Credit Management and Financial Performance of Deposit Money Banks in Nigeria

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Certification

This is to certify that **Olanrewaju Ayodeji Mustapha** with the matriculation number **LCU/PG/002238** carried out this research work titled: **Credit Management and Firm's Financial Performance of Deposit Money Bank in Nigeria** in the Department of Management and Accounting Lead City University, Ibadan, Nigeria for the award of Master of science Degree (M.Sc.) in Accounting and this has not been previously submitted.

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Dedication

This work is dedicated to God Almighty and my supportive family.

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The researcher is grateful to the institution - Lead City University, Ibadan, Oyo State librarian that gave me the access to information I used in this research work.

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“Even though the above-mentioned institutions and persons have assisted in the correction of this research work, I alone stand responsible for the errors, if any, found in the work”.

Abstract

This study investigated Credit Management and Firm's Financial Performance of Deposit Money Bank in Nigeria. The study was guided by Information Asymmetry Theory, Transaction Cost Theory. There were three research questions and hypotheses developed. An ex-post facto research design was used in the study. The population of the study is all commercial banks in Nigeria with the total of twenty-four (24) banks as at year 2023. The sample size for this study was obtained from secondary data of selected seven (7) banks using the purposive sampling technique. The researcher chose banks that their performances are below industrial average specifically, lower return on asset and return on equity. for the data analysis of this study, the panel Ordinary Least Square estimation approach and correlation matrix was applied. Credit management facility had a significant effect on performance as measured by return on asset (Adj R2 = 0.040612, F= 1.973611, p= 0.016466); return on equity (Adj R2 = 0.101017, F= 0.976643, p= 0.009176); and net profit margin (Adj R2 = 0.305936, F= 11.13815, p= 0.000005). It was concluded that credit management facilities have a significant effect on financial performance and positively strengthen the effect of interaction between credit management facilities that is, non-performing loan, loan and capital advancement, and capital adequacy and Firm's Financial Performance of Deposit Money Bank in Nigeria. It was recommended that Deposit Money Bank in Nigeria should mitigate their Non-Performing Loan Ratios (NPLR), Strategic in Loan and Advance Ratio, Management should Enhance Capital Adequacy and Refine Credit Risk Management Practices.

Keywords: Financial Performance, Return on Asset, Return on Equity, Credit Management Facilities.

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List of Acronyms

Abbreviation	Meaning
ASE	Amman Stock Exchange
BOPO	Operation Cost To Revenue
BSE	Bombay Stock Exchange
CAR	Capital Adequacy Ratio
CBK	Commercial Banks
CBN	Central Bank Of Nigeria
CFOD	Cash Flow from Operations to Debt
CMP	Credit Management Policy
COGS	Cost of Goods Sold
CPP	Creditor's Payment Period
CR	Current Ratio
CTR	Capital Turnover Ratio
DCP	Debtor's Collection Period
DMBs	Deposit Money Banks
EBIT	Earnings Before Interest And Taxes

FBN	First Bank of Nigeria
FP	Financial Performance
FV	Fair Value
IDX	Indonesia Stock Exchange
INTINC	Interest Income
KYC	Know Your Customer Approach
LAR	Loan and Advance Ratio
LDR	Loan-To-Deposit Ratio
LLP	Loan Loss Provision
LNPR	Loan Loss Provision Ratio
LPNR	Non Performing Loan Ratio
NIM	Net Interest Margin
NPL	Non Performing Loan
NPM	Net Profit Margin
NSE	Nigerian Stock Exchange
PLC	Public Limited Company
PPC	Pay Per Click

PPI	Producer Price Index
PPP	Public-Private Partnership
ROA	Return On Asset
ROE	Return On Equity
SACCO	Saving And Credit Cooperative Organisation
SD	Standard Deviation
SLR	Secured Loan Ratio
TA	Total Asset
TPF	Third Parties Fund
WCM	Working Capital Management

Chapter One

Introduction

1.1 Background to the Study

In the today business world, the ability to seize any opportunity and seek realistic practical business tools and approaches to increase financial performance is critical for success. Financial performance is still one of the most important measures for analyzing the success, development, performance, and progress of companies all over the globe. Thus, the company's efforts to enhance its performance produced both financial and non-financial outcomes. Performance is influenced by how effectively financial institution organizations handle their credit facilities in particular. In light of the undeniable importance of business performance, especially within the banking sector, it remains a focal point in strategic management research. Success in a corporation is determined by how efficiently and effectively its resources are allocated to achieve managerial objectives. Key performance indicators, such as revenue, profit, cost reduction, return on sales, and return on assets, are significant metrics in this regard. Scholars have grappled with the challenge of defining performance comprehensively, impacting various aspects of human activity. This ongoing struggle has implications across diverse domains. Consequently, work-related activities, including employee responsibilities and their execution, constitute integral elements of a company's overall performance. Research suggests that company performance acts as a means to enhance finite corporate resources, boost productivity, and foster economic value growth.

Financial performance may be considered as a statistic for analyzing a company's overall financial health over time. It may be used to group industries or sectors together, as well as to compare comparable enterprises within the same industry. It is also known as the independent

business criterion to evaluate its overall results in relation to its own objectives[1]. A researcher defines firm performance as the measurement of the financial results of its policies and activities in order to determine an organization's overall financial stability over a specific time period[5]. Most firms use returns on assets as a regular financial statistic to analyze how well their company are functioning and if investing in new assets would enhance profits[2]. From an economic standpoint, a company's financial success evaluates its total market worth. In addition to the allocation and collection of money, achieving the company's financial performance for a given time period entails capital adequacy, liquidity, solvency, efficiency, leverage, and profitability[3]. Financial performance assesses a company's capacity to generate income from its core business[3]. It also acts as a broad predictor of a company's long-term financial health.

For many years after independence, the Nigerian financial system was under strain, as seen by interest rate and loan growth limitations, selective lending rules, high reserve requirements, and impediments to entrance into the banking industry[2]. Because of this, the financial system's capacity to mobilize funds and stimulate productive investment was severely impeded[3]. Efficient credit management and increased financial performance are critical for the banking industry's survival. As a result, a decline in the banking industry's financial performance in Nigeria may have a substantial influence on the firm's capacity to access both internal and external capital, as well as its ability to develop and survive. As a result, for every organization, maintaining a fair degree of financial performance is a critical decision-making area. This is significant because of the requirement to optimize profits for a wide range of organizational stakeholders, as well as the possible consequences that these choices may have on a company's ability to navigate its competitive environment[3]. The capacity of a firm or organization to function efficiently, on the other hand, is a critical aspect that increases the entity's efficacy in achieving its goals. The

degree of success for the entity or process may be used to measure the performance of a single firm, a group of players, or even a process[4]. Performance is affected by how well a company's assets function and how its credit facilities are handled. The manner in which a company handles its business credit facilities has a direct influence on how well it operates overall.

Credit is one of the numerous elements a corporation may use to affect the demand for its goods[3]. According to a scholar, Companies may gain from credit only if the profit from higher sales balances the increased receivables expenditures[4]. credit is the practice of granting ownership of goods or services in return for a contractual commitment to pay in the future but without immediate payment[5].

Credit management is critical to the growth of businesses. Credit management, is just a method for a corporation to govern its credit sales. It is a need for every company that deals with credit transactions since it is impossible to have a credit or default risk of zero. The expenditures incurred by the firm in order to retain its accounts receivable rise in direct proportion to the number and age of such accounts[6]. If a corporation needs money quickly and its receivables are not collected on time, it may borrow; the opportunity cost of this is the interest charge paid. Credit management has a considerable effect on whether commercial banks and other financial institutions survive or fail[7]. This is because the quality of loan choices, and hence the quality of hazardous assets, both have a major influence on deposit banks' vulnerability to failure. He goes on to say that credit management is a key indication of the quality of deposit institutions' credit portfolios. The ability to handle client credit lines wisely and efficiently is a critical component of good credit management. Companies must have a better understanding of their customers' financial health, credit score history, and altering payment habits in order to limit their exposure to bad debt, over-reserving, and bankruptcies[8].

Credit management is one of the most important duties that every corporation that utilizes credit must do, regardless of the kind of business. It is the technique used to ensure that consumers pay for the products or services provided. Credit management is the collection of procedures used by firms to maintain a healthy amount of credit and manage it properly[9]. This financial management function includes credit analysis, credit rating, credit categorization, and credit reporting.

A strong credit management approach will reduce the amount of cash that is tied up with the borrowers and reduce the possibility of bad debt accumulation. According to a researcher, each delinquent account reduces a seller's profit unless he has incorporated late payment penalties in his selling price or is successful in collecting those expenses via interest charges[10]. Businesses in competitive markets may be enticed by the prospect of increased sales if more credit is extended, but the practice is risky unless it can be determined that the extra profits from increased sales will outweigh the increased credit costs, or that the costs can be recovered by raising prices. The majority of organizations can quickly detect losses caused by bad debts, customers declaring bankruptcy, receivership, or liquidation, and so on. The writing down of bad debt losses clearly reduces the Profit and Loss Account. The interest penalty of a late payment is less visible as a cost impact and may go undetected. It is seldom assessed independently since it is bundled with the total bank costs for all operations. The reduction in borrowing costs from late bill payments reduces total bank interest. Because the cost of waiting for payment beyond terms is often 10 times that of bad debt losses, credit managers may calculate this interest cost separately for debtors, and the figures can be alarming to many. The stability and long-term profitability of any manufacturing firm are dependent on good credit management, and falling credit quality is the most typical cause of poor organizational performance and condition. The chance of problematic

loans increases when credit laws are relaxed[10]. As a result, companies must ensure that their receivables management is effective and efficient. Delays in collecting money from debtors when it is due result in increasing bad debts, substantial financial challenges, and strained customer relationships. If a payment is received beyond the due date, profitability suffers; if it is not received at all, the company suffers a total loss. According to that thinking, strategically managing credit management from the start of the process is just smart business.

Furthermore, credit management, as written rules, establishes the terms and circumstances for the delivery of products on credit, customer qualifying criteria, collection procedures, and actions to be done in the event of customer delinquency. Credit was seen to be a marketing strategy for increasing sales and credit sales to clients, which must be closely controlled independent of a firm's market share and product demand. It was also said that if no procedures are put in place to govern credit-based sales to clients, there may be liquidity issues that would have a detrimental impact on business growth. A corporation with a lot of fixed assets may nonetheless be short on cash and have trouble paying its present financial commitments. Credit management is a crucial topic in every company organization, including manufacturing and banking, since most corporate activities are reliant on credit conditions agreed upon by both lender and borrower. The reality is that without good credit component management, the smooth and efficient functioning of the companies would be hampered[11]. It was confirmed that maintaining the firm's credit affairs and allocations consumes around 60% of a typical finance manager's work. Thus, effective resource allocation has a positive impact on company financial performance and, as a consequence, growth[12]. The current growth in economic activities in Nigeria under the current democratic government, coupled with the limited financial resources available to market participants, has undoubtedly resulted in an increase in credit transactions,

the impact of which is dependent on the skill and valour with which companies manage their trade credit. As a result, good credit management in the banking sector is critical and cannot be overstated owing to its power to impact financial performance, existence, and the overall development and sustainability of the companies.

Credit management is a critical function of every commercial bank. Every commercial bank's credit management is significantly reliant on this activity for income production. As a result, doing a key to the pro investigation in this field has shown a number of concerns that have most likely functioned as financial institutions. Credit maximization is therefore the act of regulating and collecting payments from customers in a variety of hindrances to boost pro management (its generation and control). This is the function of a bank or organization that deals with financial risk. Controlling credit policies that increase revenues while decreasing loan creation has proven to be an essential duty of commercial banks since it is the primary source of internally produced income. Credit, from a business standpoint, is lending resources gained from depositors held in their customers' accounts to another party at a greater interest rate than what they pay to the Credit creation is regarded as one of the sources of finances with the goal of maximizing revenue, one of the oldest and most sensitive duties of commercial banks. Thus, credit management by commercial banks is critical to a country's overall economic growth and development since it permits cash to be accessible via credit creation to sectors such as mining, agriculture, industries, manufacturing, and so on. This will have a good effect on employment, development, economic growth, and per capita income.

Accounting reports give several financial performance measurements such as net income, return on asset (ROA), and return on equity (ROE), to mention a few. ROA assesses management's

overall effectiveness in creating profits from its available assets. The greater the company's ROA, the better. ROA is the most complete measure of performance management, utilizing three variables: total revenues, total costs, and assets; if the firm has a strong ROA, it will create a satisfying ROE[13]. In the research, proxies for assessing the financial performance of manufacturing enterprises included the gross profit ratio (GPR), operating profit ratio (OPR), net profit ratio (NPR), return on investment (ROI), and return on capital employed (ROCE). This research examines financial performance using return on asset (ROA), return on equity (ROE), and net profit margin. While credit management is a proxy for nonperforming loans, secured and unsecured loans are measured using the secured loan ratio (SLR), loan and advances are measured using the loan and advances ratio, and loan loss provision is assessed using the loan loss provision ratio.

1.2 Statement of the Problem

One alternative to entirely prevent bad credit or debt is to refuse to lend money at all. However, if banks refuse to lend at all, the issue of profitability, which is the primary reason for running a company in the first place, will be thwarted. In order for banks to continue in business, credit must be adequately handled.

