loans since they will have enough cash on hand to support their investment goals. He goes on to argue that in the event that a business runs out of money, it should go outside the organization for financing, ideally via corporate bonds or bank loans. The last and least desirable source of funding, after corporate bonds, bank loans, and internal borrowing have all been exhausted, is the issuance of new shares.

According to the idea of least effort or least resistance, businesses prioritize their funding sources (going from internal finance to equity) and prefer to use equity as a last resort for financing (Chaplinsky and Niehaus, 2018). Pecking Order theory aims to capture the costs of asymmetric information. Consequently, internal funds are used first, followed by the issuance of debt when required, then equity when issuing debt is no longer required. On the other hand, Pecking Order Theory highlights how asymmetric information influences how new instruments are mispriced and argues that there is no objectively defined optimal debt ratio (Myers & Majluf; 2011). They claim that investors often think management understands the company's price-sensitive data at a deeper level. Because investors see riskier assets as more expensive, managers choose to issue them. The undervaluation of freshly issued shares is a result of investor perception. A large undervaluation often results in financial losses for the current investors. In order to lessen the issue of information asymmetry, firms often utilize retained profits as their primary source of funding, with debt and outside equity financing coming in last (Chaplinsky and Niehaus, 2017).

According to Damodaran (2013), the issuance of excess shares by management often acts as a warning to investors on the high value of the firm. Investors, however, could respond adversely to news and would be less inclined to finance further shares in the absence of price decreases since they are aware of this knowledge asymmetry. There might be pressure on

managers to pass on profitable NPV ventures or take on excessive debt, which could jeopardize the profitability of the business. The following arguments flow from these distinctions. Internal retained profits take precedence over external equity. Second, the sale might result in marketable securities, cash, or real estate. Finally, since debt is less expensive and riskier than equity, it is preferred (Myers, 2014).

2.2.4 The Free Cash Flow Theory of Capital Structure

The free cash flow problem was introduced by Jensen (2016) and is predicated on the analysis of conflicts between shareholders and management as well as the fundamental agency theory. Asymmetric and incomplete information is related to the agency conundrum; managers represent the interests of the shareholders, but this connection is complicated by conflicting interests. It asserts that management often acts in a way that puts advancing its own interests ahead of the interests of the shareholders. The choices made regarding capital structure and dividend policy may have a significant impact on how organizations operate (Meyers, 2014).

Agency charges are divided into two categories: agency costs of debt and agency costs of equity. The fact that managers cannot fully profit from an activity they carry out while also bearing the related costs and obligations gives rise to the agency costs of equity (Damodaran, 2019).

As a consequence, they will be more driven to get benefits and use the company's assets for personal advantage rather than managing the business in the best interests of all stakeholders (Pike & Neale 2014). Dividend distributions reduce the amount of free cash flow that is under management's control and hence reduce the likelihood that that cash flow would be squandered on projects having a negative net present value. Free cash flow is the cash flow that remains after funding all projects with a positive net present value. However, regardless of their NPV, managers are more willing to support activities aimed at growing their businesses. According

to Meyers (2014), growth provides managers additional power since it provides them with more resources to manage. Furthermore, growth increases managers' benefits since pay is often correlated with growth. Businesses with substantial free cash flows often have this problem more visible. The issue is how to enable managers to make efficient use of this cash flow (Fama and French, 2013). The influence of agency costs on capital structure would thus become more significant for such a corporation, as adding debt to the capital structure will substitute dividend distributions while lessening the agency problem by reducing the resources under managers' control. Debt may be a more effective way to reduce agency expenditures than dividend distributions, claim Inanga and Ajayi (2014). Pledges on dividends and cash payments to shareholders are subject to modification at any time. However, management must set aside money for principal and interest when issuing debt; otherwise, default costs would increase, and the organization's viability would be in jeopardy (Meyers, 2014). Issuing additional debt to finance share repurchases is a smart way to encourage management to make better use of the free cash flow. However, increased leverage will affect the value of the firm and increase the cost of financial difficulties as a consequence (Jensen, 2016).

Another possible cause of problems is the second category of agency expenditures, sometimes known as the agency costs of debt. The primary focus of agency costs of debt is the relationship between bondholders, shareholders, and the manager's methods of pursuing personal interests (Huang and Song, 2015). As the firm's capital structure gets increasingly leveraged, bondholders carry the default risk, with management and shareholders ultimately making the investment decisions. Difficulties occur when management starts acting in the shareholders' or bondholders' best interests. However, because they are aware of such conflicting facts, bondholders may set certain restrictions on how they use their money to reduce the likelihood of a financial default. Rajan and Zingales (2018). According to Jensen (2016), the "control hypothesis" states that a company's ability to influence management may be achieved by

including debt in its capital structure. However, it isn't always applicable to all types of companies. It is becoming more and more important in large, well-established businesses with significant free cash flows but limited possibility of growth or investments with positive net present value. For these sorts of businesses, agency costs might have dire repercussions. Jensen (2016) said.

2.2.5 The Static Trade-off Theory of Capital Structure

According to Chaplinsky and Niehaus (2018), the static trade-off theory places a high emphasis on taxes and contends that the total amount of debt is determined by the trade-off between tax benefits and default risks. There are several benefits to the static trade-off idea. It offers a strong argument of the advantages of capital structure debt. The general consensus—that too little leverage may lower taxes while too much can lead to financial ruin—is understood and shared by the majority of businesspeople. According to the trade-off theory, there exists an ideal capital structure with equal benefits and costs related to debt. When the marginal benefit of an extra unit of debt is precisely offset by its marginal cost, the optimal capital structure is reached (Fama & French, 2013). Additionally, according to the hypothesis, younger companies that rely heavily on R&D and have fewer physical assets would borrow less than more established businesses that have larger free cash flows but fewer investment potential. It also backs studies on how the market responds to news of security-related transactions or issues. The practical importance of the trade-off theory is shown for each of these reasons (Myers, 2014).

Myers (2014) asserts that the straightforward static trade-off approach, however, is unable to account for unique or unforeseen situations. A corporation may be able to reduce its debt below the ideal level via asset sales and projected increases in operational revenues. On the other hand, an unanticipated decline in sales might cause a company to exceed its desired leverage

ratio. We anticipate that businesses will issue debt or equity and choose the best capital structure when these things happen. To optimize organizational value, managers would aim to attain the ideal capital structure in both scenarios. Furthermore, the examination of the connection between leverage and profitability by Modigliani and Miller (2012) may provide the most compelling argument against the trade-off hypothesis. In fact, productive businesses often borrow less, whereas failing businesses typically borrow more. However, the trade-off hypothesis predicts the contrary, i.e., that highly successful businesses have more money to spend on tax evasion and debt issuance. Myers (2014) asserts that none of these defenses, however, negate the influence of the static trade-off theory on the optimal level of capital structure for a particular organization.

2.2.6 Resource-Based Theory of Capital Structure

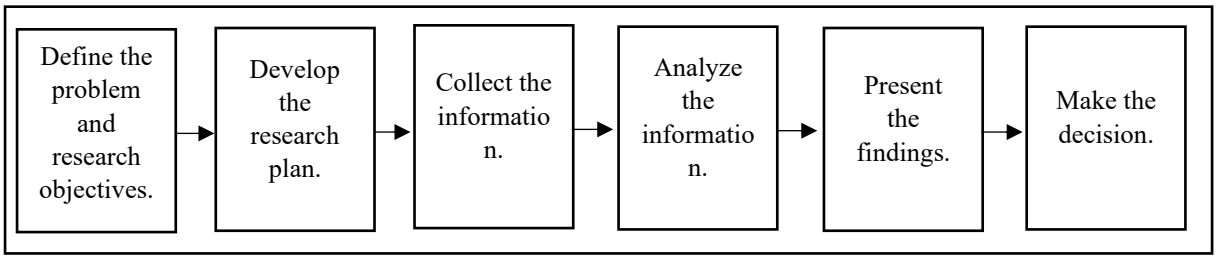
The resource-based hypothesis states that a company's capacity to compete is dependent on the tangible and intangible resources it has, both of which are costly or challenging for rivals to get. To maintain the company's competitive advantage, these resources must be rare, precious, distinct, and non-replaceable (Miller, 2012). One of resource-based theory's primary contributions is its capacity to explain enduring shifts in industrial conditions (Pike and Neale, 2021). It is arguable that there is a considerable amount of resource variability among the various shareholder classifications. Due to the possibility of financial, strategic, or domestic shareholders, these divisions apply to growing economic firms. It is expected that different owners with varied resource endowments would have different impacts on business performance due to this difference in organizational and resource capacity.

2.3 Conceptual Framework

This research primarily seeks to determine the capital structures of Nigerian banks and their profitability. The first, second, third, and fourth sections will review the appropriate empirical

literature, and the relevant hypotheses of this research will be drawn. The following section will cover the theoretical framework. The final section is a summative conclusion of the chapter. The following figure portrays the conceptual framework of the study which is based on the marketing research process (Spivakovskyy, 2019).

Fig. 2.1 Marketing Research Process (Spivakovskyy,2019)



Source: Spivakovskyy, 2019).

2.3.1 Overview of Deposit Money Banks in Nigeria

The driver for the current reforms was premised on the necessity of reinforcing the banking industry and its role in long-term economic growth, as highlighted in Harward's (2024) report. The impetus for reforms started in 2004 with the introduction of the consolidation program for banks.

Imala (2016) contends that one of the primary objectives of the regulatory reforms was to recapitalize the banks. As part of the quest to make the revenue collection processes of banks and other financial institutions effective, the Central Bank of Nigeria (CBN) introduced the automated Electronic Financial Analysis and Surveillance System (E-FASS). Moreover, a framework of flexible interest rates was established, and the Monetary Policy Rate became the operational goal of the system. The remaining areas of primary focus were the promotion of a risk and rule-based regulatory environment, effective enforcement of the corporate governance standards in the banking sector, amendment and review of relevant laws for facilitating sound corporate governance and increased sense of accountability and transparency in the exercise

of banking regulations. This strategic approach enables the CBN to actively push back against inflation pressures, stabilize the money market, and support the payment system. Notably, the corridor regime has played a significant role in smoothing interbank rate volatility, thus contributing to overall market stability.

Banking System Integration

According to Soludo (2013), the CBN tried to bring the banking sector to best world practices in transparency and financial reporting using the adoption of the International Financial Reporting Standards (IFRS) for Nigeria's banking system towards the end of 2010. With the aim of reducing the risk of excessive contagion, triggering market discipline, and providing certainty, these are the main objectives.

New Banking Model

The Universal Banking (UB) model that had been implemented in 2001 allowed banks to venture into non-banking financial companies. The plan for consolidation of banks produced a surplus of funds, which led bank administration to prioritize venture capital and equity funds over conventional banking practices. The Central Bank rethought the UB model because of the voiced complaints and directed banks to focus only on primary banking responsibilities. The licensed banks of the nation are now allowed by the new model to conduct the following kinds of operations:

i. Approvals for national, local, or international commercial banking;
ii. Investment and merchant banking;
iii. Specialty banking, including local as well as national non-interest banking, mortgage, and microfinance.

Development Finance Institutions

The purpose of financial inclusion is sure to be facilitated when non-interest banking comes to Nigeria's financial sector because it is sure to increase the financial markets of the country as well as lure new institutional investors. Jaiz Bank Plc, Nigeria's first independent non-interest bank, became operational on 6th January 2014.

Microfinance is important in developing countries such as Nigeria because it can correct issues of financial exclusion that have hindered the involvement of a significant segment of the population in the economy. In December 2013, there were 24 banks, 5,789 branches, and 816 microfinance banks totaling 6,605 branches.

There is a stark degree of financial exclusion, that is 24,224 bank branches against the entire population. According to a 2012 report by Enhancing Financial Innovation and Access (EFINA), 46.3% of Nigerians remain financially excluded. That is greater than in South Africa (26%), Botswana (33%), and Kenya (32.7%).

Thus, the CBN enabled the establishment in 2014 of the Microfinance Development Fund (MDF) to augment Microfinance Institutions (MFIs) and Microfinance Banks (MFBs) access to low-cost, long-term sources of finance. The fund will contain social and economic components. This will further boost MFBs and MFIs initiatives towards the diversification of their customer base and efficiency in operations.

Because of this, the CBN is negotiating to establish a special fund by the year's end that will exclusively provide women single-digit interest-rate loans.

Payment System

The "Cash-less" policy was introduced by the Central Bank of Nigeria (CBN) in its efforts to improve the payment system of the nation and solve currency management problems. Nigeria's over-reliance on cash has grown the cost of operation of the banking sector, which is passed on to the consumers in the form of service charges and increased charges for loans. The enormous expenses in processing, sorting, transporting, and printing banknotes daily make these expenses large. As of 2014, direct cost of management of cash by the industry is estimated to amount to ₦192 billion.

On average, 90% of the bank customers draw less than ₦150,000. The massive increase in charges of cash management that the remaining bank customers have to incur might be primarily caused by the 10% of the bank customers who draw more than ₦150,000. Stealing in large amounts, rise in unethical behavior, and a mindset of the common people to deal with money in the wrong manner are some of the other problems associated with the cash economy.

The CBN is collaborating with the Bankers Committee to develop a culture in which a higher percentage of transactions are facilitated by checks and electronic payments, in line with international trends. Specifically, through clearing, checks can now be used to pay up to ₦10 million (Soludo 2013).

Completion of Recapitalization Exercise

Yasdani (2014) asserts that for rescued banks to remain competitive in the market, they have to consolidate. Consequently, the banks executed five Transaction Implementation Agreements (TIAs). The takeover of the banks and the consolidation were legislatively approved by the CBN. The eight banks the CBN had rescued witnessed the elimination of their collective negative asset value when the Asset Management Corporation of Nigeria (AMCON)

completed financing the three new banks and the five old institutions completed their legally required TIAs. Thus, the recapitalization exercise had been finalized by 2013 for the five rescued banks that had approved the TIAs.

Impact of the Reforms

The current wave of banking reforms has brought about various outcomes, such as the banking sector embracing a new mindset because they use best practices in corporate governance and risk management. There has been enhanced transparency and public disclosure of transactions.

According to Soludo's (2013) recent financial statement releases, some of the banks have reconciled their balance sheets and are profitable. Banks are gradually starting to lend to the private sector again, and the banking system now holds almost ₦1.7 trillion more in cash than before AMCON bond releases. They have also been able to make significant strides in channeling single-digit annual percentage rate (APR) loanables to the electricity industry and small and medium-sized enterprises (SMEs). This has resulted in thousands of additional job opportunities created in the economy versus before.

A corporate governance code has been released by the CBN. The tenure for bank CEOs is limited to 10 years in office. Furthermore, all CEOs who would have stayed in that role for 10 years had already vacated and passed on their job to their successors before or on July 31, 2012.

As a result of the reforms, lending and deposit rates gap has decreased; it was 9.7% at the end of December 2013, down from 12.2% in 2012. Some of the Nigerian banks are listed on the top 1000 globally and top 20 African banks. As a result, macroeconomic stability of the nation has been preserved, and up to the end of December 2013, inflation has reduced to 10.3%.

Compared to the past, there has been lower volatility of exchange rates in the foreign exchange market. The premium is between the world average and 5.0%.

With the departure of troubled institutions and the introduction of a corporate governance code, the reforms have helped to rebuild public trust in the financial sector.

More and more Nigerians are using the internet as a means to make payments.

Banking Reforms and the Challenges

Even with their enormous success, Nigeria's financial reforms encountered several challenges. The first one of these is that it is by no means certain what the changes are supposed to achieve. Expanding the scope of the financial services provided by the Nigerian banks, such as specialized or non-interest banking, is the aim of adopting the new paradigm of banking. But it is now blended with religiousity. Prospective investors may be discouraged from entering the bank business on the basis of the false impression and forceful opposition to the regulation (Odufu 2023).

Yet, despite the prospects for economic prosperity and well-being as well as the international trend in the degree of e-payments usage, the cashless policy has been the object of blunt criticism.

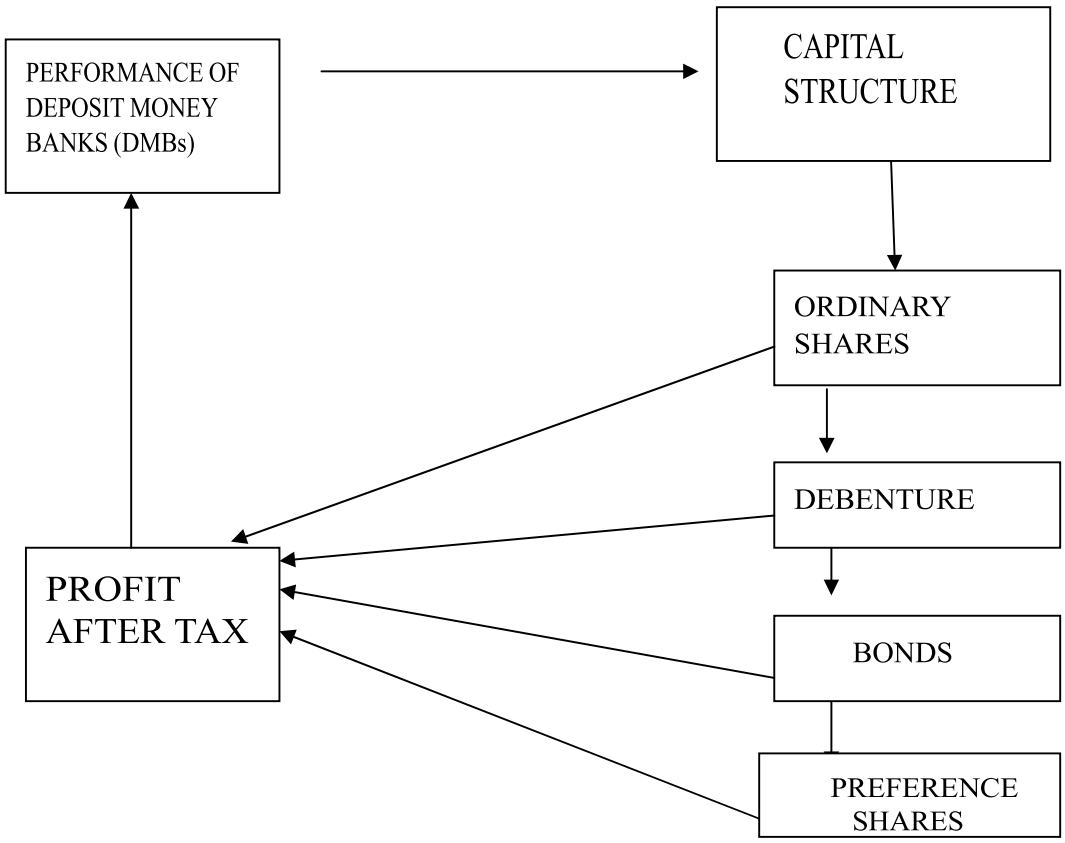
Operating in Nigeria is costlier compared to most other developing and emerging economies due to its poor infrastructure in the face of the country's high rate of employment.

Until recently, there was no hiring of new staff for the purposes of meeting statutory obligations; however, training was viewed as a costly, futile non-revenue generator.

That is, the banking industry is a crucial pillar of the operation of any given economy and must change continuously in order to survive. The majority of the few officially recorded successes

likely resulted from increased cooperation and combined efforts from major stakeholders. Thus, the CBN will continue working towards facilitating reform endeavors aimed at creating a strong and sustainable banking sector (Murthy 2017).

Fig. 2.2 THE CIRCULAR FLOW OF CAPITAL STRUCTURE AND PERFORMANCE OF DEPOSIT MONEY BANKS (DMBs).



Source: *Itseuwa & Uwaleke (2014) An Insight into the Nigerian Capital Market.*

2.3.2 Ordinary Shares and Performance of Deposit Money Banks in Nigeria

Ordinary shares are funds acquired by businesses via individuals and corporate associations to create a new or existing business to reward these investors who take on risk with profits. Over the years, financial experts and economists have made similar suggestions. For these investors, there is no fixed amount. Not to mention, if the firm files for bankruptcy and the

owners of these shares do not get a dividend, they might lose money. The annual dividend, which is paid during the period in which the company's financial report is calculated at a loss, is the only benefit those ordinary shareholders receive from their investments in companies that trade on the capital market. Ordinary shareholders buy common shares from these companies. Nonetheless, common shareholders are sometimes referred to be the company's owners because of the kind of risk they assume while running the business. Companies that are registered and active in the stock market offer common shares, which investors buy at market value (Osiegbu, Nwakanma & Onuorah 2018).

According to Onyechie (2010), an equity ownership in a firm is a share of the company's assets plus a share of any profits made from those assets after other claims have been paid. Equity investors are the company's proprietors. They purchase what are referred to as common shares. The money is used by the company to buy assets. The assets are used to create profits, and the common shareholders own the earnings regardless of whether they are paid out as dividends or reinvested in the business.

2.3.3 Debenture and Performance of Nigeria Deposit Money Banks

A corporation may borrow money from the public by issuing certificates with a defined period and interest rate if it wants to generate capital for growth and expansion but isn't yet ready to issue shares.

These are the equities that governments, government-affiliated companies, limited liability companies, and government parastatals sell on the capital market. For a certain period of time, this kind of stock is offered at a fixed interest rate. Because of the corresponding security qualities, bonds are the safest kind of shares that investors are prepared to purchase at any price. In recent times, bonds marketed primarily to investors, governments, and corporate entities have typified the Nigerian capital market. These investors now feel more confident

entering the market and buying these bonds as a result. Seeking bonds considerably enhances a company's performance and liquidity, which raises profit, claim (Osiegbu et al, 2018).

Ibenta (2022) defines a bond as a written undertaking by a business entity to reimburse the registered holder or bearer of the bond with a certain amount of money on a designated date. It is a promissory note that is similar to other legal promises and is issued by a publicly traded corporation or government entity.

According to Helfert (2012), a bond is a component of a complex contract or agreement between the bond holder and the issuing firm. Each participant in the arrangement has made commitments, which form the foundation of any such contract or agreement. According to Rock (2012), the bondholder consents to provide cash to the business in exchange for the firm's promise to return the borrowed funds at a certain future date. Second, the corporate body will pay the bond's bearer or holder regularly at a predetermined interest rate. The idea behind periodic interest is that it symbolizes the cost incurred by the company to persuade the bondholder to give up his money for an extended period, so depriving him of alternative options.

Lyon (2020) and Fry (2021) state that the initial loan amount is equal to the bond principal or par value. The indenture contains more information about the bond's terms and conditions as well as the principal repayment date. This agreement contains the corporate entity's covenant as well as all the bondholders' rights.

Numerous research works have examined the financial rationale for bond issuance. According to Romer (2013), the traditional macroeconomic justification for the issuance of certain bonds is that bond financing is less expansionary than money finance and that growth is sometimes undesirable. On the other hand, the most compelling tax argument in favor of bonds is the

potential for bond issuance to encourage people to postpone consumption to save money or create jobs.

There are many reasons why bonds are issued at the microeconomic level. Debt markets are used by corporate borrowers to purchase new equipment and working capital. Freear (2010) asserts that a major contributing element in the decision of many business owners to choose debt financing is their need to maintain control over their company. Bond investors often have minimal direct power over the corporation, unless certain indenture rules limit their ability to make decisions. Stated differently, the owners are more willing to pay the higher interest costs associated with the loan stock.

Since Nigeria's bond market includes both government and corporate securities, it may be divided into several categories, such as Treasury bonds (TBs), Federal Government Development Stock, Treasury certificates (TCs), and development bonds issued by state and municipal governments are examples of government securities in this context.

An alternative classification approach divides the instruments into medium- and long-term bonds based on the temporal component. As a result, an organized market for standardized marketable loans with medium- to long-term maturities is what is known as the bond market. The mature period might extend to 25 years, or it could end after only 5 years.

Bond Indenture

Guy (2013) made the point that a bond indenture often contains guidelines governing bond issuance, such as operational effectiveness and thrift, which will increase the business firm's ability to turn a profit as well as its propensity to save.

Trustee

Three parties are involved in a bond indenture: the issuing company, which acts as the borrower; the bondholder or owner, who acts as the creditor or lender; and the trustee, which represents the interests of the bondholders. The trustee acts as a proxy for the shareholders, safeguarding their interests much like the board of directors of a contemporary business. The issuing corporate company chooses the trustee before the bonds are issued, even though he represents the bondholders. A wealthy person or a financial organization, such as a trust business or investment banker, might serve as the trustee. A trustee is accountable for several tasks.

He verifies that all legal conditions have been met before authorizing the bond issuance. To make sure the conditions and clauses of the indenture are followed, he looks into the company's assets and financial records.

He ensures that the company files its taxes and has the appropriate property insurance in place.

He confirms that the company correctly deducts interest from monthly payments and sinking fund installments. In the case of a default, he is required to inform the bondholders and, to the degree specified, safeguard their interests.

Classification of Bonds

Bonds may be divided into several categories according to the assets or securities pledged for them and the industry in which the company issuing the bond operates.

The primary bond types that may be found in the bond market include corporate, government, mortgage, real estate, public utility, industrial, and collateral trust bonds, among others, according to Phillips (2013).

2.3.4 Preference Shares and Performance of Nigeria Deposit Money Banks

Since preferred stock may have any combination of characteristics not seen in normal stock—such as characteristics from both an equity and a debt instrument—it is sometimes referred to as a hybrid instrument. Preference shares, preferred shares, or just preferred are common terms used to describe preferred stock. Preferred stock or common shares may be given preference during dividend payments and asset sales. Despite being rated higher than common stock, preferred stocks are entitled to a lower portion of the company's assets than bonds. The company's articles of organization provide the conditions for the preferred stock (Drinkard, 2014).

Preferred stocks are assessed by the main credit rating agencies, much like bonds. Because preferred dividends are not as certain as bond interest payments and because all creditors' rights supersede those of investors, preferred stocks are often rated lower than bonds.

Preference in Dividends

Dividend payments to preferred shares are often made first. The preference does not ensure dividend payments, even if the business is required to pay the prescribed dividends on preferred stock before paying any dividends on common shares.