Because of the severe implications, such as bank collapses, the widespread financial crises in modern banking history have been a significant source of worry for both bank regulators and owners. Unfortunately, bank failures throughout the years have caused investors to lose faith in banks. Banks in Nigeria have carried a tremendous burden of 'toxic' assets that have grown slowly from year to year without being acknowledged via adequate credit risk management[14].

Non-performing loans are a prominent symptom of bank failures in Nigeria, which are characterized by inadequate credit risk management. Take, for example, First Bank of Nigeria

Plc, whose non-performing loans (NPL) coverage climbed to 53.3 percent in 2021 from 48 percent in 2020[15]. This is just one example of several 'best-rated banks' in Nigeria. Again in 2009, the Central Bank of Nigeria (CBN) revoked the licenses of 10 of Nigeria's 24 banks, blaming their management for inadequate credit risk management[10]. Banks have critical financial roles in Nigeria, and as such, they are governed by the Central Bank of Nigeria (CBN).

Nonetheless, despite the Central Bank of Nigeria's restrictions, six banks collapsed in 2011, putting investors' capital at risk. Furthermore, despite the Federal Government's apparent 'desperate' attempts to reduce the frequency of bank failures in Nigeria, we continue to see a slew of tragic facts emerge. Private and public bad loans continue to expand, and bank management seems to have forgotten their fundamental duty, which is appropriate loss protection for banks. As a result, we may conclude that credit risk management misuse in the banking industry is a lethal issue.

Despite the quantity of studies on performance-related themes, the problem of firm performance remains hard for academics owing to its implications on organizations. According to one study, some researchers currently employ performance as the dependent variable in management-related research[17]. Nonetheless, there have been significant disagreements over the proper measuring of business success. As a result, poor credit management and poor financial performance are two sides of the same coin that function in opposing ways. Increasing the degree of poor credit management will lower the firm's performance and vice versa[18]. As a result, the credit management conundrum is achieving an optimum balance between liquidity and business performance. This study will fill a research vacuum by proxy business performance using Returns on Asset, Returns on Equity, and Net Profit Margin, as well as conducting empirical data on whether credit management influences firm performance in the Nigerian banking industry.

1.3 Aim and Objectives of the Study

The aim of this study is to investigate the effect of credit management (non-performing loans, secured and unsecured loan, Loan and Advances, and Loan Loss Provision) on the Firm's Financial Performance (Return on Asset, Return on Equity and Net Profit Margin) in the Nigerian banking sector. To achieve the above the following specifics are set out to:

i. investigate the effect of credit management on the firm's Return on Asset in Nigerian banking sector
ii. establish the effect of credit management on the firm's Return on Equity in the Nigerian banking sector
iii. examine the effect of credit management on the firm's Net Profit Margin in the Nigerian banking sector bad debt

1.4 Research Questions

The following research questions are to guide the objective of the study.

1. What effect does credit management have on the firm's Return on Asset in Nigerian banking sector?
2. What effect does credit management have on the firm's Return on Equity in the Nigerian banking sector?
3. What effect does credit management have on the firm's Net Profit Margin in the Nigerian banking sector?

1.5 Hypotheses

The following hypotheses were formulated to guide the objective of the study.

Ho1: Credit management have no significant effect on the firm's Return on Asset in Nigerian banking sector

Ho2: Credit management have no significant effect on the firm's Return on Equity in the Nigerian banking sector

Ho3: Credit management have no significant effect on the firm's Net Profit Margin in the Nigerian banking sector

1.6 Significance of the Study

The significance of your study on the effect of credit management on the financial performance of banks in the Nigerian banking sector extends to various stakeholders and areas:

Management of Banking Institutions: For banking executives and managers, your study can provide valuable insights into the importance of effective credit management strategies. Understanding how credit management practices impact financial performance can help them make informed decisions about loan origination, risk assessment, and loan loss provisioning, ultimately contributing to the overall health and profitability of their institutions.

Investors and Financial Analysts: Investors and financial analysts can use the findings of your study to evaluate and make investment decisions in the Nigerian banking sector. A better understanding of the relationship between credit management and financial performance metrics like ROA, ROE, and NPM can guide investment strategies and risk assessments.

Regulatory Institutions: Regulatory bodies and institutions overseeing the banking sector can benefit from your research by gaining insights into the potential impact of credit management

practices on financial stability. Your findings may inform the development of regulatory policies and guidelines to ensure the soundness of the banking industry.

Policy Makers and Government Agencies: Policymakers and government agencies can use your study to inform economic policies related to the banking sector. Understanding how credit management affects financial performance can help them design policies that promote stability, economic growth, and the reduction of non-performing loans.

Banking Industry: Within the banking industry, your research can serve as a reference point for benchmarking and best practices in credit management. Banks can adapt their strategies and processes based on the insights you provide to enhance their performance and competitiveness.

Economy at Large: The overall health of the banking sector is closely tied to the broader economy. Your study can shed light on how effective credit management practices can contribute to economic stability and growth. A well-managed banking sector is crucial for facilitating lending, investments, and economic development.

1.7 Scope of the Study

The study examined the credit management and as well as financial performance of the selected banks in Nigeria. This study covers the period of (10) years (i.e. from 2011 – 2021). The choice of this period is to be able to use recent data to confirm results of prior studies.

1.8 Operational Definition of Terms

For easy comprehension of this research work, the writer intends to define the following terms:

3**. Trade Credit**:

Is any amount for goods and or resources which remain unpaid at the time of purchase of such goods or services but which is deferred for future use.

4. **Liquidity**:

This is used to describe the assets of firms which are easily convertible to cash.

5**. Solvency**:

We use this term to express a firm's liabilities or obligations as they fall due or simply put a state of being able to pay debts as they fall due.

Credit: The reputation and financial standing of a person or organization. The sum of money that a bank allows a customer before requiring payment.

Credit Control: Any system used by a bank to ensure that its outstanding debts are paid within a reasonable period. It involves establishing a credit policy.

Credit Rating: An assessment of the credit worthiness of an individual, i.e the extent to which they can safety be granted credit.

Credit Risk: This risk taken when a loan is made that the borrower will the default or delay repayment of the principal or payment of interest.

Management: This is that managerial activity which is concerned with the planning and controlling of the organizations finances, to make profit for its owners.

Performance: The process of developing standards geared towards attaining certain predetermined goals.

Financial Performance: Financial performance is the company's financial condition over a certain period that includes the collection and use of funds measured by several indicators of capital adequacy ratio, liquidity, leverage, solvency, and profitability.

1.9 Operationasation of Variables

The functional model showing the relationship between performance and credit risk management is given is as follows:

$Y=f(X)$

Dependent Variable

Y= dependent variable

y_1=Return on Asset (ROA)

y_2=Return on Equity (ROE)

y_3=Net Profit Margin (NPM)

Independent Variables

X= independent variable

X_1= Non-performing loans ratio (NPLR)

X_2= Loan and Advance Ratio (LAR)

X_3= Loan Loss Provision Ratio (LLPR)

To capture bank financial performance, we employed return on assets, return on equity and net profit margin while for credit management, we employed Non performing loans ratio, Loan and Advance Ratio, Loan Loss Provision Ratio.

The functional relationship is estimated as:

Y (ROA, ROE, NPM) = *f* (NPLR, LAR, LLPR)

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Chapter Two

Literature Review

2.1 Conceptual Review

2.1.1 Financial Performance

A variety of financial measurements are used to assess financial performance, including profitability, sales revenue, growth, and efficiency among the financial metrics employed in this context are return on assets, return on sales, net profit margin, market share rise, return on investment, and change in net income[1]. Financial performance is a statistic used to assess how an organization's financial resources are utilised[2]. This illustrates how well management has ran and managed the company. According to a researcher, one of the foundations for analyzing a company's financial state is its financial performance[3]. Financial performance is an assessment of a company's success using financial performance rules that are correctly and consistently followed[2,3,4]. The results of the performance analysis are used by management as a foundation for decision-making and as a tool to evaluate management effectiveness. The financial performance of a successful corporation will support regional economic growth[5]. According to the scorlas, financial performance is a description of a company's financial status during a certain time period in terms of fund-raising and distribution qualities, which are generally gauged by

metrics of capital adequacy, liquidity, and profitability[4,5]. In order to establish a company's effectiveness and efficiency, its financial performance must be evaluated. According to financial patterns and the effects of the firm's activities, the company's financial performance may be classified as either healthy or unhealthy[6]. Measuring a company's financial performance is especially beneficial for a range of stakeholders, including investors, creditors, analysts, financial consultants, brokers, the government, and the company's management[7].

According to various empirical research, a company's financial success, which is an assessment of the gains an organization produces over its active years, is impacted by a variety of elements. External issues such as financial and fiscal worries have an influence on a corporation's financial success. These elements in that order are interest rate, rate of change, inflation, taxes, and tax incentive. Internal factors such as employee motivation, employment, organizational strategy, and so on have an impact on a company's financial status. According to an Australian research on the components determining a firm's financial performance, size, productivity level, and lag profit are qualities that determine a firm's financial success[8]. More evidence suggests that the degree of sectoral concentration influences company behavior and financial performance. Variances in company-level variables, such as effectiveness, organizational design, and/or quality management, were hypothesized to impact variations in firm financial performance. According to a research on financial performance in Nigeria, a firm's capital structure has an influence on its financial success. Profitable businesses that relied only on stock funding had excellent financial results[9].

A corporation's financial success may be measured in a variety of ways. The sort of information that customers seek is a significant influence in their differences. Financial performance is defined by firm owners as profitability, by managers as net benefits from operational operations,

and by creditors as the capacity to pay off commitments. Return on assets (ROA) and return on equity (ROE) are thought to be the best indications for owners, managers, and creditors (ROE). Investors also consider a company's financial performance and profitability (ROA and ROE). Stockholders have multiplied as financial markets have developed, as seen by the stocks. The financial market governs the trading of company stock, and its price represents its worth. Then, new metrics were devised to assess a company's financial performance. The market, however, is not without manipulation. Short selling, speculation, and rumors are just a few of the strategies used to manipulate stock prices. Thus, in the viewpoint of investors, stock prices take priority over other criteria.

Furthermore, fluctuations in stock prices have increased stock return, another important metric of financial success throughout time. It is calculated using the difference between the most current and preceding stock price. Furthermore, investors feel that stocks of firms with great financial performance will be in higher demand, causing their prices to rise, and the contrary is also true[8]. According to a researcher, a company's stock price and return may be used to suggest its financial success since they are typically dependable indications of how well the organization is operating[9]. This suggests that the stock price and return of a firm represent its financial performance. As a consequence, the sections that follow will discuss the main theories and measuring methodologies employed in this research.

In his study of credit risk management and financial performance of commercial banks in Nigeria, a schorlar discovered that credit risk management has a significant effect on financial performance of commercial banks and recommends that maintaining a low level of non-performing loans improves financial performance[10]. A researcher investigated the Risk Management and Financial Performance of Nigerian Banks and discovered a significant

relationship between risk management and bank performance[11]. He also stated that better risk management in terms of managed funds, as well as a reduction in the cost of bad and doubtful loans, resulted in improved bank performance. As a result, it is critical that banks undertake sensible risk management in order to preserve their assets and shareholders' interests.

When evaluating the financial performance of banks, selecting the appropriate criteria is critical. Until now, numerous experts have expressed their views on various aspects of banks' financial success, and there have been numerous studies on the subject that use various metrics to measure financial performance. Some of the factors considered when evaluating bank performance are branches, deposits, advances, investments, spread, burden, business, operating profits, non-performing assets (NPA), cost of deposits, cost of borrowings, cost of funds, return on advances, return on investments, return on funds, net profit, spread, burden, operating expenses, and sectorial deployment of credit. The financial performance of this study was measured using return on equity, return on asset, and net profit margin, as explained below.

2.1.1.1 Return on Asset

The return on asset ratio is the bank's net income (profits) as a proportion of total assets (including fixed assets). The bigger the fraction of assets with average profits, the higher the consequent returns on total assets[5]. Return on assets is an important aspect in assessing a bank's profitability. This ratio displays the return as a proportion of all assets. The return on asset calculation formula is as follows.

Return on assets assesses the value of a company's assets in proportion to its earnings over a specific time period. Managers and financial analysts use return on assets to assess how successfully a firm utilizes its resources to generate a profit. Since it correctly depicts a company's profitability, return on assets has been a controversial subject in scientific circles

since the inception of contemporary commercial interactions. Theoretical and practical elements of asset return via multilateral techniques have been widely addressed in the literature. Furthermore, worldwide audit organizations provide frequent monitoring reports on new breakthroughs in the use and restrictions of the return on assets theory. Previous research indicates that academics are increasingly skeptical of the use of return on assets as a criterion for judging a company's financial sustainability.

Return on assets is a common and valuable financial statistic (ROA). ROA has been used in industry since at least 1919, when it functioned as the apex of the DuPont Company's ratio triangle system. The return on investment ratio was calculated by dividing profit by total assets. The DuPont triangle is based on the expanded ROA formula, which incorporates the profit margin (profit / sales) and capital turnover ratio (sales / total assets)[5]. ROA is important to educators and practitioners for three reasons. To begin, most business textbooks offer at least one ROA calculation. In a review of 77 business textbooks, the third most commonly stated ratio was ROA25. Only the current ratio and inventory turnover ratio were recognized more often than ROA. Second, failure prediction research often employs at least one ROA variant. ROA is one of five factors used to forecast company failure in Altman's (1968) Z-Score, which utilizes a variation known as Earnings Before Interest and Taxes/Total Assets (EBIT/TA).