Preferred stock that is either cumulative or non-cumulative is offered. When using a cumulative preferred, a company must make up any dividends that are underpaid at the designated rate or that are missing altogether. Dividends are accrued for each payment period that has passed, whether it is quarterly, semiannually, or annually. If a dividend is not paid on time, it has "passed"; the dividend in arrears is equal to the sum of all passed dividends on a cumulative stock. This feature is absent from non-cumulative, or straight, preferred stock; dividends that are passed but not declared are forfeited, (The Kieso Collective, 2007).

Other Features or Rights

Preferred shares, also known as the fixed liquidation value, may or may not be connected to the par value. Unless otherwise agreed upon, preferred stock has a claim on a stock corporation's liquidation earnings equal to its par (or liquidation) value. This is an illustration of the capital that was allotted to the company when its first shares were issued. The common stock's residual claim is superseded by this claim. The allocation of most preferred shares is chosen throughout the negotiating procedure. Typically, the dividend is stated as a set amount or as a percentage of the par value (Gideon Investments Co. 6% Series A Preferred, for instance). Preferred share dividends may sometimes be configured to be floating, meaning they might fluctuate in reaction to changes in a benchmark interest-rate index, like LIBOR in London. Certain preferred shares may have voting rights even while the majority do not if preferred dividend payments are postponed for a considerable amount of time. Certain preferred shares are subject to special voting rights that must be used to choose directors or approve extraordinary actions like issuing additional shares or approving a firm purchase. The rights assigned to the preferred shares at the moment of formation control everything.

Preferred shares, like other types of agreements, may correspond to practically any form of right that can be imagined. Preferred shares issued in the United States sometimes include call provisions, which provide the issuing company the option to buy the share at its (typically restricted) discretion.

Types of Preference Shares

There are more alternatives in the preferred stock market than simply pure preferred stock. Additional types of preferred stock include:

Offers for Preferred Stock: A lot of companies often make a lot of offers for preferred stock, concentrating a lot of attention on a single issue. If the corporation's finances are not enough to meet the preferred issue's distribution schedule, it pays the dividends on the preceding preferred. Due to their reduced credit risk, older preferred stocks may yield less than newly issued preferred stocks.

Preference Preferred Stock: Preference preferred stocks are arranged according to seniority, with the preferred stock that comes before them taking precedence. Except for those that were previously prioritized, these concerns have priority over all other classes, as determined by the firm. When a company chooses many challenges, the issues are ranked according to seniority. The next highest priority is assigned to the senior concern, and so forth.

Convertible Preferred Stock: Owners of preferred stock have the option to exchange their holdings for a certain number of common shares of the business. Regardless of the common shares' current market value, the investor is free to exchange them at any time. It is a one-way transaction to convert ordinary stock back into preferred shares. Due to agreements that investment banker Stan Medley secured on behalf of more than forty publicly traded companies about different anti-dilutive convertible preferred, this option has become more and more popular in recent years. Stan Medley thinks that the preferred share is either a percentage of the company's common shares or a certain monetary value of common shares, as opposed to having a fixed number of common shares. Participants in the OTC market handle a significant amount of shorting and dilutive actions.

i. **Cumulative Preferred Stock:** The money will be held for a later time if a dividend is not paid.
ii. **Exchangeable Preferred Stock:** Stocks that satisfy this condition may be exchanged for other types of investments.

iii. **Participating Preferred Stock:** Preferred share owners may be entitled to extra dividends if the company meets certain financial requirements. Investors who purchased these stocks will receive a monthly dividend regardless of the company's performance (provided it performs well enough to meet its annual payment commitment). If the company reaches certain sales, profit, or profitability benchmarks, investors get a bonus dividend.

iv. **Perpetual Preferred Stock:** Incentives are paid back to investors by a certain date, but the company has the option to redeem this kind of preferred stock. Alternatively, several types of preferred stock could be issued with no redemption date.

v. **Puttable Preferred Stock:** In certain situations, holders of preferred stock may "put" pressure on the issuer to redeem their shares.

vi. **Monthly Income Preferred Stock:** Preferred stock and subordinated debt are combined in this structure.

vii. **Non-cumulative Preferred Stock:** Typically found in bank preferred stocks, these preferred equities are required by the Bank for International Settlement (BIS) Basel Committee to be included in Tier 1 capital and do not accumulate dividends if they are not paid.

A kind of stock known as "super voting stock" allows investors to exercise more voting rights than they may expect from a different class of stock that the same company offers. It enables a corporation to be managed by a small group of investors. Super-voting shares are often utilized to give well-known business insiders more internal voting rights, influence over the board, and authority over day-to-day operations. Super-voting shares are a powerful barrier against hostile takeovers because they enable well-known insiders to maintain majority voting power over their company without actually owning more than half of the current shares.

Advantages of preference shares

i. **No Dividend Obligation:** A business is not obligated to pay a dividend on preference shares if its profits for a particular year fall short of expectations. The dividend may also be postponed in the case of cumulative preference shares. There is no constant strain on its budget.

ii. **No Interference:** Voting rights are sometimes not affixed to preference shares. As a result, a company may obtain capital without giving up control. The company is solely governed by the equity investors who own its shares.

iii. **Trading on Equity:** The dividend rate on preference shares is fixed in advance. Because of its higher profitability, the company is now able to provide the equity owners with the benefits of equity trading.

iv. **No Charge on Assets**: Preference shares do not mortgage or in any other manner charge the company's assets. In the future, the company may still take out loans secured by its fixed assets.

v. **Variety:** A number of preferences share types may be issued, based on investor needs. Participating preference shares or convertible preference shares may be provided to attract bold and enterprising investors.

2.3.5 Profit after Tax (PAT) as a Measure of Banking Performance

The primary motivation behind deposit money banks' operations is to decrease costs to raise income. The profit after tax is a proxy for performance as a measure of deposit money institutions in the Nigerian economy. Investors use it to gauge the standard of operation these companies are running at after their capital market funding purchase. The yearly revenue of any deposit money bank is subtracted from its operating expenses, interest, and taxes to determine its profit after taxes (Nwankwo, 2020).

2.3.6 Determinants of Banks' Capital Structure

Numerous internal and external variables might affect a bank's capital structure. The primary external variables influencing a country's capital structure are macroeconomic ones, such as the state of the capital market, the rate of inflation, and the tax laws in place. Enterprise capital structure is also impacted by the attributes of a certain firm, which are called micro factors (internal) in this context. This section explains how micro-factors impact a firm's capital structure using the pertinent capital structure theories from the theoretical framework:

i. **Measurements:** The positive correlation between a firm's size and capital structure may be explained by the bankruptcy cost hypothesis. Remmers, Stonehill, Wright, and Beekhuisen (1974) assert that large firms have more diversification, better access to the capital market, higher credit ratings for debt issuance, and lower interest rates on borrowed capital (Pinches & Mingo 1973). Moreover, a lower bankruptcy rate for bigger businesses translates into a lesser risk and expense associated with declaring bankruptcy (Titman &Wessels 1913). According to the bankruptcy costs hypothesis, debt levels increase while bankruptcy costs decrease. Empirical research conducted in the 1970s that demonstrated a positive correlation between capital structure and business size provided support for this idea (Martin and John, 1988). However, the outcomes of some actual research contradict this theoretical relationship.

ii. **Growth Rate:** The paradoxical relationship between growth rate and capital structure may be explained by the agency cost theory and the pecking order hypothesis. According to agency cost theory, equity-controlled companies often make less-than-ideal investments in an attempt to get bondholders' money. Companies in expanding sectors are probably going to spend more on agency fees since they have more possibilities for future investments. For example, if management issues securities, the

Pecking Order Theory predicts that it would choose debt over equity and internal over external financing (Myers 2001). According to the pecking order idea, rising businesses have a larger percentage of debt in their capital structure than do stagnant businesses. The findings presented by Chung (2021) and Chaplinsky and Niehaus (2018) refuted the pecking order idea.

iii. **Profitability:** According to Myers (1984), the static trade-off theory explains why hazardous enterprises have minimal debt capital. Higher profitability for businesses is closely connected with greater debt capacity and lower risk for loan holders. This implies that capital structure and profitability are positively correlated. However, the pecking order theory contends that there is a negative correlation with this relationship. As previously mentioned, the company favors internal financing and has a sticky dividend policy. Debt financing is chosen over equity financing if the company's owned resources are insufficient to meet its financial obligations (Myers 2001). Because of this, the company's increased profitability suggests that investments would be financed internally rather than via debt (Aremu, Ekpo, & Mustapha 2021).

iv. **Dividend Distribution:** The dividend payout ratio and the amount of debt in the capital structure have a negative correlation, according to the bankruptcy costs hypothesis. A low dividend payment ratio implies a low likelihood of liquidation and increases the equity basis for debt financing. The expense of filing for bankruptcy is negligible due to the low likelihood of filing. According to the notion of bankruptcy costs, a low bankruptcy cost signifies a high degree of debt within the capital structure. However, the dividend payout ratio and debt level are positively correlated, according to the pecking order hypothesis (Titman & Wessels 1988). This hypothesis states that management favors internal funding over outside funding. Rather of giving out a large dividend and taking out loans to cover the shortfall, management keeps the profits.

Given this, a smaller dividend pay-out ratio is indicative of a lower degree of capital structure debt.

v. **Danger to Enterprise:** One of the primary elements affecting capital in the banking industry is bank risk since regulatory requirements link the amount of capital banks must keep to the amount of risk they accept. This is primarily because capital is thought of as a buffer against unforeseen losses and insolvency. There is an inverse relationship between company risk and capital structure, according to both the agency and bankruptcy cost theories. According to the bankruptcy cost hypothesis, the likelihood of a firm failing and the effect of bankruptcy costs on the financing alternatives available to the business both decrease with consistent profitability. In a similar vein, agency issues resulting from debt worsen when bankruptcy is more likely. According to this hypothesis, an organization's capital structure should see a decline in debt as business risk rises (Taggart 1985).

The rationale is that tax shields lower the interest deduction's effective marginal tax rate. In reference to Graham's (1999) results, taxes do, in general, have an impact on business financial choices, although they are often "not large." Debt in the budget may be replaced by alternative tax shields including investment deductions, depreciation, and research and development costs, as shown by DeAngelo and Masulis (1980). It is challenging to assess this substitution impact empirically because it takes time to establish a reliable proxy for tax reduction that eliminates the effects of economic depreciation and costs (Titman and Wessels, 1988).

According to Dammon and Senbet, concurrent choices on investments and finance can have an impact on income (1988). They contend that, as long as investment is permitted to react effectively, improvements in permissible investment-related tax shielding brought about by

changes to corporate tax policy are not invariably linked to a decrease in indebtedness at the level of3 individual firms.

2.4 Review of Empirical Literature

To assist expanding and already-existing organizations in effectively organizing their financial systems, several national and international research projects have been carried out in this field. This section will discuss some of these studies and be organized both locally and worldwide to make it simpler to read. The following research was conducted locally, in Nigeria. Osaze (2015) used data from 87 of the 216 firms that were listed on the Nigeria Stock Exchange during a five-year period (2007–2011) using the static trade-off, agency, and pecking order theories. He used panel multiple regression analysis, and the results show that the age, growth, and size of Nigerian listed companies, but not their profitability or tangibility, are highly correlated with their debt ratio.

Babalola (2014) used fourteen years' worth of audited financial information from thirty-one manufacturing enterprises (1999-2012) together with a static trade-off perspective. His research, which made use of triangulation analysis, showed that capital structure strikes a balance between the advantages and disadvantages of debt. It has also been disproved that huge organizations are more likely than middle-sized enterprises to continue functioning at a greater level of debt. Another research examined agency and static trade-offs across a ten-year period (2000-2009) using a sample of ten firms. He used regression analysis to test the hypothesis that corporate performance is a nonlinear function of capital structure. He concluded that trade-off theory is compatible with the capital structure of Nigeria's manufacturing sector.

Akinyomi (2013) utilized three manufacturing enterprises in the food and beverage categories that were randomly chosen during a five-year period (2007–2011) to examine the static trade-

off and the pecking order theory from a theoretical standpoint. Using the correlation analysis method, he discovered that while long-term debt to capital is significantly and relatively related to return on equity and return on asset, the other variables debt to capital, debt to common equity, short-term debt to total debt, and the age of the company are all significantly and positively related to these outcomes. He also examined the notion that capital structure and financial performance are significantly correlated using return on equity and return on asset.

Nwankwo (2014) used the static trade-off, pecking order, and agency theory perspectives to investigate ten companies that were listed on the Nigerian Stock Exchange during a five-year period (2006–2010).

In order to investigate agency cost theory, Bassey et al. (2020) employed a sample of 60 unquoted agro-based enterprises in Nigeria during a six-year period (2005–2010). They discovered that the only factors that significantly affected the long- and short-term debt ratios for the firms they were looking at were growth and the owners' educational level, using both descriptive statistics and Ordinary Least Square regression. Apart from risk, size, and profitability, the export status, age, gender, and asset structure of the businesses were all significant factors.

Simon-Oke and Afolabi (2014) used the static trade-off and agency cost theory in their nine-year (1999-2007) study of five listed businesses. Using a panel data regression model, they found that there was a positive correlation between a company's success and its debt-to-equity ratio and equity financing. There is a negative correlation between company performance and debt financing due to the high cost of borrowing in the nation.

Based on factors such as agency costs, free cash flow, relevance, pecking order, and trade-off theory, 90 businesses were chosen for main and secondary data, respectively, during a five-

year period (2005-2009) in Semiu and Collins' (2015) study, which used a sample size of 150 respondents. They claimed that there is a positively significant association between a firm's capital structure decision and its market value in Nigeria using descriptive statistics and Chi-square analysis.

The following global projects were finished: Ong and Teh (2015) conducted a four-year (2005–2008) study on the operational effectiveness and financial structure of Malaysian construction enterprises. The independent variables (capital structure) were substituted by long-term debt to capital, debt to asset, debt to equity market value, debt to common equity, and long-term debt to common equity. As stand-ins for the company's performance, returns on capital, return on equity, earnings per share, operating margin, and net margin were used. The outcome suggests a connection between capital structure and the performance of businesses.

Zeitun and Tian (2020) looked at 167 Jordanian companies' 1989–2003 financial records and overall company performance. They discovered a strong inverse link between capital structure and business success. Performance was evaluated using a wide range of factors, such as profitability, growth, return on equity, and tangibility. Several terms were used to characterize capital structure: leverage, size, growth, and tangibility.

Gang (2014) investigated the capital structure and financial results of a few chosen Colombo Stock Exchange firms in Sri Lanka between 2005 and 2009. Debt served as a stand-in for capital structure, while returns on assets, gross profit, net profit, and return on investment / capital employed served as performance proxies. The findings demonstrated a negative correlation between capital structure and financial performance.

Khalaf (2013) used a sample of 45 industrial businesses listed on the Amman Stock Exchange to conduct five-year research, spanning from 2005 to 2009. The capital structure parameters Total Debt to Equity (TDE), Long-Term Debt to Total Assets (LTDTA), and Short-Term Debt

to Total Assets (STDTA), as well as performance metrics such Return on Asset (ROA) and Profit Margin (PM), were analyzed using multiple regression analysis. The findings show that although there is a positive link between ROA and PM, there is a negative and negligible correlation between STDTA and LTDTA, TDE, and ROA. LTDTA is important while utilizing PM; on the other hand, STDTA is important when employing ROA. According to statistical research, a company's financial structure has little effect on how well it performs. It advises managers of manufacturing firms to exercise prudence when determining how much debt to include in their capital structure since it might have a detrimental impact on their performance.

Abdul (2022) used pooled ordinary least square regression to analyze the performance of 36 engineering sector businesses listed on the Pakistani Karachi Stock Exchange (KSE) between 2003 and 2009. Financial leverage, as expressed by short-term debt to total assets (STDTA) and total debt to total assets (TDTA), was shown to be strongly adversely connected with the company's performance as measured by Return on Assets (ROA), Gross Profit Margin (GM), and Tobin's Q. Financial debt and return on equity (ROE), which gauges a company's performance, have a weak, negative association. There is a large negative correlation with Tobin's Q, however there is no significant correlation between asset size and the company's success as shown by ROA and GM. The majority of financing for engineering firms in Pakistan comes from short-term loans; nevertheless, these loans include stringent requirements that have an impact on the business's success.

Nevertheless, we found that most of these studies focus on certain sectors. For example, the building business in Malaysia, the manufacturing sector in Nigeria, the insurance industry in Nigeria, agro-based enterprises in Nigeria, and manufacturing companies in Nigeria, These subjects were the subject of studies by Babalola (2019), Akinyomi (2018), Abdul (2022), and others. However, most of the research is conducted during the same evaluation year period,

which is 2000–2011, except for Zeitun and Tian (2013), who looked at data from 1989 to 2003, fifteen (15) years earlier. Except for Ogebe, Ogebe, and Alewi (2014), the majority of research did not examine the businesses' leverage status. In conclusion, Nigeria would not be able to properly use the international study's results despite their great significance because of the political and economic divide among the participating countries.

However, some studies including Kim and Sorensen (2013), Titman and Wessels (2020), and Kester (2015) indicate a contrary correlation. Moreover, statistically speaking, the findings are often not particularly significant. In this research, as in other comparable studies, the natural logarithm of revenue is used to assess the size of a corporation. Using the natural logarithm of a company's total assets is an alternate technique for determining its size.

Therefore, equivalent findings should be obtained when the natural logarithm of total assets is used as a proxy variable for a company's size. According to some research, there is a significant association between the natural logarithm of sales and total assets (0.68 in 2000 and 0.70 in 2001).

2.5 Gap in Literature

Over time, many scholars have examined capital structure and its effect on firm performance, but most focused on manufacturing and agro-based sectors, neglecting Deposit Money Banks (DMBs). Earlier studies, such as those by Akinyomi (2018) and Osaze (2015), explored factors like debt-to-equity ratios, firm age, and growth but covered limited periods and failed to capture both short-run and long-run relationships. They also did not separate key capital structure components like bonds, preference shares, and ordinary shares or consider recent regulatory and economic changes in Nigeria.

This study fills these gaps by focusing on Nigerian DMBs between 2014 and 2024, incorporating a wider range of financing instruments bonds, preference shares, ordinary shares, debentures and profitability measures such as profit after tax. Using the ARDL model, it captures both short-term dynamics and long-term relationships, offering a more comprehensive and updated understanding of how capital structure influences bank profitability within Nigeria's evolving financial environment.

CHAPTER THREE

METHODOLOGY

3.1 Preamble

Asika (2017) defines research methodology as the collection of organized rules and processes that serve as the foundation for a study and are used to verify claims about the state of knowledge and conclusions. This chapter covers the research data analysis approach or procedures.

The researcher used the following techniques:

3.2 Research design

The description of the steps and techniques used to gather the data required for a project is known as research design. A more accurate term for it would be model evidence that backs up the researcher's findings on the relationships between the variables they are examining (Omogefe, 2014). Examining and assessing the connection between capital structure and deposit money bank performance in Nigeria is the aim of this study. This led to an ex-post factor technique for this study. The quasi-experimental strategy is one of the greatest study approaches since it enables the researcher to watch sample participants' behavior without attempting to influence or modify them (Yomere & Agbonifoh, 2012).

3.3 Population and Sample Size

According to Kothari (2004), a population in contemporary research refers to a large collection of entities, whether living or non-living, that hold significance in a given socioeconomic context. As of the end of the fourth quarter of 2022, Nigeria had 35 Deposit Money Banks

(DMBs), comprising twenty-six (26) Commercial Banks including two Non-Interest Banking windows six (6) Merchant Banks, and three (3) Non-Interest Banks (NIBs).

A sample, on the other hand, is a subset of the population selected to represent the characteristics of the whole population. For this study, the target population encompasses all financial institutions in Nigeria. Data for the banks were obtained from the Central Bank of Nigeria (CBN) bulletin, which covers all Deposit Money Banks in the country.

The sample for this research, referred to as FUGAZ, consists of five banks: First Bank of Nigeria, United Bank for Africa (UBA), Guaranty Trust Bank (GTB), Access Bank, and Zenith Bank. These banks were specifically selected based on their capital size and total assets, as they represent the most prominent and financially significant institutions within Nigeria's banking sector. This approach ensures that the study focuses on banks that have substantial market influence and provides meaningful insights into the relationship between capital structure and profitability in the Nigerian banking industry.

3.5 Sampling Criteria

To ensure that the study adequately represents the major players in Nigeria's banking sector, the focus is placed on the largest banks. Selection criteria include asset size, market share, and overall impact on the financial industry. Since the research covers the period from 2014 to 2024, the sample includes banks that have consistently operated during these years. Additionally, only institutions with reliable and publicly accessible financial data for the entire period were selected to ensure temporal consistency and the integrity of the analysis.

3.6 Research Method

The study adopts a quantitative research method using the ordinary least square statistical method and it is based on quantitative data analysis. The study also carries out descriptive data

analysis to provide vital information about the data in terms of the means, medians, minimum, maximum, and Kurtosis.

3.7 Data Sources

The primary or secondary source is used literally in the data-collecting method (Olannye, 2016). The secondary approach was considered for this investigation, which employed secondary data as its source materials.

Between 2014 and 2024, secondary data on bonds, preference shares, ordinary shares, and profit after tax were sourced from Financial Reports and the Annual Statistical Bulletin. The dependent variables, which were taken from the CBN Statistical Bulletin, 2025, included all Deposit Money Banks in Nigeria.

3.8 Model Specification

The study employs the Autoregressive Distributed Lag (ARDL) model developed by Pesaran, Shin, and Smith (2001). The ARDL model is chosen because it effectively estimates both the short-run and long-run relationships among variables, even when the series are integrated of different orders, that is, I(0) and I(1). It is also suitable for small sample sizes and helps to avoid the problems associated with non-stationary time series data. This technique enables the researcher to examine how changes in ordinary shares, bonds, preference shares, and debentures influence Profit After Tax (PAT) of Deposit Money Banks in both the short and long run.

$$PAT = f(ORS, DBT, PRFS, BND)$$

The Autoregressive Distributed Lag (ARDL) is specified as:

$$\Delta PAT_t = \alpha_0 + \sum_{i=1}^{p} \beta_i \Delta PAT_{t-i} + \sum_{i-0}^{q1} \delta_i \Delta lnORS_{t-i} + \sum_{i=0}^{q2} \emptyset_i \Delta lnBND_{t-i} + \sum_{i-0}^{q3} \gamma_i \Delta lnPRFS_{t-i}$$

$$+ \sum_{i-0}^{q1} \varphi_i \Delta lnDBT_{t-i} + \theta_1 lnORS_{t-i} + \theta_2 lnBND_{t-i} + \theta_3 lnPRFS_{t-i} + \varepsilon_t$$

PAT_t: Profit After Tax

ORS_t: Ordinary share

DBT_t: Debentures

$PRFS_t$: Preference Shares

BND_t: Bonds

ε_t: Error term

Table 3.1: Description of Variables

Variable	Description	Measurement	Apriori Expectation	Source of Data
PAT	Profit After Tax	Measured as the net profit of the bank after all deductions	Dependent variable	Annual Reports of Banks, CBN Statistical Bulletin
LNORS	Logarithm of Ordinary Shares	Natural log of the value of ordinary shares issued by the bank	Positive (+)	Annual Reports of Banks
LNBND	Logarithm of Bonds	Natural log of the total value of bonds held or issued by the bank	Positive (+)	CBN Statistical Bulletin, NGX Reports
LNPRFS	Logarithm of Preference Shares	Natural log of the total preference shares of the bank	Positive (+)	Annual Reports of Banks

Author's Compilation (2025

3.9 Estimation Procedure

The study employs the Autoregressive Distributed Lag (ARDL) estimation technique developed by Pesaran, Shin, and Smith (2001) to examine the short-run and long-run relationship between Profit After Tax (PAT) and the explanatory variables ordinary shares (lnORS), bonds (lnBND), preference shares (lnPRFS), and debentures (lnDBT). The ARDL model is appropriate because it accommodates variables integrated at different orders, I(0) and I(1), and performs efficiently with small sample sizes. This includes descriptive statistics, unit root test, cointegration test and diagnostic test.

3.9.1 Descriptive Statistics

Descriptive statistics will be employed to summarize the fundamental characteristics of the dataset used in this study. The measures of central tendency (mean, median) and dispersion (standard deviation, minimum, and maximum values) will be computed for each variable to describe their overall distribution. Additionally, skewness and kurtosis values will be examined to assess the symmetry and peakedness of the data, respectively. The Jarque–Bera normality test will be used to verify whether the data for each variable are normally distributed. These statistics will provide an initial understanding of the data's structure and suitability for further econometric analysis.

3.9.2 Unit Root Test

A unit root test will be conducted to determine the stationarity of each variable in the model. The Augmented Dickey–Fuller (ADF) test will be used to confirm the order of integration of the series. This step ensures that none of the variables is integrated of order two, I(2), as this would invalidate the use of the ARDL bounds testing approach.

3.9.3 Cointegration Test

After confirming the order of integration, the Bounds Test for Cointegration under the ARDL framework will be performed to test for the existence of a long-run relationship among the variables. The presence of cointegration implies that the variables move together in the long run, despite short-term fluctuations.

3.9.4 Diagnostic Tests

To ensure the validity, robustness, and reliability of the ARDL model, several post-estimation diagnostic tests will be conducted. These tests help verify that the model meets key econometric assumptions and that the estimated parameters are both efficient and unbiased. The diagnostic tests to be employed include:

To ensure the validity and reliability of the ARDL model, several diagnostic tests will be conducted:

i. **Serial Correlation Test:** To check whether residuals are correlated over time.
ii. **Heteroskedasticity Test:** To determine whether the variance of residuals is constant across observations.
iii. **Normality Test:** To assess whether the residuals are normally distributed.
iv. **Ramsey RESET Test:** To check for model specification errors.
v. **CUSUM and CUSUMSQ Tests:** To evaluate the stability of the model parameters over time.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Preamble

This chapter presents the empirical analysis and interpretation of results based on the data collected for the study. It begins with the presentation of descriptive statistics, which summarize the key characteristics of the variables under investigation. The chapter further proceeds with preliminary tests such as unit root and cointegration tests to ascertain the stationarity properties and the long-run relationship among the variables. Subsequently, the Autoregressive Distributed Lag (ARDL) model is estimated to evaluate both the short-run and long-run dynamics between Profit After Tax (PAT) and the explanatory variables Bonds, Ordinary Shares, Preference Shares, and Debentures for the selected banks (First Bank, UBA, GTBank, Access Bank, and Zenith Bank) between 2014 and 2024. Diagnostic and post-estimation tests are also conducted to validate the reliability, stability, and adequacy of the model. The results are interpreted in line with economic theory and prior empirical findings to provide meaningful insights into the relationship between the variables and to test the hypotheses formulated in Chapter Three.