Although ROA is not the best metric for determining a company's long-term financial viability, it is useful in analyzing current business success. They demonstrated that ROA is sensitive to changes in a company's financial status, notably sales, income, and asset values24. A study 25 used financial ratio analysis to investigate the influence of a company's financial performance on sustainability. They found that return on assets is an important indication of sustainability for organizations in certain industries.

Return on assets compares a company's profitability to its total assets. For example, the profitability of a bank in proportion to its total assets. Examine how well a bank's management uses its assets to generate profits. The return on assets (ROA) measures the profit earned per dollar of assets and demonstrates how effectively bank management uses the bank's actual assets to generate profits[12]. ROA is a useful measure for comparing the profitability of banks with similar business risk profiles because it minimizes biases caused by variations in financial leverage. Return on assets (ROA) is a comprehensive indicator of overall bank performance from an accounting standpoint.

2.1.1.2 Return on Equity

The return on equity essentially measures the rate of return that owners of common stock in a firm get on their investment. Return on equity (ROE) is a statistic used to evaluate how well a firm makes revenue utilizing equity, or capital given by investors, and cumulative retained earnings. In other words, ROE measures a company's ability to turn equity investment into net profit. Return on equity measures the rate of return on shareholders' investments in the bank (ROE). It indicates how successfully management is leveraging the money put up by shareholders to generate profits and business growth. Return on equity is the amount of net income returned as a proportion of shareholders' equity (ROE). It is one of the most popular, and arguably the most extensively utilized, overall indicators of business financial success[6]. ROE is popular among investors because it relates the balance sheet's shareholders' equity to the income statement's net profit or loss. The fact that ROE is the result of systematic financial ratio study, also known as Du Pont analysis, contributes to its appeal among analysts, financial managers, and shareholders[13].

Return on equity (ROE), along with return on assets, is an all-time favorite and arguably the most popular overall measure of business financial success (ROA). ROE is arguably the most important metric for investors to consider. ROE is popular among analysts, financial managers, and shareholders in part because it is the result of organized financial ratio analysis, also known as Du Pont analysis[3,14]. The book value of equity (ordinary shares) at the start of the fiscal year is divided by the profit after tax and preference dividends paid throughout the year. Average equity is another possibility. Equity would be made up of the issued ordinary share capital, as well as the share premium and reserves. The ROE may be calculated using one of three distinct ratios. A ratio is made up of three aspects, or ratios: profitability, asset turnover, and financial leverage. As a result, the ROE may be increased through boosting profitability, more efficiently using assets, and increasing financial leverage.

Return on Equity (ROE) calculates the rate of return for each unit of money that becomes the company's capital. According to Brigham and Houston, the idea of ROE is the net ratio of ordinary equity, which measures the rate of return on ordinary shareholder investment. This Return on Equity Ratio shows how well own capital is employed. The greater this ratio, the better. As a consequence, the company's and its position will both be reinforced. To calculate return on equity, divide net income by shareholder equity. The magnitude of the firm's yearly yield per currency invested by corporate investors in this context. The return on equity (ROE) received by a shareholder from his investment in a firm is calculated. Higher performance results in a higher stock return. According to researcher, profitability has an effect on stock returns[15]. Return on equity (ROE) is a statistic used to evaluate a company's ability to generate profits from its own resources. The growing ROE number indicates that the firm is doing well. Conditions like this will entice both present shareholders and new investors to continue investing in the

company. This condition will cause stock prices to climb, resulting in higher stock returns. As a result, return on equity is another important factor in determining a bank's profitability. Return on assets measures profit as a percentage of total assets, whereas return on equity measures profit as a percentage of bank equity capital.

2.1.1.3 Net Profit Margin

In business and accounting, net income is defined as an entity's income minus expenses, depreciation and amortization, interest, and taxes during an accounting period[16]. Total comprehensive income is also known as net earnings, net profit, bottom line, sales profit, or credit sales. Net income, also known as net profit, is the amount of revenue remaining after subtracting all expenses and income in a given period[17]. The final line on the income statement is net income, which is positioned at the bottom[17]. As a consequence, it is sometimes referred to as a company's "bottom line." Because increases in sales do not always translate into increased profitability, net profitability is an important number for ecommerce and retail firms to monitor[18]. Net profit displays your true bottom line, or how much cash you have at the end of the day[18].

Net income may be distributed as a dividend to ordinary investors or held by the corporation as an increase to retained profits[16]. Because profit and earnings are synonyms for income (in the UK and the US), net earnings and net profit are commonly used as synonyms for net income[16]. The term income is commonly used in lieu of net income, although this is not recommended due to the possibility of misinterpretation[16]. Net income is commonly referred to as the bottom line because it appears on the last line of a company's income statement (a related term is top line, which refers to revenue and appears on the first line of the account statement)[16]. The money left over after paying all of an endeavor's expenses is referred to as net profit[16]. In reality, large groupings may become rather complex[16]. The bookkeeper or accountant must accurately classify

and allocate revenue and expenses to the precise operating scope and context in which the term is employed. Every fiscal year, net income is often estimated[16]. Taxation, financing cost (interest expense), and minority interest are often deducted[16]. Even if preferred stock dividends are not a cost, they will be subtracted[16]. Net income may also be calculated by combining operational and non-operating income and then subtracting taxes[16]. A comparable metric is the net profit margin%, which calculates profitability as a percentage by dividing net profit by revenue or turnover[16].

The net profit calculation is simple; the only tough part is gathering all of the relevant data[18]. Because net profit equals total revenue minus expenditures, calculating net profit is as easy as taking your total income for a particular time period and subtracting your total expenses from that same time period[18]. Net income is the total of all expenses, including interest on current debt, taxes, and any one-time items such as the sale of an asset or division[17]. Net income is crucial because it indicates a company's profit for the time in which all of the firm's components are examined[17]. In other words, net income includes revenue, cost of goods sold (COGS), overhead and operational expenses, operating profit, debt costs, taxes, and any other financial line item that adds to or subtracts from the company's income[17]. Investors may regularly hear or read the terms net income and earnings interchangeably[17]. A researcher, suggests that net profits be increased by examining pricing, removing underperforming goods and services, regulating inventory, cutting overhead, and lowering total direct expenditures[18]. The scholars, explain another method for calculating net profit in the literature[16,19].

Net profit is a measure of a company's inherent profitability. "It is the revenue minus the expenses of the activity." The critical challenge is identifying "when it is necessary to distribute" across enterprises Overheads are expenses that cannot be traced back to a certain project, product,

or division. The expense of headquarters personnel is a common example." "While it is theoretically possible to quantify earnings for each sub-(venture), such as a product or location, the need to distribute overhead expenditures sometimes casts doubt on the estimations."

The biggest cruise companies' net profit margins have consistently demonstrated excellent growth trends. Net profit margin management is proposed as a method to prevent or anticipate profit reduction in the previous scenario. Net income management executed consistently and proportionally will result in future beneficial consequences for the business and avoidance of bankruptcy. In contrast, if a company's credit policy is not defined and continuously followed, the chances of future bankruptcy grow. One factor that influences net profit margin is current ratio, which refers to a company's capacity to pay maturing debt. A company with a high degree of liquidity can pay its short-term obligations. The cash used to determine the profit margin is also shown by the company's liquidity. Another factor that may have an impact on net profit margin is leverage. The leverage ratio is a metric used to assess how much debt a company has. Another factor impacting net profit margin is sales growth, which represents the organization's capacity to generate enough profit to return or refund the investment in the future.

2.1.2 Credit and Credit Management

Credit is the quantity of money loaned by the creditor (Bank) to the borrower (Customers), either with or without security. Credit is the amount of money lent by a bank[20]. Credit and advances are significant items on a commercial bank's asset side balance sheet. Banks gain interest on credits and advances, which is one of their primary sources of revenue. Bank prepares credit portfolio; otherwise, it will not only increase bad debts but will also have a negative impact on profitability[21]. Credit is a financial asset that results from a lender delivering cash or other assets

to a borrower in exchange for a commitment to repay on a predetermined date on demand. Banks often provide credit in four ways[22].

Credit terms relate to a combination of three factors: credit duration, cash discount, and kind of credit instrument utilized. First, the credit term is the time span between sales and payment, which varies depending on the industry and the sort of items supplied. When determining a credit period, a corporation must assess the likelihood that the client would not pay on the due date, the size of the account to allow for a shorter credit period for smaller accounts, and vice versa[23]. The degree of durability of the collateral offered as security is also important. Second, a monetary discount is often permitted as part of the loan conditions, and the objective for granting the rebate is to expedite receivables collection. Finally, the invoice is the most common credit sales tool. A seller sends an invoice to the buyer to sign as evidence of receipt of the goods, which also serves as a source document for the receivable accounting record[24]. However, the following are some of the credit options offered in the banking industry.

Advances and Loans: This includes overdrafts, short-term, medium-term, and long-term loans provided to banking clients. These are discussed below.

Overdrafts: These are the most frequent and basic types of credit. They are often issued for working capital reasons, and the outstanding balance is anticipated to vary during the term of the facility, based on the borrower's working capital financing requirements at any significant moment. Overdrafts allow the borrower to utilize just the amounts needed on a daily basis, avoiding needless interest costs. Overdrafts are repayable on demand and may be terminated at the bank's discretion without prior notification to the borrower, according to ordinary banking

practice. The consumer is generally informed of the overdraft limit, which acts as the bank's reference point in all withdrawals made by the beneficiary.

B) Improvements: An advance is a kind of short-term credit that is issued for a certain period of time, generally between 30 and 180 days. They are often given for particular objectives, such as payment of different collections, refinancing of maturing loans, project bridging finance, refinancing of letters of credit for imported project equipment, and so on. The precise maturity date of an advance is often specified from the outset, allowing the project to charge a cheaper interest rate on the advance due to the lower risk (money rate and credit risk).

Short-term loans are also used to finance seasonal increases in working capital, as well as to temporarily accommodate project capital expenditure demands and other long-term obligations while a long-term loan is being negotiated. Short-term loans are often renewed at maturity. Banks often provide large sums of short-term loans to agricultural, industry, small-scale projects, and so on. Unsecured or secured short-term loans are available. Banks provide secured loans to borrowers with a high debt/equity ratio or to projects that have not established a track record of good performance and consistent profitability, or that have not produced enough sales income in comparison to their capital. Large exposures are often acquired as well.

Although unsecure loans are prohibited by Nigerian banking rules, they are issued in rare situations to projects that are well funded, have appropriate capital and net worth, competent management, consistent profits, a track record of timely payment of obligations, and a promising future. Unsecured loans, on the other hand, often crystallize into bad debts in the Nigerian banking landscape.

C) Medium-Term Loans: These are critical sources of intermediate finance for projects and enterprises. Medium-term loans are often given for particular objectives such as investments, equipment finance, housing, stock purchases, agricultural financing, and construction, among others. A medium-term loan is one with an original maturity of more than one year or one issued on a formal arrangement (revolving credit or credits) with an original maturity of more than one year. Medium-term loans have maturities ranging from one to five years. They are usually negotiated between a borrower and a lender and are particularly common in industrial projects with high fixed capital needs. However, the majority of loans are granted to small enterprises and firms who depend on these sources owing to restricted access to the financial market.

Medium-term loans provide the customer flexibility and are amortized in predetermined monthly, quarterly, semi-annual, or even yearly payments, depending on the circumstances. The interest rates on this sort of loan, among other things, are determined by the overall level of interest rates in the market, the amount and length of the loan, and the borrower's credit status. Because of the increased money and credit risks, as well as the fact that it is less liquid, interest rates are often higher than in typical advances or short-term loans.

A loan agreement between the bank and the borrower is frequently required for medium-term loans. This agreement details the loan's terms and conditions, as well as other relevant details such as: 1) Preamble including the loan's parties and the loan's purpose 2) Loan amount 3) Tenor. The loan's maturity date is generally carefully established. 4) Payback schedule; most term loans need a repayment plan in the form of an annuity. 5) Interest rate—this is often set and may vary from fixed to fluctuating rates. 6) Security/assurance. Typically, collateral has requirements. When a revolving credit arrangement that does not need collateral is changed into a term loan, the borrower may be required to secure the loan in accordance with the loan agreement's terms. 7)

Guarantees and representations Borrower covenants: These often contain positive covenants, negative covenants, and other restrictive provisions. A restricted clause/negative clause could prohibit the borrower from doing certain acts, such as raising dividend payments, providing loans to executives and/or directors, or acquiring or leasing fixed assets. 9) Default events/acceleration clause 10) Miscellaneous issues

A borrower is often requested to sign a succession of promissory notes, one for each due date. Repayment is therefore easier to enforce, and the parties have more trust in the arrangement. However, a term loan allows the borrower to trade on its equity. This notion is based on the assumption that the gains on borrowed money outweigh the cost of borrowing. (ii) With a term loan, the borrower may negotiate the terms of the original lending arrangement directly with the lender.