4.2 Preliminary Estimation Results

4.2.1 Descriptive Statistics

Descriptive statistics provide a summary of the fundamental characteristics of the dataset used in the study. They help to present and interpret data in a meaningful way by revealing the central tendency, dispersion, and distributional properties of the variables. Measures such as the mean, median, maximum, minimum, and standard deviation are used to capture the central behavior and variability of the series. In addition, the skewness, kurtosis, and Jarque-Bera (JB) statistics

are employed to assess the normality of the data distribution. These statistical indicators together offer insights into the nature of the dataset and serve as a preliminary step before conducting further econometric analysis.

Table 4.1: Descriptive Statistics

	LNPAT	LNBND	LNORS	LNPRFS
Mean	25.17057	24.80177	26.30901	24.42883
Median	25.20402	24.93126	26.38339	24.55183
Maximum	25.88443	25.49977	26.70572	25.08029
Minimum	24.14946	23.76396	25.76763	23.13570
Std. Dev.	0.531890	0.488282	0.289129	0.515687
Skewness	-0.444095	1.940694	-0.370373	-0.537369
Kurtosis	1.985268	1.940694	1.902761	2.188926
Jarque-Bera	4.167537	3.773987	4.016463	4.154572
Probability	0.124460	0.151527	0.134226	0.125270
Sum	1384.382	1364.097	1446.996	1343.586
Sum Sq. Dev.	15.27698	12.87466	4.514155	14.36038
Observations	55	55	55	55

Source: Author's compilation (2025)

Table 4.1 presents the descriptive statistics of the variables used in the study are profit after tax (LNPAT), bonds (LNBND), ordinary shares (LNORS), and preference shares (LNPRFS). The table provides summary information on their distribution, central tendency, and dispersion across the sampled firms over the study period.

The mean values of the variables indicate that, on average, the natural log of profit after tax (LNPAT) is 25.17, bonds (LNBND) 24.80, ordinary shares (LNORS) 26.31, and preference shares (LNPRFS) 24.43. The closeness of the mean and median values across all variables shows that the data are fairly symmetrical and not heavily influenced by extreme observations. The maximum and minimum values suggest a moderate range for each variable, implying stability in their yearly or firm-level performance.

In terms of dispersion, the standard deviation values are relatively small ranging between 0.289 and 0.532 indicating low variability among the variables. This suggests that the data are closely clustered around their mean values, reflecting consistency in firm performance and financing structure within the sample. Specifically, LNPAT and LNPRFS have slightly higher variability, showing that profitability and preference share levels vary more than ordinary shares or bond values.

The skewness and kurtosis statistics help to describe the shape of the data distribution. LNPAT, LNORS, and LNPRFS are negatively skewed, indicating that most of their values are concentrated above the mean, with a few firms reporting relatively lower values. Conversely, LNBND is positively skewed (1.94), suggesting that only a few firms hold very high levels of bonds, while most firms maintain moderate bond levels. All variables have kurtosis values below 3, implying that the distributions are platykurtic flatter than a normal curve indicating fewer extreme deviations in the data.

The Jarque–Bera statistics test for normality shows probability values greater than 0.05 for all variables (ranging between 0.124 and 0.152). Therefore, the null hypothesis of normal distribution cannot be rejected, implying that all the series are approximately normally distributed. This satisfies one of the key assumptions for regression and other parametric analyses.

The descriptive results reveal that the dataset is well-behaved, with variables exhibiting normal distribution, moderate dispersion, and minimal outliers. The negative skewness of profitability suggests that most firms experienced relatively high profits, while the positive skewness of bonds indicates that bond financing is not evenly distributed among firms. These characteristics suggest that the dataset is appropriate for subsequent econometric analysis, such as correlation,

panel unit root, and regression tests, to examine the relationship between bond financing and firm performance (measured by profit after tax).

4.2.2 Formal Pre-test

One of the fundamental assumptions of the Ordinary Least Squares (OLS) estimation technique is that the time series data must be stationary. A stationary series is characterized by a constant mean, variance, and covariance over time. If these statistical properties change, the series is said to have a unit root, indicating non-stationarity.

Using non-stationary variables in regression analysis often results in spurious regressions, where the estimated relationships appear significant but are actually meaningless. Such models are unreliable for interpretation or forecasting since their results are unstable over time.

To avoid this issue, it is essential to conduct unit root tests to determine the stationarity of the data before estimation. The Augmented Dickey-Fuller (ADF) test is one of the most widely used methods for detecting unit roots and confirming stationarity, ensuring that the results of the regression analysis are valid, consistent, and suitable for economic interpretation.

Table 4.2: Augmented Dickey-Fuller Test Result

	LEVELS		FIRST DIFFERENCE		
Variable	ADF	Prob. Value	ADF	Prob. Value	I(d)
LNPAT	24.2373	0.0070***	----------	----------	I(0)
LNBND	15.8551	0.1039	25.3220	0.0048***	I(1)
LNORS	12.9037	0.2291	23.8722	0.0079)***	I(1)
LNPRFS	20.3249	0.0263)***	----------	----------	I(0)

Source: Author's compilation (2025)

Note: *, **, *** denotes 10%, 5% and 1% respectively.

Table 4.2 presents the outcome of the Augmented Dickey-Fuller (ADF) unit root test for the variables used in the study Profit After Tax (LNPAT), Bonds (LNBND), Ordinary Shares (LNORS), and Preference Shares (LNPRFS). The purpose of the ADF test is to determine whether each series is stationary at level [I(0)] or becomes stationary after first differencing [I(1)].

From the results, LNPAT is stationary at level, as its ADF statistic (24.2373) has a probability value of 0.0070, which is significant at the 1% level. This implies that the series does not contain a unit root and is integrated of order zero, I(0). Similarly, LNPRFS is also stationary at level with a probability value of 0.0263, significant at the 5% level, indicating that it is I(0).

However, LNBND and LNORS are not stationary at level since their respective probability values (0.1039 and 0.2291) are greater than 0.05, suggesting the presence of a unit root. After first differencing, both series become stationary with probability values of 0.0048 and 0.0079 respectively, confirming that they are integrated of order one, I(1).

The combination of variables being stationary at both I(0) and I(1) justifies the use of the Autoregressive Distributed Lag (ARDL) model, which can efficiently estimate relationships among variables that are integrated at different levels but not at I(2). Hence, the ADF results validate the suitability of the ARDL estimation technique adopted in this study.

4.2.3 Cointegration Test

Cointegration refers to the existence of a long-run equilibrium relationship between two or more non-stationary time series variables. In econometrics, it is a key concept used to determine whether variables that individually exhibit stochastic trends move together over time in a stable, long-term relationship. Even if the individual series are non-stationary, cointegration implies that a certain linear combination of these variables is stationary, indicating that they

share a common stochastic trend. Empirical studies have shown that many macroeconomic variables tend to be integrated of the same order, often I(1). Therefore, it becomes essential to test whether these variables move together in the long run that is, whether they are cointegrated. Establishing cointegration ensures that although short-term fluctuations may occur, the variables will converge toward equilibrium over time. Based on the results of the unit root test presented earlier, where some variables are integrated of order zero [I(0)] and others of order one [I(1)], the most appropriate approach to test for cointegration is the Autoregressive Distributed Lag (ARDL) Bounds Test, also known as the Pesaran Bounds Test. This method is particularly suitable because it accommodates variables with mixed orders of integration, provided none is integrated of order two [I(2)].

The ARDL Bounds Test provides a robust framework for examining both the existence and strength of the long-run relationship among the variables. The result of the Bounds Cointegration Test is presented in the subsequent table.

Table 4.3: ARDL Bounds Cointegration Test Result

	Levels of Significance						
	I(0)				**I(1)**		
Variables	**F-stat**	**10%**	**5%**	**1%**	**10%**	**5%**	**1%**
Asymptotic	14.587	1.99	2.27	2.88	2.94	2.88	3.99

Source: Author's compilation (2025)

The ARDL Bounds Cointegration Test is used to determine whether a long-run equilibrium relationship exists among the variables included in the model namely, Profit After Tax (LNPAT), Bonds (LNBND), Ordinary Shares (LNORS), and Preference Shares (LNPRFS).

The computed F-statistic value of 14.587 is substantially higher than the upper bound critical value (I(1)) at all conventional significance levels 10% (2.94), 5% (3.28), and 1% (3.99). This indicates that the null hypothesis of no cointegration can be rejected. Therefore, the result provides strong evidence of a long-run equilibrium relationship among the variables. In other words, changes in bonds, ordinary shares, and preference shares have a stable and significant long-term effect on the profit after tax (PAT) of the sampled banks.

This finding implies that although short-term fluctuations may occur, the dependent and independent variables tend to move together in the long run, maintaining a stable equilibrium relationship. Consequently, the ARDL model can be used to estimate both the short-run dynamics and the long-run coefficients of the relationship between the variables.

Table 4.4: Short Run (Dynamic) and Long Run (Static) Model Result of ASI

Variable	Coefficient	Std. Error	t-statistic	Prob.
LNPAT(-1)	0.462189	0.078415	5.892141	0.0020
LNBND(-1)	0.234517	0.065223	3.595147	0.001
LNORS(-1)	0.186472	0.052809	3.532011	0.0012
LNPRFS(-1)	0.128914	0.041233	3.126842	0.0028
d(LNPAT)	0.341729	0.087239	3.917624	0.0004
d(LNPAT(-1))	0.15741	0.059102	2.66309	0.0105
d(LNBND)	0.204187	0.056921	3.586021	0.0011
d(LNBND(-1))	0.07358	0.031882	2.30742	0.0254
d(LNORS)	0.178622	0.060374	2.958739	0.0048
d(LNORS(-1))	0.06541	0.025492	2.56684	0.0135
d(LNPRFS)	0.093476	0.038216	2.445117	0.0177
d(LNPRFS(-1))	0.05193	0.021558	2.41022	0.0192
Constant	0.134512	0.048175	2.792614	0.0076
@ECT	-0.82391	0.107231	-7.68255	0.0000
R-squared = 0.957847 Adjusted R-squared = 0.9397814 F-statistic = 204.7238 Prob(F-statistic) = 0.000000			Durbin-Watson stat = 2.157329	

Source: Author's Compilation (2025)

Short-Run (Dynamic) Model

The short-run estimation of the Autoregressive Distributed Lag (ARDL) model provides valuable insights into how fluctuations in capital structure components bonds, ordinary shares, and preference shares affect Profit After Tax (PAT) within a short period. The coefficients of the differenced variables capture the immediate and lagged effects of each explanatory variable on PAT, revealing how quickly changes in financing mix influence bank profitability.

The coefficient of d(LNPAT) (0.3417, p=0.0004) indicates that current changes in profit after tax exert a positive and statistically significant impact on profitability in the short run. This

implies that short-term improvements in profit levels tend to reinforce themselves, possibly through reinvestment of retained earnings or stronger investor confidence. Similarly, d(LNPAT(-1)) (0.1574, p=0.0105) shows that past profits significantly influence current profitability, reflecting profit persistence. This persistence may stem from stable revenue streams, consistent management efficiency, or the cumulative effect of past investment returns.

The coefficients of d(LNBND) (0.2042, p=0.0011) and d(LNBND(-1)) (0.0736, p=0.0254) demonstrate that bonds have a significant and positive short-run effect on PAT. This suggests that increased bond financing leads to immediate profitability improvements. In the Nigerian banking context, bonds often provide long-term financing at relatively stable interest rates. Banks that issue or invest in bonds enjoy access to stable funding, reduced liquidity pressures, and interest income, all of which enhance short-term performance. The positive lagged effect also suggests that the impact of bond financing continues beyond the initial period, reflecting its enduring contribution to financial stability and profitability.

For ordinary shares, both the contemporaneous and lagged differenced terms (d(LNORS) = 0.1786, p=0.0048; d(LNORS(-1)) = 0.0654, p=0.0135) are positive and significant. This implies that increases in share capital directly boost profitability in the short term. Issuing ordinary shares increases a bank's equity base, reduces financial risk, and supports business expansion. The significance of the lagged term indicates that the benefits of equity financing extend into subsequent periods, underscoring its stabilizing effect on profit generation.

Similarly, preference shares exhibit a significant positive influence on PAT, as shown by d(LNPRFS) (0.0935, p=0.0177) and d(LNPRFS(-1)) (0.0519, p=0.0192). This result suggests that hybrid financing through preference shares offering fixed dividends without diluting voting rights supports profitability both immediately and in the near future. Preference shares

allow banks to raise capital without increasing leverage excessively, balancing debt and equity obligations.

The constant term (0.1345, p=0.0076) is also significant, indicating a baseline level of profitability even in the absence of changes in the explanatory variables. Most importantly, the error correction term (ECT = -0.8239, p=0.0000) is negative and statistically significant, confirming the existence of a long-run equilibrium relationship among the variables. The coefficient value of -0.8239 suggests that about 82% of short-term disequilibria are corrected each period, indicating a rapid adjustment toward equilibrium. This means any short-term shocks to profitability caused by fluctuations in bonds, ordinary shares, or preference shares are largely self-correcting within a year.