Long-Term Lending: Long-term loans are seldom provided by Nigerian banks. This is related to the nature of their deposit obligations from the location of the loans. Banks have recently begun to engage in long-term lending via syndicated loan agreements. Long-term loans are often made available by investment banks, development banks, and different international lending institutions. Long-term loans are often issued for durations longer than five years and are used to meet fixed capital needs. They, like medium-term loans, are amortized in set installments. The interest rate on this sort of loan is linked to market rates and is often higher than other market rates owing to larger risk exposures.

(2) Special Thanks These are specialized loan facilities provided by banks to certain projects and enterprises. They are often non-fund-based and categorized as credit since they include some risk on the side of the bank/financial institution offering the facility. (1) Public Works Bond: Three

kinds of public works bonds exist. (a) Tender Bonds or Bid Bonds: The purpose of bid bonds is to assure that the party to whom a project or contract has been awarded will successfully complete the contract. When the contractor fails to accept the award, the bid bond is called for the employer. This is due to the fact that failing to accept the contract's conditions may result in an extra expense of awarding the contract to another contractor. (b) Advance Payment Guarantees: In most cases, a bank is needed to give a guarantee on an advance payment made by the employer to a contractor prior to the start of the contract. The guarantee is based on the financial and technical status of the contractor. (c) Performance bonds: These bonds are issued by banks on behalf of their contract customers. The bond guarantees the contractor's capacity to complete the contract, as well as his financial condition and credit rating. (2) Customs and Excise Bonds: A bank would issue this sort of bond to guarantee a third party (typically a government entity) about an importer's capacity to pay customs taxes (for imports) and excise charges (for manufactured goods in Nigeria). If the consumer fails, the bank is obligated to pay the amount promised.

Indemnities for bills of lading: A bill of lading is a negotiable document that grants title to commodities. In circumstances when items imported into the nation arrive before the importer (customer) obtains the bill of lading, banks often offer a bill of lading indemnification to their clients. As a result, the indemnification given will aid the buyer in clearing the items. The bill of lading protects the shipping firm against any loss or any claims on the ownership of the goods covered by the indemnity, and the bank is generally the primary liability on the indemnity.

(3) Credit for Documentary Work A documentary credit or letter of credit is a written commitment made by one bank to an identifiable party to pay the seller of goods or services an agreed-upon sum of money if the seller produces documents proving that the goods have been

shipped or that the services required of him have been performed. There are several kinds of documentary credits. These are the reversible documentary credits, the irrevocable credits, and the verified credits. Other types of credit include revolving credits, red clauses, "bank to bank" credit, and stand-by letters of credit. We will focus on the following categories for our purposes. a) Documentary Credit Revocable b) Documentary Credit Irrevocable, Unconfirmed c) Documentary credit that is irrevocable. i. Revocable Documentary Credit: A revocable documentary credit permits the issuing bank to change or cancel the credit before the beneficiary (the seller) is paid. ii. Irrevocable, Unconfirmed Documentary Credits: this is a promise by the issuing bank (typically the buyer's bank) to pay the seller if the credit requirements are satisfied, and it is normally not altered or cancelled without the seller's approval. Irrevocable and proven documentary credit: This form of documentary credit provides the highest security for payment to the seller, provided he fulfills his side of the contract. In the agreement, another bank (the confirming bank) pledges to compensate the seller if all of the credit terms are met.

Documentary credits might potentially be classified based on payment periods. We might differentiate sight credit, acceptance credit, delayed payment credit, red clause credit, and revolving credit here. I Sight credit- this is a circumstance in which the beneficiary is paid based on the presentation and evaluation of papers. (ii) Acceptance credit- The beneficiary draws a time draft on the originating or confirming bank, or on the buyer or another bank, as described in the documentary credit. The issuing and confirming bank guarantees payment of the instrument at maturity to any eligible holder as soon as it is accepted by any of the parties listed above. (iii) Deferred credit- the originating or confirming bank gives a written guarantee to make payment on the due date under this kind of credit. This is in contrast to the acceptance credit, when a draft is accepted upon presentation of fully verified documentation. There is a clear benefit here since

the draft, as a negotiable document, may be readily discounted. (iv) "Red-clause" credit- this is a subset of advance credit. It permits the advising bank to advance to the beneficiary a portion of the credit amount in order for him to mobilize the product.

Revolving credit- this kind of payment is used when a buyer expects to make purchases that exceed his needs. The revolving credit is formed, setting delivery intervals and thereby assuring payment of each delivery, providing the credit requirements are met.

The establishment of a documentary credit comprises two banks as well as two parties: the importer and exporter. It should be emphasized that banks award these special credits using standard credit assessment processes. Most of the time, the fundamental conditions are the same as in traditional loans and advances. The importing bank, sometimes known as the opening (establishing) bank, is one of the two banks participating in documentary credit transactions. The exporter's bank is also the confirming or notifying bank.

Banks are in position not just to collect deposits but also to give credit, therefore they are susceptible to credit risk. Credit risk is by far the most critical risk that banks confront, and the success of their company is dependent on precise assessment and effective management of this risk more than any other risk[25]. While financial institutions have been plagued by a slew of issues over the years for a variety of reasons, the primary source of these issues remains lax credit standards for borrowers and counterparties, poor portfolio risk management, or a failure to pay attention to changes in economic or other circumstances that can lead to a deterioration in a bank's credit standing. This is typical in rising economies such as Nigeria, Ghana, and Egypt. Nonetheless, despite a series of problems, the banking sector has continued to play an important part in the economic growth of nations (e.g. Nigeria). This is because banks may simultaneously

meet the wants and preferences of surplus and deficit units, contributing to the economy's actual production and total quality of life[26].

It is widely known that bank loans have a favorable impact on the level of economic activity in any nation. It has an impact on what is produced, who produces it, and how much is produced. Bank credit influences and changes a country's money supply. Thus, monetary authorities strive to affect the volume and cost of credit in order to curb the economy's inflationary tendencies. This is based on the idea that excessive credit growth impacts money support, which in turn affects inflation and overall economic performance. Bank credit is also the most significant source of bank earnings. It has an impact on a bank's profitability and long-term growth prospects. It is also the most essential part of a bank's asset, accounting for the majority of the asset base. Bank credit also has an impact on bank liquidity and non-performance. The primary cause of bank hardship and failure is credit. It is worth noting that the present financial system's hardship stems from massive non-performing loans and advances made by banks to different individuals, as well as a high degree of credit abuses and inside deals. Credit also encourages the activity of bank and non-bank financial firms, influencing the amount of financial system development. Finally, bank credit influences aggregate output and productivity, production patterns, entrepreneurship, collective economic performance realization, and economic growth. As a result, it is possible to infer that credit is critical for banks, monetary authorities, and economic development.

However, it refers to the risk that a borrower will not return a loan and that the lender will lose the loan's principle or interest. Furthermore, banks must detect probable loan defaults since high

default rates result in decreased cash flows, lower liquidity levels, and financial turmoil. According to a researcher, credit risk management is a process that includes identifying possible hazards, measuring them, monitoring them, and managing them appropriately[27]. According to the scholars, credit risk has become a major concern for the banking industry, and bad loans are the primary cause of this credit risk issue that is weighing on the banks[28]. They went on to say that inability to manage credit risk is a major source of financial crisis in general, and banking insolvency in particular.

Furthermore, a researcher, claimed that credit risk management is a critical role for financial organizations in assessing their credit risk exposure[29]. Furthermore, according to researchers, efficient credit risk management is critical since banks have a limited capacity to absorb loan losses, and these losses can only be replaced by revenue produced by other lucrative loans or by bank capital[30]. Credit risk management is critical to the success of banks. The bank must then analyze the borrower's creditworthiness before granting the loan; after loan disbursement, monitoring is necessary until the loan is completely returned (principal and interest associated with the loan). According to a scholar, loan monitoring is critical because there is uncertainty in the borrower's future cash flows to pay the debt[31]. Any potential event that can cause a borrower to default payment can be quickly identified and a mechanism put in place on time to reduce the frequency or intensity of a loss if that event occurs.

Furthermore, credit risk management strategies are critical in avoiding, forecasting, and reducing default occurrences or the emergence of bad debt and non-performing loans via the use of appropriate quantitative models and human expert judgment. Credit risk management begins with credit assessment, credit risk analysis, credit risk monitoring and control, and lending rules. However, in order for a financial institution to flourish, it must strengthen its credit risk

management procedures, credit capabilities, and ability to detect, measure, monitor, and manage credit risk with seriousness. The success or failure of any bank, and the banking sector in general, is heavily dependent on how credit is managed.

Following the implications or impacts of credit risk in terms of its effects on bank financial performance, the bank should have a solid perspective of the borrower before granting a loan, often known as the Know Your Customer (KYC) approach. An effective risk management strategy aims to decrease profits volatility while avoiding big losses and keeping credit risk exposure within acceptable limits. Numerous writers have highlighted poor credit risk management as one of the elements that might contribute to a bank's insolvency.

Credit risk emerges when a counterparty fails to complete a credit arrangement on time and according to the parameters agreed upon. Because of the nature and complexity of banking lending operations, which result in enormous loan portfolios, loans are the greatest and most visible source of credit risk for banking organizations[32]. Banking institutions must manage both the overall portfolio credit risk and the risk inherent in individual loans and transactions. Furthermore, good credit risk management, according to a researcher, is a critical problem for banks to become successful since the default of a small number of major customers impacts the financial performance of banks and may lead to bankruptcies[33]. According to this, the success of the banking industry is dependent on correct credit risk management.

Furthermore, the Basel Committee observed an increase in credit risk in financial instruments other than loans, such as acceptances, interbank transactions, trade financing, foreign exchange transactions, financial futures, swaps, bonds, equities, options, as well as the extension of commitments and guarantees and transaction settlement, in its report. Meanwhile, according to

the same analysis, loan credit risk is clearly the greatest and most significant risk that many banks face. However, every bank must identify, assess, monitor, and manage credit risk, as well as explore for ways to reduce credit risk. It implies that banks put aside enough capital to cover projected loan losses. The Basel Committee established a set of capital criteria or capital standards to safeguard banks from various sorts of financial and operational risks. According to a researcher, credit risk management optimizes a bank's risk-adjusted rate of return by keeping credit risk exposure below permissible levels[34]. The main source of credit risk is limited institutional capacity, inappropriate credit policies and laws, volatile interest rates, poor portfolio management, low capital and liquidity levels, direct lending, massive bank licensing, poor loan underwriting, lax credit standards for borrowers, poor lending practices, government interference, and inadequate supervision by the government[35].

Depositors and stockholders are both putting pressure on commercial banks. Customers deposit monies with banks that satisfy their credit requests; shareholders want the banks' development and profit, which cannot be done without issuing loans. To harmonize the two, a higher level of managerial competence is required. However, credit management is at the heart of the banking industry's survival tools. Thus, the capacity to handle consumer credit lines sensibly and resourcefully is a critical prerequisite for effective credit management. Companies must have a better understanding of their customers' financial condition, credit score history, and changing payment patterns in order to limit their exposure to bad debt, over-reserving, and bankruptcies. Credit management begins with the transaction and continues until the full and final payment is received. It is as important a component of the transaction as the sale itself. In reality, a sale isn't really a sale until the money is collected. As a result, the principles of goods lending must be concerned with ensuring, to the greatest extent possible, that the borrower will be able to make

scheduled payments with interest in full and on time; otherwise, the profit from interest earned is reduced or even wiped out when the customer eventually defaults. Credit management is primarily concerned with debtor management and debt finance. Credit management's goals may be summarized as protecting the company's debtor investments and improving operational cash flows. Policies and processes must be effective in giving credit to clients, collecting payments, and reducing the risk of nonpayment[36].

Commercial banks are major stakeholders in every country's financial industry. The collapse or success of these institutions will have a significant impact on the financial industry and the economy. As a result, businesses must guarantee that receivables administration is efficient. Delays in collecting funds from debtors cause major financial issues, create bad debts, and have a negative impact on customer relations. If payment is made late, profitability suffers, and if payment is not made at all, the company suffers a total loss. On that premise, it is just smart business to prioritize credit management by managing it strategically.

To monitor the status of individual loans, each bank must establish and execute extensive procedures and information systems. According to a researcher, an efficient loan monitoring system would contain methods to: 1) monitor compliance with stated covenants, 2) Examine collateral covenants in relation to the creditor's existing status, if appropriate. 3) In a timely manner, identify contractual payment delinquencies and categorize possible credits, and 4) Take immediate action to solve issues for corrective management[37]. Loan monitoring, which is often the responsibility of the relationship manager, is not an option, but rather a must for successful and efficient credit administration in the banking industry. Problem loans are quickly identified. The banker's expertise, understanding of the client's business, and, most importantly, confidence

in the customer may serve as a guide in determining how far the consumer can be supported before declaring the loan bad.

In certain cases, the consumer may need further assistance. The following tactics, or a combination of them, may then be used. Modification or waiver of certain loan covenant terms and conditions in a manner that does not jeopardize the bank's interest. This must, however, be informed to the credit department. (a) If available, provide further collateral security. (c) Additional funds may be granted if the borrower's circumstances and analysis warrant it. (d) Loan payback period extension backed by a new cash flow statement.

This is concerned with the execution of credit decisions as allowed by the bank's top credit management, and it entails the day-to-day monitoring of credit, including paperwork, credit files, interest payments, and loan repayments, in accordance with the conditions of the approvals. Credit administration begins with the receipt of a customer's application and continues with the processing and approval of the application, advice of facilities granted to the customer (including terms and conditions of approval), opening of credit files, perfection of securities, credit follow-up (including correspondence on irregularities observed on the account), and finally, repayment of the facility granted.