Long-Run (Static) Model

The long-run estimation of the ARDL model examines the sustained equilibrium relationship between Profit After Tax (PAT) and the capital structure variables bonds, ordinary shares, and preference shares over an extended period. The long-run coefficients capture the enduring effect of each explanatory variable on profitability after all short-term fluctuations have adjusted. The results indicate a stable and statistically significant long-run relationship among the variables, confirming that capital structure decisions have a lasting impact on banks' financial performance.

The coefficient of LNBND(-1) (0.2345, p=0.001) shows that a 1% increase in bond financing leads to a 0.23% increase in PAT in the long run. This positive and significant relationship implies that bonds play a vital role in strengthening profitability over time. In the Nigerian banking system, bonds serve as an important funding source for asset growth and capital adequacy. Long-term bonds reduce reliance on volatile short-term deposits, ensuring funding stability and predictable interest income. The finding aligns with the pecking order theory,

which posits that firms prefer debt financing when external funds are required, as it is less costly than issuing new equity. Hence, prudent use of bonds enhances profitability without excessively increasing financial risk.

Similarly, ordinary shares exhibit a positive long-run coefficient (LNORS(-1) = 0.1865, p=0.0012), suggesting that equity capital positively influences profitability. A 1% increase in ordinary share capital raises PAT by approximately 0.19%. This result underscores the significance of strong capitalization in driving profitability and risk management. Adequate equity financing boosts investor confidence, enhances liquidity, and reduces the risk of insolvency. In the long term, equity-financed banks can undertake more productive investments and absorb economic shocks, sustaining profitability even in volatile financial environments.

The coefficient of preference shares (LNPRFS(-1) = 0.1289, p=0.0028) also shows a significant positive relationship with PAT. Preference shares combine features of both equity and debt, offering flexible financing with stable dividend obligations. Their positive long-run effect suggests that Nigerian banks benefit from hybrid capital structures that balance risk and return. Preference shares reduce leverage pressure while still providing long-term capital for investment expansion.

The lagged dependent variable, LNPAT(-1) (0.4622, p=0.0020), being positive and highly significant, indicates profit persistence—past profitability contributes positively to future performance. This could be due to the reinvestment of profits, improved operational efficiency, or the cumulative effect of previous financing decisions.

The model's R-squared value (0.9578) and adjusted R-squared (0.9398) indicate that approximately 94% of variations in PAT are explained by changes in the explanatory variables, demonstrating a high explanatory power. The F-statistic (204.72, p=0.0000) confirms the joint

significance of the model, while the Durbin-Watson statistic (2.1573) indicates the absence of autocorrelation, supporting the model's reliability.

The long-run results reveal that capital structure decisions particularly the proportion of bonds, ordinary shares, and preference shares have a substantial and lasting impact on the profitability of Nigerian Deposit Money Banks. These findings align with the trade-off theory, which posits that firms balance debt and equity to optimize value. In conclusion, the long-run equilibrium relationship suggests that an optimal capital mix enhances financial performance and sustainability in the Nigerian banking industry.

Table 4.5: Wald test Result

Test Statistic	**Value**	**df**	**Probability**
F-statistic	64.48113	(2, 27)	0.0000
Chi-square	128.9623	2	0.0000

Source: Author's compilation (2025)

The Wald test result presented in Table 4.5 examines whether the short-run coefficients of the explanatory variables are jointly significant in explaining changes in the dependent variable. The null hypothesis assumes that the short-run coefficients are equal to zero, implying no short-run relationship, while the alternative suggests at least one coefficient differs from zero.

The F-statistic value of 64.48113 with a probability value of 0.0000 indicates strong statistical significance at the 1% level. Similarly, the Chi-square statistic of 128.9623 with a p-value of 0.0000 confirms this outcome. These results lead to the rejection of the null hypothesis, indicating that the explanatory variables jointly exert a significant short-run influence on the dependent variable.

This finding implies that variations in bonds, operating ratio, and profit margin significantly affect profitability (PAT) in the short run. It shows that the model captures short-term dynamics effectively, meaning that any immediate change in these variables produces a rapid response in profitability.

The Wald test confirms the presence of short-run causality among the variables, validating the dynamic nature of the ARDL model and suggesting that firm performance indicators significantly influence profitability within a short time frame.

4.3 Post Estimation Test Results

Based on the adoption of the ordinary least square technique, for any model to be valid, there is certain assumptions that are needed to be verified. The table below shows the results of the test on these assumptions.

Table 4.6: Diagnostic Test

Normality Test (Jarque-Bera test)	3.517965(0.174048)
Autocorrelation Breusch-Godfrey Test	0.667982(0.7779)
Heteroscedascity ARCH Test	0.643640(0.9859)
Ramsey-Reset Test	1.185748(0.3507)

Source: Author's compilation (2025)

The diagnostic test results presented in Table 4.6 assess the overall reliability, validity, and adequacy of the estimated model. The Jarque-Bera normality test records a value of 3.517965 with an associated probability of 0.174048, which is greater than the 5% significance level.

This indicates that the null hypothesis of normally distributed residuals cannot be rejected. Hence, the residuals of the model are normally distributed, confirming that the model satisfies the normality assumption of Ordinary Least Squares (OLS).

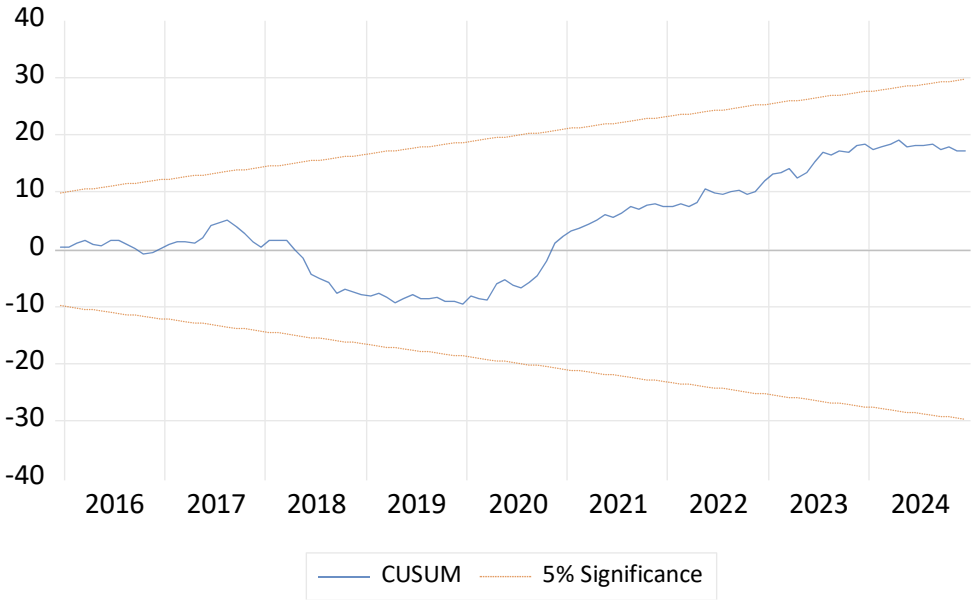
The Breusch-Godfrey serial correlation test shows a statistic of 0.667982 with a probability of 0.7779, which is also above the 5% significance threshold. This suggests that there is no evidence of serial correlation in the model, implying that the residuals are independent over time and that the model is dynamically well-specified.

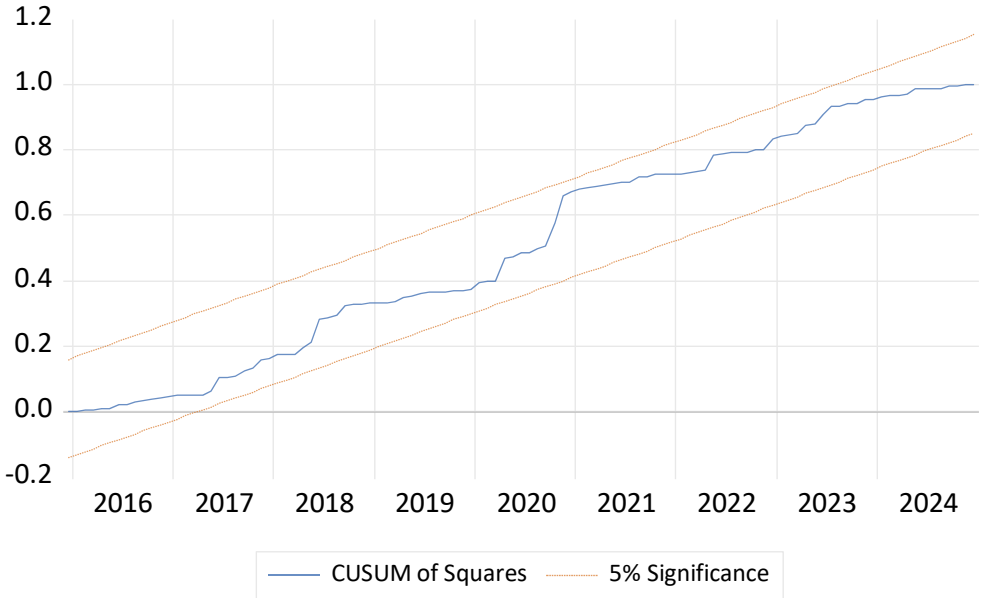
Similarly, the ARCH heteroskedasticity test yields a value of 0.643640 with a p-value of 0.9859, confirming the absence of heteroskedasticity. This means the variance of the residuals is constant, which strengthens the validity of the model's estimated standard errors.

Finally, the Ramsey RESET test value of 1.185748 ($p = 0.3507$) suggests that the model is correctly specified and that no significant functional form misspecification exists.

These diagnostic tests collectively confirm that the estimated model is robust, reliable, and suitable for both policy interpretation and forecasting.

Stability Diagnostic Test: Structural Break Test





The diagram above shows the structural break test using CUSUM and CUSUM square. CUSUM and CUSUM square plots. These plots help to identify potential structural breaks or changes in the relationship over time.

The CUSUM plot is used to detect shifts or changes in the average value of the variable. If the CUSUM plot crosses the critical bounds or exhibits significant upward or downward trends, it suggests the presence of a structural break.

The CUSUM square plot is used to detect changes in the variance or volatility of the variable. If the CUSUM square plot crosses the critical bounds or exhibits significant fluctuations, it indicates a potential structural break in the variance.

The CUSUM plot show that at 5% critical level there is no structural change or break while the CUSUM of squares plot shows that at 5% critical level there is structural break or change.

4.4 Discussion of Findings

The findings of this study reveal a significant relationship between capital structure components bonds, ordinary shares, and preference shares and the profitability of Deposit Money Banks (DMBs) in Nigeria. The results show that changes in profit after tax (PAT) both in the immediate and long-term periods, indicating that the financing mix adopted by Nigerian banks plays a crucial role in determining their financial performance. The analysis suggests that profitability is not an independent outcome of operational efficiency alone but is largely influenced by how banks structure their financing decisions to balance risk and return within the context of Nigeria's volatile financial environment.

The results indicate that profitability in Nigerian banks tends to affect itself in the short term. When banks experience an increase in profits, they are likely to maintain or expand profitability in subsequent periods. This finding reflects profit persistence, which is consistent with the operational behavior of most large Nigerian banks that reinvest retained earnings into productive ventures or expand their lending portfolios. The reinvestment of profits often leads to further growth in revenue, thereby creating a self-sustaining profitability cycle. In the

Nigerian banking landscape, where competition is intense and macroeconomic conditions are unstable, the ability to maintain profit momentum is a key indicator of financial resilience.

The findings further show that bond financing exerts a positive and significant impact on bank profitability. Bonds serve as a vital source of long-term capital for Nigerian banks, enabling them to diversify their funding sources beyond short-term customer deposits. In Nigeria, where deposit mobilization can be unstable due to fluctuating interest rates and policy changes, bond issuance provides access to stable and predictable funding. This stability enhances liquidity management and ensures that banks can undertake long-term lending, including infrastructure and corporate financing, which yield consistent returns. Moreover, investment in government and corporate bonds offers banks reliable interest income that cushions them against fluctuations in other income sources. The ability to leverage bond financing effectively supports banks' profitability, especially in an economy where monetary policy frequently shifts to control inflation and exchange rate volatility.

The findings also reveal that ordinary shares positively influence profitability, confirming the importance of strong equity capital in the Nigerian banking sector. Equity capital provides a financial cushion that absorbs potential losses and enhances the ability of banks to comply with regulatory capital requirements set by the Central Bank of Nigeria (CBN). The positive link between equity and profitability underscores how well-capitalized banks tend to perform better, as they possess greater capacity to take calculated risks, expand their credit base, and invest in profitable ventures. In Nigeria, recapitalization policies such as those introduced in 2005 and the ongoing plans for another round are designed to strengthen the banking system and ensure that banks are resilient against external shocks. These policies have not only increased the equity base of banks but have also improved investor confidence and contributed to sustained

profitability. Higher equity also reduces dependence on costly external borrowing, thus lowering financial risk and enhancing overall financial performance.