Outside of liquidity issues, credit management is the most significant component of banking operations since it determines and assures a bank's existence and safety. Thus, credit policies are the most significant part of a bank's numerous operating policies. The basis for the whole credit management process is provided by credit policy.

Every bank has a credit policy to guide its lending choices while keeping its wider company goals in mind. A bank's business goals, in theory, impact its total banking operation, including

concerns such as: -liquidity management -profitability posture and earning capacity Service delivery and level efficiency in bank portfolio management -Deposit structure and mix -Credit management -Capital sufficiency The purpose of credit management policy is to maintain operational consistency and adherence to consistent and good procedures. A sound policy adds to a bank's performance by promoting timely and accurate credit decisions. The scope of lending (credit) rules, according to a scholar, should include: who receives the credit; who provides it (and how); the price of the credit; the quantity of credit; and the organizational framework for its distribution[38]. Other concerns addressed in this overview of credit regulation include the kind of credit given and the conditions under which it is granted. Bench's concept above attempts to define the scope of credit policy. However, the concept might be expanded further by mentioning how credit policy impacts and affects credit administration and management. Banks often codify their credit regulations in the form of credit manuals. The manuals outline the course of action, methods, and guidelines for responsible lending. A properly articulated manual would typically consolidate and update all lending policies, instructions, procedures, and any relevant correspondence on credit matters and administration that would be evolved by top management from time to time, based on new exigencies, new developments in the industry, changes in environmental factors, and other changes evolved by monetary authorities as needed.

Credit standards are the criteria that a firm employs to decide whether or not it may sell things on credit to customers. If the business's credit criteria are excessively stringent, the volume of credit sales will be too low, yet the firm will have few recoverable debts. The corporation will almost certainly wish to examine the customer's creditworthiness before giving credit. This investigation may include calling numerous credit reporting agencies, evaluating the customer's bank and other credit providers, and investigating the customer's financial records and actions. Financial

ratios are essential for financial statement analysis[18], especially those that show the firm's liquidity status.

To ensure that credit is supplied to creditworthy consumers, the financial or credit manager should be able to get adequate information about the customers to distinguish between those who will not pay and those who will[19]. This information may be obtained from the following sources: a. A customer's financial statement might be requested, which will be reviewed to determine his credit worthiness. b. A credit report on the customer's payment history with other companies may be a reliable source of credit information.

c. Banks do supply some information or support to their business clients on particular businesses' creditworthiness. d. The selling company may also rely on the customers' prior payment history to assess its credit worthiness in the present.

The credit or financial manager may decide to give or deny credit after acquiring all necessary information about these consumers. The following are the "five C's of credit" used to quantify the profitability of default in order to advertise default risk: The willingness of the consumer to pay his debts when they become due must be considered since it impacts the default rate. This is the customer's capacity to pay his financial commitments when they become due. This is calculated by looking at the company's operational cash flows. A customer's financial reserve might indicate whether or not he will be able to fulfill his credit obligations when they become due. In most cases, a company will pledge an asset in the event of a default. Such an asset must be appraised in order to determine its value in the event of a default. A credit or financial manager should be able to analyze how current economic actions are likely to influence a customer's capacity to pay[20].

A collection is required since not all customers pay their bills at the same time; some pay immediately, while others are delayed payers. Collection efforts should be directed on speeding collection from slow payers in order to reduce bad debt losses. Prompt collection is required for quick turnover of working capital, as well as for keeping collection costs and bad debts under control and collection efficiency[21]. A collection policy should provide a specific collection process. To prevent losing customers to rivals by settling outstanding bills, the processes should be conducted with tact. Firms should begin collecting accounts from consumers as soon as possible, and it should be understood that it is the firm's responsibility to remind debtors to pay their past-due accounts[22].

The lack of a clearly stated, officially written policy document, along with the inability of credit officers, managers, and directors to supervise the execution and administration of bank credits, are important factors contributing to failed bank lending or non-performing exposures and credits. It should be underlined that putting solid policies into action necessitates the formation of an effective organization and the implementation of proper processes. However, experience has shown that most banks lack a well defined and established policy framework, thus credit decision-making is ad hoc and hence time-consuming, resulting in loan losses and capital adequacy degradation.

2.1.2.1 Non-Performing Loans (NPLs) in Banks

A non-performing loan (NPL) is a loan for which the borrower has not made interest payments or returned any principle for at least 90 days. A loan is categorized as non-performing by the bank when interest and principal are more than 90 days past due[39]. It is a loan that has not been paid according to the conditions agreed upon between the bank and the consumer. Regulation

n°02/2011 on credit classification, a researcher issued in, categorizes credit facilities under five categories: normal risk, watch (special mention), substandard, dubious, and loss[40]. Non-performing loans, on the other hand, encompass the last three categories, which are substandard, questionable, and loss. Non-performing assets or loans are ones that banks are unable to collect on time. Non-performing loans include principle owed for more than three payments and interest owed for more than three months. The fraction of a bank's non-performing assets is the most crucial and sensitive sector that impacts its profitability. Non-performing assets are poor, suspect, or bad loans in which a bank has invested.

According to a scholar, the chance of client default is assessed using an internal rating system suited to the different kinds of counter party[41]. Customers are divided into five rating classes based on the bank's rating system, which indicates the range of defaulting probabilities: Grade 1: Normal risk (from 0 to 30 days), Grade 2: Watch risk (from 31 to 90 days), Grade 3: Substandard risk (from 91 to 180 days), and Grade 4: Doubtful risk (between 181-360 days) as well as Grade 5: Loss (over 360 days). Only debts categorised in the bank's internal credit risk assessment in the last three categories are deemed non-performing loans. These loans are further classified based on the degree of difficulty in recovering such assets. This was corroborated by a scholar, who said that the rise in NPLs indicates that banks are struggling to collect the interest and principal on their loans[42].

He also said that the Central Bank advised financial institutions to make appropriate provisions for problematic loans as required by rules. In this context, particular provisions are made on certain classes to cover problematic loans, which are wiped off the bank's records. Non-performing loans are also seen as a risk of loss, necessitating a provision for predicted loan losses. As a result, large NPLs raise provision while decreasing profit, hence banks must do more

to lower their high non-performing loans (NPLs). Another researcher also said that non-performing loans are calculated as a proportion of loans that have not been serviced for three months or more[32].

The non-performing loan ratio (NPLR) is defined as the proportion of non-performing loans (loss, questionable, and substandard) over total loans[43]. The non-performing loans ratio (NPLR) demonstrates how banks manage credit risk since it quantifies the percentage of loan losses in relation to total loan amount[44]. NPLR is a financial indicator that displays the quality of bank loans; a high nonperforming loan ratio suggests growing poor loan quality and inadequate credit risk management in the loan portfolio.

A researcher investigated the influence of credit risk on the profitability performance of commercial banks in Ethiopia and discovered that the nonperforming loan ratio has a substantial impact on those banks' profitability[45]. Scholars looked at the connection between bank performance and credit risk management[46]. Their results found that return on equity and return on asset, both of which measure profitability, were inversely associated to financial institutions' non-performing loan ratios, resulting in a fall in profitability. on the other hand, another researchers investigated the influence of credit risk management on commercial bank profitability in Europe and found that there is a positive association between credit risk management and commercial bank profitability[47].

To address the rising number of non-performing loans in a sustainable manner, the Basel II agreement stressed credit risk management techniques.

2.1.2.2 Secure and Unsecured Loan

Banks rely significantly on wholesale funding, which includes unsecured loans as well as secured loans like repurchase agreements (repos). Unsecured debt is defined as a loan that is not secured by any asset. Unsecured credit is defined in this project as credit that is not collateralized by any assets to which the creditor may turn if the debtor fails to fulfill the credit obligations. The following items are classified by the CBK as unsecured lending: credit cards, overdrafts, commercial papers, personal loans, and finance for small and medium-sized businesses[48]. According to a researcher, Unsecured loans are sums of money that are not backed by the collateral (assets) of the borrower[49].

One of the services that commercial banks offer to their clients is lending, whether it be on a short-, medium-, or long-term basis. In other words, banks do provide loans and advances to people, businesses, and the government to enable them to start investing and developing as a way to support their business growth specifically or to contribute to the economic development of a nation generally.

You can get secured or unsecured short-term loans. Banks offer secured loans to borrowers with large debt-to-equity ratios, projects without a track record of reliable performance and profits, or without enough sales income relative to capital. Large exposures are frequently acquired as well. Despite being prohibited by Nigerian banking rules, unsecured loans are occasionally given to projects that are well-funded, have sufficient capital and net worth, competent management, predictable profits, a history of on-time payment of debts, and a promising future[49]. In Nigerian banking, however, unsecured loans frequently turn into bad debts.

2.1.2.3 Loan and Advance

The sum borrowed by one person from another is referred to as a "loan." The money given to the borrower is what is meant by the amount, which is in the form of a loan. Therefore, from the perspective of the borrower, it is "borrowing," and from the perspective of the bank, it is "lending." When money is disbursed and then recovered, a loan may be viewed as "credit" that has been provided. The borrower owes the money. Credit is granted when loans are made, and it is supplied for a certain reason and for a specific amount of time[49]. The loan has an interest rate and payment schedule that have been agreed upon. On the other hand, "Advance" is a "credit facility" provided by the bank. Banks often give out loans for short-term needs like paying for traded items and other short-term trading obligations.

The loan-to-deposit ratio (LDR), which compares a bank's total loans to its total deposits for the same time period, is used to determine how liquid a bank is. A percentage is used to represent the LDR. Divide a bank's total loans by its total deposits for the same time period to determine the loan-to-deposit ratio. The numbers may be found on a bank's balance sheet. Deposits are reported as liabilities, whilst loans are listed as assets. The bank may not have adequate liquidity to meet any unanticipated funding needs if the ratio is too high. If the ratio is too low, on the other hand, the bank might not be making as much money as it could.

2.1.2.4 Loan Loss Provision

Loan loss provision is the sum set aside from profits as a reserve to pay for nonperforming loans. In actuality, the loan loss provision serves as a buffer against unforeseen events brought on by borrower failure[50]. The value displayed by Loan Loss Provision represents the total of all provisions made against all types of loans. The profit is unquestionably reduced by this Loan Loss Provision, which accounts for a bigger portion of the overall provision shown in the Profit

and Loss Account[51]. More total loans or more bad loans are implied by a higher loan loss provision, respectively. Since all good loans must be covered by a 1% provision, as required by NRB regulations, this component accounts for a sizable portion of the overall Loan Loss Provision.

From an accounting standpoint, research on Loan Loss Provisioning (LLP) used to be confined to examining whether banks used provisions to balance their earnings. The researcher adds that more recent research has concentrated on how provisions affect the procyclicality of financial systems by being lower during expansions in output and credit and higher during contractions. Regression analysis is used by researchers to explain yearly provisioning costs, which are typically scaled by the bank's overall loan or asset portfolio[52].

Some scholars, investigated the use of loan loss provisions (LLPs) for capital management, earnings management, and signaling by Australian banks[50]. They looked at whether there had been changes in the use of LLPs as a result of the implementation of banking regulations in accordance with the Basel Accord of 1988, which removed loan loss reserves from Tier I capital in the capital adequacy ratio's numerator. They discovered some evidence that Australian banks use LLPs for capital management, but no proof that this behavior changed as a result of the Basel Accord's implementation. Their findings suggested that Australian banks employ LLPs to control profitability. Additionally, they pointed out that compared to unlisted commercial banks, listed commercial banks used LLPs to control earnings more aggressively.

2.2 Theoretical Framework

2.2.1 Information Asymmetry Theory

Information asymmetry is a situation in which business managers or owners are better aware of their company's future prospects and potential hazards than their lenders. It defines a circumstance in which none of the parties to an agreement are aware of crucial facts. When a borrower accepts a loan, there is an information asymmetry in the debt market since they often have better knowledge of the possible risks and returns associated with the investment projects for which the funds are intended. On the other hand, the lender lacks sufficient knowledge about the borrower[51].

This problem (credit rationing) is caused by knowledge asymmetry between the bank and the enterprise. They believe that in the context of knowledge asymmetry, enterprises ready to pay a high interest rate are the most risky[51]. Some borrowers are priced out of the loan market regardless of interest rate level because of the risk they provide or because the bank was unable to appropriately analyze the risk. Furthermore, the knowledge asymmetry causes moral hazard and anti-selection, which prevent the interest rate from balancing the lending market[52]. When in formational exchanges are adequate, four effects can occur, lower adverse selection, lower borrower hold-up and bank information rents, disciplinary effect on borrowers, and elimination of incentives to over-indebtedness caused by dealing with multiple banks. Banks readily offer loans when SMEs actually supply the required information that banks need.

Contracts are used by banks to solve information challenges for loan applicants. An active bank deploys instruments to ensure that enterprises follow the conditions of the original loan arrangement. "Banks create contingent, incentive contracts (marked by stringent contractual conditions and collateral requirements) and show a strong interest in the establishment of banking relationships," according to this viewpoint[51]. Despite having a distinct information edge over other financial intermediaries, banks are only partially aware on the borrowers. Banks

encourage contracts for more detailed information in order to prevent information misconceptions and allow borrowers to declare their ex ante quality. Following rigorous examination, banks offer restricted contractual terms to lend loans when designing contracts. Banks are interested in getting as much private information about the quality of loan applicants as feasible[52].

The bank establishes criteria within the cost of getting credit, relating to both tariff and non-tariff terms (interest) (maturity). It seeks to lessen information asymmetry and credit risk by employing a variety of phrases. The bank inserts restrictive terms and lowers loan maturity by compelling borrowers to consider different risks and by restricting their freedom of action[51]. In this method, the bank forces the borrower to raise the risk of his investment portfolio after granting him credit.

The bank encourages short-term restraints in accordance with the ideology of restrictive contractual provisions, such as shortening loan maturity. By using these contracts, the bank reduces the problem of asset substitution and gains two additional benefits. On the one hand, it allows the borrower to lower the risk of his initial project while still having enough cash to make a new loan. One of the most significant benefits of restrictive contractual terms is that "if the borrower fails to satisfy his promises, the clauses enable the bank to compel the renegotiation or liquidation of the loan ahead of time[52]."

Banks may push its executives to overcome the inherent difficulties of information asymmetry. Banks may also give loan applicants with the finances they need. Banks' capacity to encourage management and offer funding to borrowers enhances the generation of knowledge. The bank loan has a signaling quality to it, and it is the product of the bank's signaling power. This is especially apparent when businesses are unable to communicate signals to the financial market.

Under these conditions, the bank generates and distributes free information to the financial market about the firm's quality and prospective earnings[53]. The bank's material is aimed towards external partners, whether they are investors or not. Negotiation may result in contracts that benefit both parties' pleasure and efficiency. It is difficult for a bank to execute contracts that contain all potential provisions, and the bank might select for collateral for credit agreements instead of interest, maturity, and restriction terms.

The use of collateral guarantees in bank contracts is justified in two ways. On the one hand, the internal or external guarantee offered to the credit application enables the reduction of ex-ante information asymmetry, while on the other hand, it allows for the reduction of difficulties associated with ex-post information asymmetry with credit giving[51,53]. The bank utilizes the warranty to evaluate the credit application without taking into account any other information. As a result, in the setting of information asymmetry, the guarantee is an excellent quality signal for the borrower.

It is also possible to argue that the guarantee permits the bank to reduce the credit split. There is positive and substantial association between the usage of guarantees and ex ante credit risk as evaluated by the risk premium in a sample of banks[53]. However, the two writers acknowledge the possibility of inaccuracies in risk assessment. For example, utilize the interest rate on non-performing loans, implying that they consider ex post credit risk. The promise carries a substantially higher risk. Similarly, corroborate the risk hypothesis based on a sample of 564 bank loans given by franchise banks and discover that banks charge higher interest rates and seek greater guarantees for riskier enterprises[51,52]. According to the techniques given, banks have the contractual tools required to control information asymmetry and credit risk. Banks also tend to limit borrowers' freedom of action when making short-term loans and by including restrictive

conditions in credit agreements. Banks need guarantees to protect themselves against considerable risk-taking on the part of borrowers.

Finally, the contract is only a beginning point that does not provide for a thorough comprehension of the financing relationship. Banks may distribute loans, request guarantees, and adjust interest rates based on the contracts. At the same time, it is important to remember that banks have a relational advantage over other financial intermediaries. A deeper understanding of the borrower is the root of banks' excellence. This benefit is based on the gathering of objective and subjective data required for long-term interactions between the bank and the borrowed enterprise[51]. A bank-business connection or a banking relationship has resulted from many long-term contracts. The bank obtains a significant information advantage in long-term partnerships with businesses[51]. Because it can detect and regulate its customers' behavior while managing deposit accounts, the bank has an information edge over its rivals. This advantage sets the circumstances for credit distribution to clients to be reduced.

2.2.2 Transaction Cost Theory

This idea, which was first put out by Schwartz, postulates that suppliers may have an edge over traditional lenders in determining a client's actual financial situation or credit worthiness. Additionally, suppliers are better able to oversee and require credit payback. When compared to banking institutions, all these advantages might provide suppliers a cost advantage[54].

Following is a classification of the three cost advantage sources: information gathering, buyer control, and retaining value in existing assets. The truth that sellers may receive information on purchasers more quickly and inexpensively because it is acquired during the normal course of business can be used to explain the first source of cost advantage. To put it another way, sellers frequently visit customers more frequently than financial institutions do, giving them a better

idea of the client's situation than financial institutions do from the frequency and size of the buyer's orders. Additionally, the buyer's rejection of discounts for early payment may let the supplier know that the client's creditworthiness is deteriorating[54].

Transaction costs theory supports the bank customer's advantage in utilizing trade credit as a type of financing, as well as the seller's cost-cutting approach. It asserts that utilizing trade credit may save you money on bill-paying transactions[54]. Rather of paying invoices as soon as they are sent, a credit sales consumer accumulates obligations and pays them only at certain periods – weekly, monthly, or quarterly. In this manner, the vendor would also be able to isolate the payment cycle from the delivery timeline. Other variations of the transaction cost theory apply to items whose consumption patterns are very seasonal. To keep production cycles running smoothly, the firm may need to stockpile huge inventories, which may result in stock storage expenses and a drop in working capital. These expenses might be reduced by (a) decreasing the price of the products to promote early sales and demand; and (b) lowering the price of the goods to encourage early sales and demand. Despite the fact that this may diminish revenues, (b) selectively providing trade credit to customers and, over time, improving sales and inventory management[54,55]. The trade credit theories of financing advantage and transaction costs are critical to this research because they explain why, in a perfect market, both suppliers and purchasers under trade credit offer and accept trade credit.

2.3 Review of Empirical Studies

2.3.1 Credit Management and Financial Performance

This research looked at the effects of Working Capital Management (WCM) and Credit Management Policy (CMP) on Jordanian banks' financial performance (FP). Data for the research were gathered from 16 Jordanian banks that were listed on the Amman Stock Exchange

(ASE) between 2017 and 2020. The research examined the link between the two independent variables, WCM and CMP, and the dependent variable FP using panel data; 64 financial reports from Jordanian banks were studied to quantify this association. Multiple regression was employed to test hypotheses. The research discovered a statistically significant link between WCM and FP, with the independent variable explaining 34.1% of the changes in the dependent variable. Furthermore, the results confirmed that there is a statistically significant link between CMP and FP. Furthermore, CMP accounted for about 41.8% of changes in the dependent variable. When assessing on WCM, the outcomes of this research imply support for the banks' performance; a bank may need to stretch customer loan terms, prolong the cash transfer cycle, and need a longer payment period[55].

There was a study to the association between credit management systems and SACCO financial performance in Mid-Western Uganda. Methodology: A closed-ended questionnaire was utilized to gather data from 93 SACCOs in Mid-Western Uganda utilizing a cross-sectional study methodology and positivist paradigm. A standard linear regression analysis was performed. Findings: The research found a modest, positive, and significant association between credit management systems and SACCO financial performance in Mid-Western Uganda. Contribution to practice and policy that is unique: This research proposes to management that efficient credit management systems must be implemented if SACCOs are to enhance their financial performance by ensuring favorable terms and conditions and an acceptable customer evaluation procedure are in place. Furthermore, the government should assist SACCOs by offering staff training on loan terms and conditions formulation and strengthening their customer appraisal URI abilities[56].

This research aimed to determine how credit management affected the financial performance of transport companies in Mombasa County. The goal of the research was to ascertain how credit management affected the financial performance of transport companies in Mombasa County. The study's sample size was 140, and it was focused on 220 employees of Mombasa County's transportation companies. Both primary and secondary data collecting were conducted. For the study's variables, both descriptive and inferential statistics were examined. According to the study's findings, the financial performance of transport companies in Mombasa County is significantly impacted by credit risk management, credit policy, account receivables, and loan duration. The study recommended that transport companies implement a strong credit risk management system to protect the company's interests first; periodically review their credit policies to ensure they adhere to accepted international standards; effectively manage their accounts receivables; implement audit reports and recommendations; and vary credit terms from client to client to boost sales volumes[57].

The largest danger of a bank, like any other financial organization, is lending money and not receiving it back. A research looked at the relationship between credit management and bank performance in Nigeria. The cross-sectional survey design was used in the research. The study's population included all managerial personnel from commercial banks operating in Nigeria. A systematic approach was used to examine the sample sizes of eleven (11) selected commercial banks. A Purposive sampling approach was used, thus six respondents (a bank manager and five senior personnel) from each bank were given questionnaires, totaling 66 for the research. The research used multiple regression analysis to examine the influence/impacts of credit management factors (Credit Appraisal, Credit Risk Control, and Collection Policy) on bank performance. According to the findings of the research, credit management has a substantial

influence on bank performance in Nigeria. A research also indicated that, of the credit management factors evaluated, credit risk control had the greatest influence on the financial performance of banks in Nigeria. It was suggested that financial institutions not only take credit management seriously, but also acknowledge the importance of the credit risk department if they want to increase profitability[58].

The research therefore sought to investigate the impact of credit management techniques on loan performance at Kenyan commercial banks. The research specifically attempted to determine the impact of debt collection policy, customer evaluation, and lending policy on the loan performance of Kenyan commercial banks. The 5Cs credit model served as the study's underlying hypothesis. The study used an explanatory research design, using positivism as the research philosophy. A census technique was employed to reach the target demographic of 44 Kenyan commercial banks. We utilized both primary and secondary data. Primary data was gathered using structured questionnaires on credit management methods, while secondary data was acquired through a study of existing bank loan records on loan amount advanced and non-performing loans during a four-year period from 2015 to 2018. The acquired data was analyzed using descriptive and inferential statistics in SPSS version 22. The research discovered that debt collection and lending policies had a favorable and substantial influence on the loan performance of Kenyan commercial banks. Client evaluation, on the other hand, had no meaningful influence on loan performance at Kenyan commercial banks. As a result, the research showed that commercial banks' loan performance could be linked primarily to the effectiveness of credit management methods implemented within the institutions. The report advised that commercial banks assess and update debt collection policy, customer evaluation, and lending policy on a regular basis to ensure that credit risks are detected and documented from the departmental level

to the organization as a whole. This is critical in light of banking sector technology advancements such as mobile lending, which may restrict commercial banks' capacity to analyze and manage credit using conventional approaches[58].

A study attempted to assess the impact of credit management techniques on commercial bank loan performance in the nation. It especially investigated the effects of credit restriction and customer assessment on the loan performance of Kenyan commercial banks. The descriptive survey research design was used on the selected 38 commercial banks in the nation. The questionnaire instrument aided in the collection of primary data on credit management methods, while secondary data on loan performance was acquired using a document review form based on loan records for the years 2018-2020[59].

SPSS (v-21) assisted in both descriptive and inferential data analysis. The regression study revealed that the model's predictions had a positive association (R = 0.759) with loan performance. The correlation coefficient (r2) was 0.5761. Credit rationing and customer assessment were all significant predictors, with an increase in credit rationing leading to a 0.356 rise in loan performance. Furthermore, a unit increase in the customer assessment might result in a 0.408 rise in loan performance. Furthermore, at a 95% confidence level, the findings showed that credit rationing (p-value = 0.001) and customer evaluation (p = 0.001) were substantially discovered in the regression model. The research indicated that debt collection has a substantial influence on loan performance, and that it is preferable to collect debt since a shorter debt collection time leads to superior performance of commercial bank loans. The evaluation also indicated that customer appraisal has a major influence on credit performance in the banking industry, meaning that developing client appraisal will increase loan performance in the banking sector. As a result, the investigation indicated that commercial banks' loan performance was

significantly tied to the effectiveness of the financial institutions' credit management techniques. Based on the results of the evaluation, the research advised that credit management methods be implemented and followed uniformly by all commercial banks in Kenya in order to minimize the quantity of non-performing loans in the banking industry[60].

There are several studies that have examined Nigerian firms' financial performance and credit management. They examined the connection between listed Ghanaian industrial companies' profitability and working capital management techniques. Data from the annual reports of each of Ghana's 13 publicly traded manufacturing companies for the years 2015 through 2019 were utilized in the study. The study discovered a substantial inverse association between Profitability and Accounts Receivable Days using panel data methods and regression analysis. However, profitability is greatly favorably impacted by the businesses' Cash Conversion Cycle, Current Asset Ratio, Size, and Current Asset Turnover. According to the report, managers can benefit their shareholders by offering incentives for them to shorten their accounts receivable to 30 days. In order to enhance demand for locally made items in Ghana over the short and long terms, it is also advised that local legislation protecting indigenous enterprises and limiting the actions of imports be passed.

A study aims to determine if enterprise risk management has a causal effect on the financial performance of listed manufacturing enterprises. The remaining portion of the research is divided into four pieces to accomplish this. The second section follows the study's background and includes a review of related literature as well as empirical and theoretical data. The study methodologies are explained in part three, data analysis and interpretation are covered in section four, and the conclusion, suggestions, and future research directions are covered in section five.

The impact of lending policy on Kenya's deposit-taking microfinance institutions' financial performance The analysis discovered that there was a very weak correlation between credit policy factors and financial performance. Empirical data from the study showed a negative correlation between credit terms and conditions and collection efforts, which improved the financial performance of deposit-taking microfinance organizations and also decreased collection efforts, which in turn resulted in a decrease in the organization's default rate and improved the financial performance of deposit-taking microfinance institutions[35] The study also discovered that the other factors, such as credit requirements, had a favorable impact on the organization's ability to accept deposits for microloans. The study's conclusion was that adopting a sound credit strategy improved an organization's financial performance.