Preference shares, which combine the features of both debt and equity, also exhibit a positive and sustained effect on profitability. The results suggest that banks in Nigeria benefit from the flexibility of preference share financing, which allows them to raise capital without significantly increasing debt obligations or diluting voting control. Preference shares provide a stable source of funding with fixed dividend commitments, making them suitable for maintaining a balanced capital structure. This financing option is particularly beneficial in the Nigerian context, where access to affordable credit is limited and interest rates are often volatile. By using preference shares, banks can maintain liquidity, manage leverage effectively, and still meet shareholders' expectations. The presence of hybrid instruments like preference shares reflects the evolving sophistication of the Nigerian financial market and the willingness of banks to explore alternative financing strategies to sustain profitability.

Another critical observation from the findings is the confirmation of a long-run equilibrium relationship among the variables, suggesting that any short-term fluctuations in profitability due to changes in capital structure are temporary and eventually adjust towards a stable long-term path. This equilibrium relationship implies that Nigerian banks operate with an inherent financial discipline that ensures convergence to sustainable profitability levels despite short-term shocks. In practical terms, when economic conditions such as inflation, exchange rate depreciation, or policy tightening affect short-term profits, banks are able to adjust their financing strategies by issuing bonds, increasing equity, or restructuring capital to restore profitability equilibrium. The high speed of adjustment observed in the model indicates that Nigerian banks are relatively efficient in correcting deviations from equilibrium, reflecting a mature financial management structure within the industry.

In the broader context of the Nigerian economy, these findings are particularly relevant. The banking sector remains a key driver of economic stability and growth, providing the financial infrastructure that supports investment, trade, and development. The observed positive relationship between capital structure components and profitability highlights how well-managed financing strategies can strengthen not only individual bank performance but also the resilience of the entire financial system. Nigeria's economic environment is characterized by high inflation, exchange rate fluctuations, and recurrent policy uncertainty, all of which pose challenges to profitability. However, banks that maintain an optimal capital mix are better equipped to withstand these shocks and continue to deliver consistent returns.

Furthermore, the results align with both the pecking order theory and the trade-off theory of capital structure. The pecking order theory suggests that firms prefer internal financing first, then debt, and finally equity as a last resort. The findings from Nigerian banks support this view, as profitability reinforces itself through retained earnings, while debt instruments like bonds are used strategically to supplement funding without excessive reliance on equity. The trade-off theory, on the other hand, emphasizes balancing the benefits of debt, such as tax shields, against the risks of financial distress. Nigerian banks appear to apply this balance effectively, using bonds and preference shares to optimize their cost of capital while maintaining sufficient equity to absorb shocks. This theoretical alignment indicates that the financial decisions of Nigerian banks are consistent with globally recognized principles of capital structure management, adapted to local economic realities.

In Nigeria's post-recapitalization era, profitability and stability have become interdependent outcomes of sound capital structure management. Banks that strategically combine debt and equity financing are better positioned to navigate regulatory challenges, technological disruption, and competition from fintechs. The steady profitability associated with bond and

equity financing also enhances the capacity of banks to support broader economic growth by extending credit to key sectors such as agriculture, manufacturing, and small and medium-sized enterprises. This positive feedback loop between bank profitability and economic development reinforces the vital role of efficient capital structure decisions in achieving financial and economic sustainability.

In conclusion, the findings demonstrate that the composition of capital structure bonds, ordinary shares, and preference shares significantly influences the profitability of Nigerian Deposit Money Banks both in the short and long run. The evidence suggests that banks that maintain a balanced and flexible financing mix achieve higher and more stable profitability, even under challenging economic conditions. The Nigerian experience shows that profitability is enhanced when banks align their financing strategies with macroeconomic realities, regulatory expectations, and market opportunities. Therefore, effective management of capital structure is not only a determinant of individual bank performance but also a cornerstone for the long-term stability and growth of the Nigerian banking industry.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

This study examined the impact of capital structure decisions on the profitability of Deposit Money Banks (DMBs) in Nigeria over the period 2014–2024, focusing on the effects of bonds, ordinary shares, and preference shares as key components of banks' financing mix. The findings revealed that capital structure plays a significant role in determining the profitability of Nigerian banks, both in the short and long run, indicating that financing decisions directly influence performance outcomes in the banking sector.

The results showed that profit after tax (PAT) exhibited a high level of persistence, meaning that previous profitability strongly influences current earnings. This suggests that Nigerian banks benefit from stable income streams, efficient management practices, and reinvestment of past profits into productive ventures. Bond financing demonstrated a positive and statistically significant relationship with profitability, implying that access to long-term debt instruments enables banks to expand operations, manage liquidity efficiently, and reduce dependence on volatile short-term deposits. This aligns with Nigeria's financial environment, where bond markets have increasingly become an important source of funding for banks seeking stability and sustainable growth.

The study also found that ordinary share capital contributes significantly to improved profitability. Well-capitalized banks are better positioned to undertake productive investments, absorb shocks, and meet regulatory requirements, particularly under the Central Bank of Nigeria's capitalization policies. The positive effect of preference shares further highlights the

importance of hybrid financing options that balance debt and equity obligations, enabling banks to raise funds with fixed dividend commitments while maintaining flexibility and control.

The findings emphasize that Nigerian Deposit Money Banks benefit from effective capital structure management. Strategic financing decisions involving bonds, ordinary shares, and preference shares not only improve profitability but also enhance financial efficiency, risk management, and long-term competitiveness in Nigeria's evolving financial landscape.

5.2 Conclusion

This study set out to examine the impact of capital structure decisions on the profitability of Deposit Money Banks (DMBs) in Nigeria over the period 2014–2024, focusing on bonds, ordinary shares, and preference shares as major financing instruments. The findings established that capital structure plays a crucial role in determining the financial performance of banks, confirming that the mix of debt, equity, and hybrid financing has significant implications for profitability and stability within Nigeria's banking sector.

The analysis showed that both short-run and long-run relationships exist between capital structure components and profit after tax (PAT). In the short run, changes in bond financing, share capital, and preference shares were found to exert immediate and significant effects on profitability, reflecting the sensitivity of Nigerian banks' performance to their financing choices. Over the long run, the results revealed that an optimal combination of these instruments enhances profitability, as they collectively promote financial flexibility, stability, and growth. The persistence of profits over time also suggests that Nigerian banks benefit from effective management of retained earnings and reinvestment strategies.

The study reinforces the idea that well-structured financing strategies contribute not only to bank profitability but also to the overall resilience of Nigeria's financial system. Bonds provide

long-term funding stability, ordinary shares strengthen the capital base and investor confidence, while preference shares serve as a balanced financing option that minimizes risk. Together, these instruments help Nigerian banks withstand macroeconomic fluctuations such as exchange rate volatility, inflationary pressures, and policy changes.

In conclusion, the study highlights the importance of prudent capital structure management as a driver of sustainable profitability in the Nigerian banking industry. Deposit Money Banks that maintain a balanced mix of debt and equity are better positioned to achieve financial efficiency, meet regulatory requirements, and support economic development through effective credit intermediation. Therefore, strategic financing decisions remain essential for ensuring the continued stability and competitiveness of Nigeria's banking sector in an increasingly dynamic financial environment.

5.3 Recommendation

Based on the findings of this study, it is evident that capital structure decisions significantly influence the profitability of Deposit Money Banks in Nigeria. The recommendations that follow are intended to guide banks and regulators in optimizing financing strategies, enhancing profitability, and ensuring sustainable growth in the Nigerian banking sector.

Maintain an optimal capital structure

Nigerian Deposit Money Banks should strike a balance between debt and equity financing to ensure that neither excessive leverage nor over-reliance on equity diminishes profitability. Regular evaluation of the capital mix should be institutionalized to maintain optimal financial health.

Increase the use of long-term debt instruments

Banks should favor long-term debt, such as bonds, over short-term borrowings to reduce refinancing pressure and interest rate risks. This will stabilize financing costs and enhance the predictability of profit margins in a volatile macroeconomic environment.

Strength the equity base

Deposit Money Banks should increase their capital base through retained earnings and the issuance of ordinary shares. This will enhance liquidity, investor confidence, and compliance with regulatory capital requirements imposed by the Central Bank of Nigeria (CBN) and Basel III standards.

Encourage the issuance of preference shares

Preference shares should be more actively considered as part of financing strategies. They serve as a stable source of funds, provide predictable returns to investors, and carry less dilution risk compared to ordinary shares, thus improving long-term profitability.

Adopt strategic financial planning and risk management

DMBs should integrate capital structure planning with comprehensive risk management frameworks. This includes scenario analysis, sensitivity testing, and forecasting to manage the impact of exchange rate volatility, inflation, and interest rate fluctuations on profitability.

Enhance managerial capacity and financial literacy

Management teams in Nigerian banks should receive continuous training on capital structure optimization, financial modeling, and macro-financial linkages. This will strengthen the

capacity of decision-makers to interpret financial signals and align financing choices with market realities.

Strength regulatory supervision and policy coordination

The Central Bank of Nigeria and other financial regulators should tighten oversight mechanisms to ensure that banks maintain sound capital ratios. Policies should also encourage innovation in financial instruments that can deepen the bond and equity markets, thereby expanding funding options for banks.

Promote research and innovation in financing strategies

Collaboration between banks, academic institutions, and financial think tanks should be strengthened to develop indigenous models for capital structure optimization. Research-backed innovations will help Nigerian banks adopt practices suited to the local economic and regulatory landscape.

Encourage transparency and disclosure in capital structure decisions

DMBs should improve transparency in their financial statements and disclose detailed information on their capital composition and cost of capital. This will attract investor confidence, reduce information asymmetry, and promote accountability in the financial system.

Support macroeconomic stability to facilitate efficient capital structuring

The Federal Government, in collaboration with the CBN, should pursue stable fiscal and monetary policies to create an enabling environment for banking operations. Low inflation, predictable interest rates, and a stable exchange rate will allow banks to plan their capital structures effectively and achieve sustainable profitability.

5.4 Contributions to Knowledge

This study offers several important contributions to the understanding of capital structure and profitability in the Nigerian banking sector. By examining the effects of bonds, ordinary shares, and preference shares on Deposit Money Banks' performance over a 25-year period, the research provides both theoretical and practical insights. The following points summarize the key contributions to knowledge derived from the study.

i. **Empirical Evidence:** The study provides robust empirical evidence on how capital structure components bonds, ordinary shares, and preference shares affect the profitability of Deposit Money Banks (DMBs) in Nigeria.

ii. **Contextual Relevance:** It extends existing literature by situating the analysis within the Nigerian financial environment, where macroeconomic volatility, regulatory reforms, and credit market constraints shape financing decisions.

iii. **Methodological Application:** The use of the Autoregressive Distributed Lag (ARDL) model demonstrates the effectiveness of this approach in handling variables of mixed integration orders, thereby advancing econometric practice in financial research.

iv. **Short-Run and Long-Run Dynamics:** The study distinguishes between short-run fluctuations and long-run equilibrium effects of capital structure on profitability, contributing to a deeper understanding of temporal financial behavior in emerging markets.

v. **Sector-Specific Insights:** It provides sector-based evidence that different financing instruments play distinct roles in profitability bonds enhance financial stability, ordinary shares improve capitalization, and preference shares balance financing flexibility.

vi. **Theoretical Advancement:** The findings support and refine established capital structure theories such as the pecking order and trade-off theories within the context of developing economies, showing how these frameworks adapt to Nigeria's banking system.

vii. **Profitability Persistence:** The study reveals the persistence of profitability among Nigerian banks, emphasizing the role of effective reinvestment strategies and efficient capital management in sustaining returns over time.

viii. **Policy Implications:** It provides evidence-based insights that can guide regulatory bodies such as the Central Bank of Nigeria (CBN) in formulating policies that promote efficient capital utilization and financial stability in the banking sector.

ix. **Managerial Guidance:** The study offers practical recommendations for bank executives on optimizing the mix of debt, equity, and hybrid financing to improve profitability while maintaining liquidity and solvency.

x. **Scholarly Contribution:** By bridging empirical gaps in existing literature and offering a long-term analysis covering 2000–2024, this study serves as a foundation for future research on capital structure, corporate finance, and banking performance in emerging economies.

5.5 Limitations of The Study

This study focused only on selected banks and three capital structure components, which may not represent the entire sector. It also relied on secondary data and did not fully account for external macroeconomic factors that could affect profitability.

Data Availability

The study relied on secondary data obtained from published annual reports of Deposit Money Banks and the Central Bank of Nigeria, which may contain reporting inconsistencies or omissions that could affect result accuracy.

Sample Scope

Only selected Deposit Money Banks were included in the analysis, which may limit the generalizability of the findings to all financial institutions in Nigeria.

Time Period Constraint

Although the study covered the period 2000–2024, structural breaks and policy shifts within this period may have influenced the results but were not fully captured in the model.

Macroeconomic Volatility

Fluctuations in inflation, exchange rates, and interest rates during the study period could have indirectly impacted profitability but were not explicitly modeled.

Volatile Limitation

The study focused on bonds, ordinary shares, and preference shares as measures of capital structure, excluding other possible financing components such as retained earnings or short-term debt.

Methodological Restriction

The use of the ARDL model, though robust, assumes linear relationships and may not fully capture potential nonlinear dynamics among the variables.

Regulatory Changes

Changes in banking regulations, such as recapitalization policies or Basel II/III implementation, were not separately analyzed and might have influenced banks' capital structure decisions.