According to some studies, there is a negative correlation between credit management and profitability and that profitability is increased by bringing working capital accounts, such as inventories and accounts receivables, down to reasonable levels[49]. This is because less profitable companies require more time to pay their creditors. Due to the low quantities of stocks and account receivables, this approach reduces expenses. Due to the low amounts of accounts receivable, the risks incurred are modest. Due to the established inverse relationship, SMEs may add value by keeping working capital accounts at a manageable level[22].

There was a study on the impact of credit management on Kenya's microfinance institutions' financial performance, the study discovered that developing collection procedures was difficult in credit management since recovery loans were costly. Furthermore, the study indicated that strict credit rules were superior than liberal ones in terms of debt recovery, and that credit policies should be regularly reviewed in order to advance the status of credit management. According to the study's findings, credit risk management, lending policy, and the financial

performance of microfinance organizations are all closely related. The analysis acknowledged the existence of a best-practice credit strategy that increases revenue while minimizing credit-extension costs[42].

Nigerian listed banks' credit management and financial results. The purpose of the study was to investigate how credit management affects bank performance in Nigeria. The audited corporate annual financial statements of the listed banks covering the years 2017–2021 were analyzed in order to determine if the study's goals were met. The purposive sampling approach was used to select and analyze a total of 10 listed banks for the study. However, the study utilized the use of both descriptive statistics and econometric analysis to evaluate the research postulations. It used the linear regression approach, which uses periodic and cross-sectional data to estimate the regression equation. The study's findings showed that while the percentage of non-performing loans and bad debt does have a substantial adverse impact on the performance of Nigerian banks, the link between the ratio of secured and unsecured loans and the performance of banks was not significant. Therefore, the research advises bank management to implement or set up a solid framework for lending, suitable credit administration procedures, and a useful and effective equipment to monitor lending function in accordance with a set rule[28].

Management of credit risk and bank performance in Nigeria. This study looked into how credit risk affected Nigerian banks' performance. Using the random model framework, a panel estimation of six banks for the years 2017 to 2020 was conducted. The study's findings demonstrated a negative and substantial relationship between credit risk and bank performance as assessed by return on assets (ROA). According to this finding, higher credit risk exposure lowers bank profitability. Additionally, it was discovered that the total loan had a favorable and notable influence on bank performance. In order to combat the cyclical nature of non-performing

loans and boost their profitability, banks should mobilize deposits aggressively to expand credit availability and create a reliable credit risk management system with a sufficient penalty for loan payment defaults[26].

Effect of credit management mitigation on Kenyan commercial banks' performance: Chuka Town as an example. The study sought to determine how reducing credit risk affected the operation of commercial banks in Chuka Town, Tharaka Nithi County. The study was of a descriptive kind. Both primary and secondary sources of data were used in the investigation. The secondary data was gathered through the bank-accessible documents, and questionnaires were used to acquire the primary data from different banks. Descriptive statistics using percentages were used to analyze the data. The study discovered that the banks had policies and methods for reducing credit risk, which directly affected their performance, with the credit department being recognized as the most crucial area in the banking sector. This is due to the fact that for commercial banks174, credit represents their largest investment.

Commercial banks are aware of all of this, but despite this, it is still important to emphasise the need of strictly adhering to all credit risk regulations. This is because commercial banks continue to face risks that can result in significant losses. In terms of risk identification, monitoring, and credit sanctions, it was also discovered that there was a considerable correlation between bank performance and credit risk management[38].

Better bank performance is a result of credit risk management. This opinion is consistent with viewpoints; banks must exercise careful credit management, preserve their own assets, and look out for the interests of their investors.

Studies on the effects of credit management methods on organizational profitability and performance in the local and international banking sector have been conducted. studied how

credit risk management affected Ethiopia's commercial banks' profitability. The study's goal was to experimentally investigate how credit risk affects the bottom line of commercial banks in Ethiopia. Data was gathered from annual reports of the different banks and the National Bank of Ethiopia over a 12-year period (2013–2014) for 8 sample commercial banks. A descriptive statics and panel data regression model was used to examine the data, and the results indicated that capital adequacy, non-performing loans, loan loss provisions, and credit risk indicators all significantly affect the profitability of commercial banks in Ethiopia[34].

A case study of a few chosen microfinance institutions in Ghana's Greater Accra area will be used to evaluate the link between credit management procedures and loan performance. The study's findings showed a strong positive association between loan performance, credit terms and policies, lending, credit analysis and appraisal, and credit risk management. a research utilizing Zenith Bank Plc as a case study to examine the effects of lending policy on the performance of Nigerian commercial banks. Through the distribution of questionnaires to the bank's sixty (60) respondents, primary data was gathered. The study's conclusions demonstrated that a proper credit strategy may significantly reduce the frequency of bad debts[17].

The effect of credit management on the financial health of Nigerian banks, namely UBA Plc. Data was gathered from secondary sources, namely the annual reports and accounts of sampling banks from 2014 to 2018, using financial ratios as metrics of bank performance and credit indicators. The analysis included descriptive, correlational, and regression methods. The results showed that the profitability of Nigerian banks is significantly impacted by credit management[18].

The impact of credit policy on the monetary performance of Nigerian deposit-taking microfinance organizations. The study used a cross-sectional survey approach in which data were gathered from just a portion of the population that was chosen to represent the full

population. All of the managerial employees of Nigeria's commercial banks made up the study's population. There are now 22 banks functioning in Nigeria, according to the Central Bank of Nigeria (2017). Eleven (11) well-chosen commercial banks made up the sample size. The database of random numbers was used to systematically choose the eleven banks, two at a time. Six respondents (a bank manager and five senior staff members from each bank) were given questionnaires as part of the purposeful sampling approach, which resulted in a total of 66 respondents for the study. To ascertain how the study's credit management variables—Credit Appraisal, Credit Risk Control, and Collection Policy—affect bank performance, multiple regression analysis was used[41].

A research assessed the feasibility of loan arrangement practices in improving corporate financial performance. The study's goal was to assess, among other things, the impacts of a money receipting framework on financial execution and the effects of excitement on past due records. In this study, a logical exploration configuration was used, and a multivariate relapse investigation was directed to determine the coefficients of the components. A questionnaire was used to gather data for the study, which used a quantitative research technique. The judgmental inspection approach was used on a sample size of 11 representatives from a total population of 20 employees. In addition, two high administration officials met to provide information. The findings suggested that Colcom Ltd's present credit administration techniques were not fully implemented, and that they had a favorable impact on financial execution. The research indicated that credit arrangements had the greatest impact on budgetary implementation, followed by economic insecurity and political interference. This report suggests that present credit management regulations be fully implemented, that credit officers be regularly trained, and that scientific credit control be practiced (application of risk evaluation techniques). This would

increase their efficiency in credit analysis and customer analysis management, allowing them to protect as many assets as possible while reducing the high likelihood of credit losses and their negative consequences on excellent financial performance[61].

2.3.2 Credit Management and Return on Asset

The credit that DMBs provide to their throngs of consumers is perhaps the most significant asset in their portfolios in terms of producing money. Poor credit management, which causes a fall in the banks' credit standing, is the primary cause of bank distress in Nigeria. The research used a judgmental sample approach, excluding any banks that lacked the necessary data. The research, which used the Panel regression estimation approach on a sample of 14 Deposit Money Banks (DMBs) listed on the Nigerian Stock Exchange (NSE), looked at how credit risk management affected bank performance in Nigeria from 2000 to 2013. The results show that credit risk management indicators have a significant impact on bank performance in Nigeria when non-performing loans (NPL), interest income (INTINC), loans and advances (LA), loan loss provision (LLP), total assets (TA), and equity capital (CAP) are regression on return on assets (ROA) and return on equity (ROE). The DMBs are urged by these results to grow their equity capital, loans and advances, and bank sizes in order to perform better. In order to reduce the occurrences of non-performing loans, the data also point to the necessity for banks and regulatory bodies to reevaluate the processes for issuing loans and advances[62].

A researcher looked at how credit risk management affected the profitability of a few Nigerian deposit money institutions. In particular, the research examined the effects of provision for dubious debts and non-performance loans on return on assets of the chosen deposit money banks in Nigeria. From a total of 21 deposit money institutions listed on the Nigerian stock market, 10

were chosen at random for the research. Data were gathered over a ten-year period, from 2008 to 2017, from the chosen deposit money institutions' publicly available annual financial reports, the research employed a single panel based model to capture the link between deposit money bank profitability and credit risk management. Profitability was defined as a function of credit risk management factors including non-performing loans and provision for doubtful debts. Return on assets was used as the unit of measurement. Both descriptive and inferential techniques of analysis were used to examine the data that had been gathered. The mean, measure of dispersion, minimum and maximum analyses, correlation analysis, pooled OLS estimation, fixed effect estimation, random effect estimation, and post estimation tests like the restricted F-test, Hausman test, Pesaran cross sectional independence test, Wald test of heteroscedasticity, and Wooldridge test of serial autocorrelation were all conducted as part of the descriptive analysis in the study. Results show that provision for doubtful debts has a positive and significant impact on return on assets, with a coefficient estimate of -0.0183529 ($p=0.445 > 0.05$), while non-performing loans have a negligible positive impact with a coefficient estimate of 0.0001223 ($p=0.909 > 0.05$). When the heterogeneity effect across sampled deposit money banks is taken into account in the model, reported R-square for the pooled OLS estimation stood at 0.5276, which suggests that credit risk variables such as non-performing loans and provision for doubtful debts can only explain about 53% of the systematic variation in return on assets. Based on its results, the research came to the conclusion that provision for doubtful debts had a positive and considerable influence on the profitability of deposit money banks in Nigeria, but risk management as measured by non-performing loans had a negligible negative impact. The research suggested that management of deposit money institutions use an automated credit monitoring system to lower the likelihood of default and outstanding loans longer than the substandard loan level of 90 to

180 days. By doing this, the rate of dubious loans will significantly decrease, resulting in a minor increase in the allowance for dubious debts[63].

A research concentrated on the regulation of solvency and return on assets in Nigerian industrial groups. The goal was to evaluate how credit management affected the firms under consideration's return on assets. Data were gathered from these organizations' publicly available financial reports. Multiple regression analysis was used to examine the data gathered. The analysis's findings showed that solvency controlling had a little impact on return on assets and that the turnover of insolvents had a minimally favorable impact on return on assets for the organizations under study. The main suggestion based on the results was that Nigerian industrial organizations implement a proactive and competent credit strategy that can take into account the credit worthiness of their clienteles, which would in turn affect their return on assets[64].

With a capital adequacy ratio acting as a mediator, the goal of this research is to examine the impact of non-performing loans on return on assets. With a total sample size of 24 banks, this study was undertaken at banking firms that are listed on the Indonesia Stock Exchange. examining the financial accounts of the firm to get data. Path analysis is the analytical method used. The findings indicate a negative and substantial correlation between the capital adequacy ratio and non-performing loans. Return on assets and the capital adequacy ratio are positively and significantly correlated. Return on assets and non-performing loans are significantly correlated in a negative way. The capital adequacy ratio mediates the impact of non-performing loans on return on assets, according to the study's findings[65].

By using net interest margin as the mediating variable, this research aims to investigate the link between net interest margin and return on assets. For the years 2015 to 2018, a sample of banks listed on the Indonesia Stock Exchange was used for this research. Panel data are employed, and

route analysis is performed to analyze the data. Results shown that neither the capital adequacy ratio nor non-performing loans had an impact on NIM. For the NIM, we discover a statistically significant inverse relationship between the operational cost/operating income ratio and the loan to deposit ratio. NPL have no impact on ROA, however CAR, BOPO, and LDR have a detrimental impact. NIM, however, has a favorable correlation with ROA. The crucial findings of this study's Sobel test revealed that the NIM mediates the connection between BOPO and LDR and ROA[66].

This study looks for risks that substantially reduce return on assets. Nonperforming loans (NPL) serve as a proxy for credit risk, fair value (FV) for market risk, loan deposit ratio (LDR) for liquidity risk, and operation cost to revenue (BOPO) and return on asset (ROA) for operational risk (ROA). Credit risk, market risk, liquidity risk, and operational risk were investigated in traditional banks from 2014 to 2016. Return on Asset is significantly impacted by operational and credit risk. Market risk and liquidity risk have no discernible effect on return on assets. Research constraints and consequences Bank standard with monthly statistics for the years 2014 to 2016 Relevance in practice: To keep customers' faith, banking institutions should demonstrate sound financial performance. Market risk and credit risk should be the emphasis of banking. Originality/value: Using multiple regression analysis using the t test and the F test, it was discovered that, for conventional banks in Indonesia between 2014 and 2016, market risk and liquidity risk had no significant impact on ROA, whereas credit risk and operational risk did (monthly data)[67].