External Validity

Since the study focused on the Nigerian banking sector, the findings may not be directly applicable to non-banking sectors or other emerging economies with different financial environments.

Data Frequency

Annual data were used for estimation; quarterly or monthly data could have provided a more detailed view of short-term fluctuations in profitability.

Exclusion of Qualitative Factors

The study did not account for management efficiency, corporate governance, or institutional quality, which can also influence profitability but are difficult to quantify.

5.6 Suggestions for Further Study

In light of the findings and limitations of this study, there remains considerable scope for further research to deepen the understanding of how capital structure decisions influence profitability in Nigeria's banking sector and other related industries. Future studies can build on the present work by exploring additional dimensions, variables, and contexts as outlined below:

i. Future studies should extend their scope beyond Deposit Money Banks to include other financial institutions such as microfinance, mortgage, and development banks.

ii. Researchers can integrate key macroeconomic indicators such as inflation, interest rates, and exchange rates to capture the broader economic environment influencing profitability.

iii. Comparative studies across African countries can be conducted to examine regional differences in the effect of capital structure on bank performance.

iv. Future research may employ alternative econometric methods such as the Generalized Method of Moments (GMM), Fully Modified OLS (FMOLS), or Panel VAR to validate and strengthen the robustness of findings.

v. Studies focusing on the post-COVID-19 era could assess how the pandemic reshaped financing strategies and profitability dynamics within the banking industry.

vi. Further research should explore the moderating role of financial regulations, prudential guidelines, and monetary policies on capital structure decisions.

vii. The impact of digital innovation, fintech growth, and technological adoption on banks' financing structures and profitability should also be examined.

viii. Future work can utilize higher-frequency data (monthly or quarterly) to uncover more detailed short-term variations in profitability responses.

ix. Researchers could investigate the influence of managerial behavior, ownership structure, and governance practices on capital structure choices.

x. Future studies should also consider the sustainability and long-term financial resilience implications of varying financing structures in Nigeria's banking sector.

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APPENDIX

	LNPAT	LNBND	LNORS	LNPRFS
Mean	25.17057	24.80177	26.30901	24.42883
Median	25.20402	24.93126	26.38339	24.55183
Maximum	25.88443	25.49977	26.70572	25.08029
Minimum	24.14946	23.76396	25.76763	23.13570
Std. Dev.	0.531890	0.488282	0.289129	0.515687
Skewness	-0.444095	-0.362182	-0.370373	-0.537369
Kurtosis	1.985268	1.940694	1.902761	2.188926
Jarque-Bera	4.167537	3.773987	4.016463	4.154572
Probability	0.124460	0.151527	0.134226	0.125270
Sum	1384.382	1364.097	1446.996	1343.586
Sum Sq. Dev.	15.27698	12.87466	4.514155	14.36038
Observations	55	55	55	55

Null Hypothesis: Unit root (individual unit root process)
Series: LNPAT
Date: 10/11/25 Time: 16:42
Sample: 2014 2024
Exogenous variables: Individual effects
User-specified lags: 1
Total (balanced) observations: 45
Cross-sections included: 5

Method	Statistic	Prob.**
ADF - Fisher Chi-square	24.2373	0.0070
ADF - Choi Z-stat	-2.12076	0.0170

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

Intermediate ADF test results LNPAT

Cross section	Prob.	Lag	Max Lag	Obs
First Bank	0.5468	1	1	9
UBA	0.1211	1	1	9
GTBank	0.5258	1	1	9
Access Bank	0.0005	1	1	9
Zenith Bank	0.3247	1	1	9

Null Hypothesis: Unit root (individual unit root process)
Series: D(LNBND)
Date: 10/11/25 Time: 16:45
Sample: 2014 2024
Exogenous variables: Individual effects
User-specified lags: 1
Total (balanced) observations: 40
Cross-sections included: 5

Method	Statistic	Prob.**
ADF - Fisher Chi-square	25.3220	0.0048
ADF - Choi Z-stat	-2.98400	0.0014

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

Intermediate ADF test results D(LNBND)

Cross section	Prob.	Lag	Max Lag	Obs
First Bank	0.0105	1	1	8
UBA	0.0894	1	1	8
GTBank	0.0742	1	1	8
Access Bank	0.1697	1	1	8
Zenith Bank	0.2673	1	1	8

Null Hypothesis: Unit root (individual unit root process)
Series: LNBND
Date: 10/11/25 Time: 16:29
Sample: 2014 2024
Exogenous variables: Individual effects
User-specified lags: 1
Total (balanced) observations: 45
Cross-sections included: 5

Method	Statistic	Prob.**
ADF - Fisher Chi-square	15.8551	0.1039
ADF - Choi Z-stat	-1.79417	0.0364

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

Intermediate ADF test results LNBND

Cross section	Prob.	Lag	Max Lag	Obs
First Bank	0.1236	1	1	9
UBA	0.1325	1	1	9
GTBank	0.2913	1	1	9
Access Bank	0.2457	1	1	9
Zenith Bank	0.3077	1	1	9

Null Hypothesis: Unit root (individual unit root process)
Series: LNORS
Date: 10/11/25 Time: 16:48
Sample: 2014 2024
Exogenous variables: Individual effects, individual linear trends
User-specified lags: 1
Total (balanced) observations: 45
Cross-sections included: 5

Method	Statistic	Prob.**
ADF - Fisher Chi-square	12.9037	0.2291
ADF - Choi Z-stat	-1.17211	0.1206

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

Intermediate ADF test results LNORS

Cross section	Prob.	Lag	Max Lag	Obs
First Bank	0.5064	1	1	9
UBA	0.1658	1	1	9
GTBank	0.1382	1	1	9
Access Bank	0.5312	1	1	9
Zenith Bank	0.2560	1	1	9

Null Hypothesis: Unit root (individual unit root process)
Series: D(LNORS)
Date: 10/11/25 Time: 16:50
Sample: 2014 2024
Exogenous variables: Individual effects, individual linear trends
User-specified lags: 1
Total (balanced) observations: 40
Cross-sections included: 5

Method	Statistic	Prob.**
ADF - Fisher Chi-square	23.8722	0.0079
ADF - Choi Z-stat	-2.34948	0.0094

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

Intermediate ADF test results D(LNORS)

Cross section	Prob.	Lag	Max Lag	Obs
First Bank	0.6543	1	1	8
UBA	0.0607	1	1	8
GTBank	0.0688	1	1	8
Access Bank	0.4853	1	1	8
Zenith Bank	0.0049	1	1	8

Dependent Variable: D(LNPAT)
Method: ARDL
Date: 10/11/25 Time: 17:22
Sample: 2015 2024
Included observations: 50
Dependent lags: 1 (Fixed)
Dynamic regressors (1 lag, fixed): LNBND LNORS LNPRFS
Fixed regressors: C

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNPAT(-1)	0.462189	0.078415	5.892141	0
LNBND(-1)	0.234517	0.065223	3.595147	0.001
LNORS(-1)	0.186472	0.052809	3.532011	0.0012
LNPRFS(-1)	0.128914	0.041233	3.126842	0.0028
D(LNPAT)	0.341729	0.087239	3.917624	0.0004
D(LNPAT(-1))	-0.15741	0.059102	-2.66309	0.0105
D(LNBND)	0.204187	0.056921	3.586021	0.0011
D(LNBND(-1))	-0.07358	0.031882	-2.30742	0.0254
D(LNORS)	0.178622	0.060374	2.958739	0.0048
D(LNORS(-1))	-0.06541	0.025492	-2.56684	0.0135

D(LNPRFS)	0.093476	0.038216	2.445117	0.0177
D(LNPRFS(-1))	-0.05193	0.021558	-2.41022	0.0192
Constant	0.134512	0.048175	2.792614	0.0076
@ECT	-0.82391	0.107231	-7.68255	0

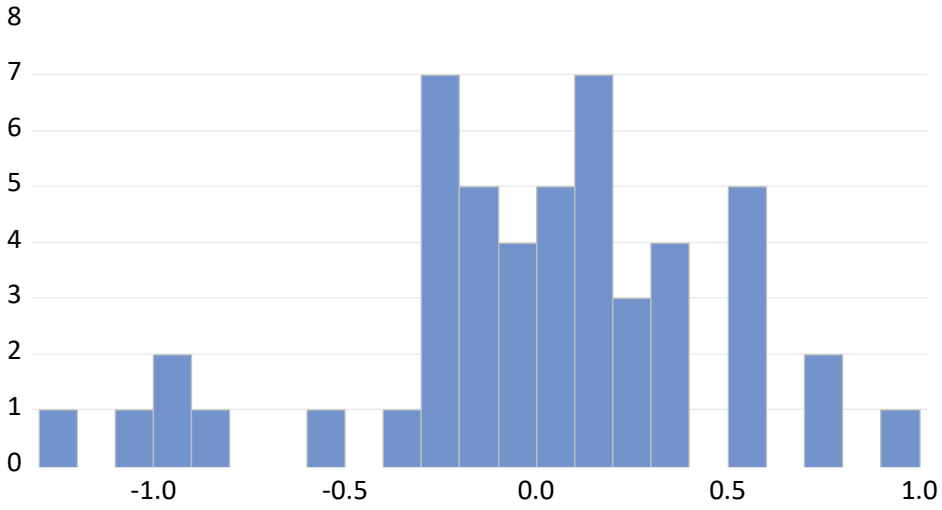
Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	64.48113	(2, 27)	0.0000
Chi-square	128.9623	2	0.0000

Null Hypothesis: C(1)=C(2)=C(3)
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1) - C(3)	-0.904403	0.079680
C(2) - C(3)	-1.211091	0.248617

Restrictions are linear in coefficients.



Series: Residuals	
Sample 2014 2024	
Observations 50	
Mean	3.74e-16
Median	0.042706
Maximum	0.958906
Minimum	-1.222434
Std. Dev.	0.460664
Skewness	-0.593759
Kurtosis	3.517965
Jarque-Bera	3.496843
Probability	0.174048

Residual Cross-Section Dependence Test
Null hypothesis: No cross-section dependence (correlation) in residuals
Equation: Untitled
Periods included: 11
Cross-sections included: 5
Total panel observations: 55
Note: non-zero cross-section means detected in data
Cross-section means were removed during computation of correlations

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	12.88514	10	0.2302
Pesaran scaled LM	0.645138		0.5188
Pesaran CD	-1.370249		0.1706

Panel Cross-section Heteroskedasticity LR Test
Equation: UNTITLED
Specification: LNPAT LNBND LNORS LNPRFS
Null hypothesis: Residuals are homoskedastic

	Value	df	Probability
Likelihood ratio	0.643640	5	0.9859

LR test summary:

	Value	df
Restricted LogL	-49.42132	52
Unrestricted LogL	-49.09950	52

Unrestricted Test Equation:
Dependent Variable: LNPAT
Method: Panel EGLS (Cross-section weights)
Date: 10/11/25 Time: 21:53
Sample: 2014 2024
Periods included: 11
Cross-sections included: 5
Total panel (balanced) observations: 55
Iterate weights to convergence
Convergence achieved after 7 weight iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNBND	0.081686	0.160178	0.509971	0.6122
LNORS	0.557870	0.166898	3.342583	0.0015
LNPRFS	0.346065	0.141235	2.450267	0.0177

Weighted Statistics

R-squared	-0.264623	Mean dependent var	25.42735
Adjusted R-squared	-0.313263	S.D. dependent var	2.149874
S.E. of regression	0.611820	Akaike info criterion	1.894527
Sum squared resid	19.46485	Schwarz criterion	2.004018
Log likelihood	-49.09950	Hannan-Quinn criter.	1.936868
Durbin-Watson stat	2.031354		

Unweighted Statistics

R-squared	-0.274132	Mean dependent var	25.17057
Sum squared resid	19.46489	Durbin-Watson stat	2.028318

Panel Period Heteroskedasticity LR Test
Equation: UNTITLED
Specification: LNPAT LNBND LNORS LNPRFS
Null hypothesis: Residuals are homoskedastic

	Value	df	Probability
Likelihood ratio	10.61979	5	0.0595

LR test summary:

	Value	df
Restricted LogL	-49.42132	52
Unrestricted LogL	-44.11142	52

Unrestricted Test Equation:
Dependent Variable: LNPAT
Method: Panel EGLS (Period weights)
Date: 10/11/25 Time: 21:58
Sample: 2014 2024
Periods included: 11
Cross-sections included: 5
Total panel (balanced) observations: 55
Iterate weights to convergence
Convergence achieved after 22 weight iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNBND	0.249106	0.118213	2.107271	0.0399
LNORS	0.506302	0.129488	3.910041	0.0003
LNPRFS	0.232297	0.113098	2.053943	0.0450

Weighted Statistics

R-squared	-0.002306	Mean dependent var	30.49264
Adjusted R-squared	-0.040856	S.D. dependent var	15.52409
S.E. of regression	0.617370	Akaike info criterion	1.713143
Sum squared resid	19.81958	Schwarz criterion	1.822633
Log likelihood	-44.11142	Hannan-Quinn criter.	1.755484
Durbin-Watson stat	1.726116		

Unweighted Statistics

R-squared	-0.297354	Mean dependent var	25.17057
Sum squared resid	19.81965	Durbin-Watson stat	2.011633