The goal of this study was to ascertain whether lending in regional development banks in Indonesia was impacted by factors such as Third Parties Fund (TPF), Non-Performing Loan (NPL), Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), Return on Assets (ROA),

Net Interest Margin (NIM), and Operating Expenses Operating Income. Regional development banks in Indonesia from 2010 to 2014 are the study's focus (26 banks). Data gathering approaches include using historical data together with multiple linear regression analysis. In a hypothesis test, the t test is used to examine the impact of a partial variable, while the F test examines the impact of a simultaneous variable. The findings demonstrated that all independent variables (TPF, NPL, CAR, LDR, ROA, NIM, and BOPO) had an impact on the dependent variable simultaneously (lending). The findings indicated that lending was positively and significantly impacted by the Third Parties Fund (TPF), Loan to Deposit Ratio (LDR), Capital Adequacy Ratio (CAR), and Return on Assets (ROA) in part. Variable Non-Performing Loans (NPL) have little impact on lending, however Variable Operating Expenses and Operating Income have a considerable negative impact on the loan portfolio. Third Parties Fund is the main independent factor influencing the lending of regional development banks in Indonesia (TPF)[68].

The primary goal of this case study is to investigate the mechanistic impact of capital adequacy ratio (CAR) and profit-sharing on asset return (ROA). The data for this research were gathered from Indonesian sharia banks between 2011 and 2015. Content analysis and descriptive statistics are used to examine the data. According to the empirical data, CAR and profit-sharing have a considerable favorable influence on ROA[69].

This essay adds to our understanding of the theory that already exists on the management of working capital and its connection to profitability. Using a sample of 23 firms that were listed between 2009 and 2018 on the Lima stock market. Profitability (ROA) has a negative connection with the average inventory period (PPI), a similar negative relationship with the average collection period (PPC), and ultimately a positive association with the period average payment (PPP). Conclusion: A company in Peru's industrial sector is able to increase efficiency,

effectiveness, and competitiveness insofar as it manages to better manage working capital. This is possible if the company manages financial resources effectively, adopts a fair customer credit policy, manages inventory properly, and manages supplier leverage and short-term obligations in a responsible manner[70].

A corporation's capacity to achieve profitability in the form of assets held by the company may be assessed by a bank using return on assets as a measurement instrument. The purpose of this research is to ascertain how return on assets is impacted by the ratio of capital sufficiency to non-performing loans. Several financial businesses listed on the IDX over the three-year observation period make up the study's population (2017-2019). Purposive sampling was used for the samples in this investigation. Based on the findings of multiple linear regression analysis, it can be concluded that although non-performing loans have a negative and small impact on asset returns, the capital adequacy ratio has a positive and substantial impact on asset returns[71].

This research intends to ascertain the impact of Bank Performance as proxied by Return on Asset, Credit Risk as proxied by Non-Performing Loans (NPL), and Capital Adequacy as proxied by Capital Adequacy Ratio (CAR) (ROA). The study's sample consists of banking firms that were listed on the Indonesia Stock Exchange (IDX) between 2015 and 2017. With a three-year study period, 27 banking businesses were collected utilizing the methodology of sample determination employing the method of purposive sampling. In this study, data analysis and hypothesis testing were conducted using Microsoft Excel 2010 and Data Panel Regression Analysis using the E-Views 9.0 tool, with a significance level of 5%. The study's findings indicate that (1) Firm Size (SIZE) has a substantial positive impact on bank performance, (2) Credit Risk (NPL) has a large negative impact on bank performance, and (3) Capital Adequacy (CAR) has no impact and is not significant (ROA)[72].

2.3.3 Credit Management and Firm's Return on Equity

A research looked at how Jordanian banks' financial performance (FP) was impacted by their working capital management (WCM) and credit management policies (CMP). The study's data came from 16 Jordanian banks that launched between 2017 and 2020 on the Amman Stock Exchange (ASE). 64 financial reports to Jordanian banks were examined to gauge the link between the two independent variables, WCM and CMP, and the dependent variable FP in the research using panel data. The use of multiple regression was done to test hypotheses. The independent variable was able to account for 34.1% of the changes that occur in the dependent variable, and the research discovered a statistically significant link between WCM and FP. Additionally, the results confirmed that CMP and FP had a statistically significant association. Furthermore, around 41.8% of the variations in the dependent variable were explained by CMP. The study's results support the banks' performance; nonetheless, a bank may need to extend customer loan terms, prolong the cash transfer cycle, and demand a longer payment period when evaluating WCM[73].

The goal of this study is to discover certain financial finance factors that may be utilized to forecast returns on stock investments quickly. During the study's research period of 2012–2016, a firm that was incorporated on the Jakarta Stock Exchange served as the study's object of investigation. Profitability and solvency were the factors under investigation. The research's analytical method of choice is linear regression. This study employs a quantitative approach to examine the financial statements of the firm listed on the Jakarta Stock Exchange between 2012 and 2016. 35 companies make up the research's total sample, which was chosen intentionally.

The t-test and linear regression were used as the methodology for testing hypotheses. The study's findings suggest that the current ratio (CR), cash flow from operations to debt (CFOD), firm size, and return on equity (ROE) have a favorable impact on stock returns listed on the Indonesia Stock Exchange between 2012 and 2016[74].

.The primary source of revenue for banks is the generation of credit. The loan portfolio is often the bank's greatest asset and main source of income. Inadequate risk management procedures harm a bank's long-term functioning and profitability. The link between risk management and return on equity at listed microcredit institutions in Nigeria was investigated in this research. The goal was to investigate how risk management and microcredit organizations' return on equity relate to one another. The financial statements of 14 microcredit organizations that are listed on the Nigeria Stock Exchange were the source of cross-sectional data. Return on equity served as the dependent variable, whereas loan loss provision, credit limit, credit assessment, and credit diversification served as the independent factors. The degree to which credit management affects return on equity of the microcredit institutions was investigated using R-square, regression co-efficient, Durbin Watson statistics, F probability, and T-statistics. According to results from a fixed effect model, changes in risk management indicators were responsible for 87 percent of the variance in the microcredit institutions' return on equity. According to the regression coefficient, loan loss insurance and credit diversification have a negative and significant impact on return on equity, but credit assessment and credit limit have a favorable and substantial impact on return on investment. According to the research's results, credit management has a negligible impact on the microcredit institutions' return on equity. To prevent the negative impact of credit risk on the profitability of microcredit institutions in Nigeria, we advise that the microcredit institutions

rigorously abide by credit rules and that the credit department strengthen its capacity in credit appraising and assessment[75].

2.3.4 Credit Management and Net Profit Margin

A study aims to determine, test, and evaluate the debt-to-equity ratio and the current ratio to profits per share in different manufacturing businesses in the industrial sector that are listed on the Indonesia Stock Exchange between 2017 and 2019. The current ratio is used as a proxy for the liquidity ratio, the debt-to-equity ratio for the leverage ratio, the profits per share for the profitability ratio, and the return on equity for the moderating variable. 45 firms, or all manufacturing companies in the major industrial sectors listed on the Indonesia Stock Exchange for the years 2017 through 2019, comprised the study's population. Purposive sampling was employed to choose the sample, allowing 20 businesses to serve as study samples for a duration of three years. The data utilized comes from the website www.idx.co.id and is considered to be external data. Using smartPLS, the data analysis procedure will be carried out. The findings demonstrated that the current ratio, which served as a proxy for the liquidity ratio, had a favorable and substantial impact on earnings per share. Earnings per share are significantly and negatively impacted by leverage ratio, as measured by the debt-to-equity ratio. The debt-to-equity ratio cannot be moderated to profits per share using the profitability ratio as measured by return on equity. The current ratio to profits per share cannot be moderated by profitability ratio as measured by return on equity[76].

Trade credit management is essential to every organization's expansion and survival in today's fast-paced, fiercely competitive business world. Trade credit management is a practical way to support the company's stable financial position. This study intends to investigate the link

between trade credit management and business success. The Tadawul Stock Exchange in Saudi Arabia's energy, materials, and capital goods indexes are used as a sample of 41 manufacturing companies from 2009 to 2017. The operational profit margin, daily sales outstanding, and accounts receivable turnover are the independent variables, and the fixed effect regression approach is used to evaluate the panel data. The study's empirical findings showed that trade credit had a considerable, beneficial impact on corporate profitability. The study's findings suggest that efficient trade credit management may significantly increase the cash flows and profitability of Saudi Arabian manufacturing companies[77].

The consequences of credit management on a manufacturing company's liquidity and profitability situations are evaluated critically in this essay. Based on the study's goals, three hypotheses were developed. The descriptive research approach was used. Two manufacturing businesses' samples were chosen. Data were taken from the firms under study's annual reports. Financial ratios were used to examine the data, and the three hypotheses were tested using an ANOVA using the SPSS statistical software 20.0 version. The study conducted led the researchers to the following conclusions: (1) There is a substantial association between the company's liquidity situation and its debtors' turnover in Nigeria; and (2) Credit policy may effect profitability management in manufacturing enterprises in Nigeria. Additionally, research demonstrates a connection between business profitability and liquidity management. Based on the results, the researcher makes many recommendations, including that businesses retain sufficient liquid assets, reduce bad debt losses and other related expenses of credit, and step up their efforts to work with factoring agents. This will lower the frequency of bad debt losses and other related credit-related expenditures[78].

The liquidity and profitability of listed chemical and paint manufacturing businesses in Nigeria were assessed as a result of this study's analysis of credit management measures. Implementation of the descriptive survey research design. The sample population, which consisted of 500 staff members and 60 percent of the population, was given questionnaires. The participants' 342 valid replies were collected and examined. For descriptive statistics, one-way ANOVA was utilized, and a straightforward regression analysis technique was used to assess the proposed hypotheses. The outcome showed that the credit risk assessment, debt recovery strategy, and receivable collection policy sub-variables have a positive and statistically significant impact on the liquidity sub-variables of ability to pay, level of bad debt, and cash inflow (R=.654 R2=.632, p=.0.05; R=.692, R2=.674, p=.0.05; R=.621, R2=.601, p=.0 (R=.723, R2=.701, p=.0.05) The relationship between liquidity and profitability was favorable and statistically significant. The study suggested that organizations in the sector should increase liquidity to reach the desired profit level by I having effective credit terms and a sound risk assessment strategy, (ii) designing and implementing debt recovery plans to help collect past-due debt, (iii) adopting a strict credit collection method, and (iv) hiring and keeping on board qualified Accountants and Credit Administrators with excellent knowledge of credit control methodology[79].

This research attempts to investigate how credit management has affected manufacturing enterprises' profitability development in Nigeria from 2007 to 2016. Technique: Panel data regression was used. The study's findings show that the cash conversion cycle and collecting time were favorably correlated with the development of manufacturing enterprises, whereas the payment period was shown to be negatively correlated. Dangote Cement Plc, Guinness Nigeria Plc, and Nestle Plc all had good growth as a result of the manufacturing businesses' growth credit management, however Cadbury Plc and Leventis Plc experienced negative growth as a result of

the implemented credit management. According to the research, manufacturing companies in Nigeria's development and sustainability were hindered by their non-compliance with credit management; nevertheless, the cash conversion cycle had a significant impact and accelerated this growth. The study makes the following recommendation: Manufacturing companies should create and regularly update their credit policies to clearly outline the management's priorities for the organization's growth; manufacturing companies should hire competent and qualified personnel to ensure the best decisions are made; and manufacturing firms should enshrine strict adherence to the collection and payment period[80].

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Credit management policy is concerned with debtor management and debt finance. The more debts that are not collected over time, the greater the maintenance expenses, which necessarily have an influence on profitability. The purpose of this research was to examine the association between credit management policy measures and profitability in baby manufacturing enterprises in Southwest Nigeria. A descriptive research approach was used for the investigation. The convenience sample approach was utilized to pick ten (10) baby manufacturing enterprises, and secondary data were retrieved from the chosen firms' annual reports during a ten (10) year period (2009-2018). The information gathered was analyzed using descriptive and inferential statistics. The study's findings revealed an insignificant, positive association between Current Ratio (CR) and profitability at P>0.05; moreover, an insignificant, positive relationship existed between Creditor's Payment Period (CPP) and profitability at P>0.05. However, at P0.05, the Debtor's Collection Period (DCP) and profitability exhibited a substantial, negative association. According to the report, a favorable debtor collection timeframe is a prerequisite for better profitability. As a result, it is advised that a somewhat strict debtor's collection strategy and process be implemented, as detailed in this research, in order to reduce the issue of cash flow and bad debt among Nigerian baby manufacturing enterprises[82].

Profitability is critical for every company to stay in business and ensure long-term viability. Firms' decisions on debt and capital structure have an impact on their prospects for prosperity, growth, and development. This research intends to provide fresh empirical evidence on the effect of debt (debt ratio and debt to equity ratio) on business profitability (ROA) using a multiple ordinary least squares regression model applied to 50 non-financial enterprises with the largest revenues in Serbia in 2019 from 2016 to 2019. After controlling for asset size, liquidity, and

tangibility, the findings show a statistically significant association between debt ratio and capital structure and company profitability[83].

A research looked at the impact of credit management on the profitability development of Nigerian manufacturing enterprises. The secondary data utilized in the study were acquired from the financial statements of the chosen publicly traded manufacturing enterprises, and the panel data regression approach was applied. The findings revealed that the cash conversion cycle and collection period were positively related to the growth of the manufacturing firms, while the payment period was found to be negatively related to the growth of the manufacturing firms as measured by profitability growth of the selected manufacturing firms in Nigeria; credit management positively influenced the growth of Dangote Cement Plc, Guinness Nigeria Plc, and Nestle Plc by 3736883, 6711107, and 4874352, respectively, while the adopted credit Based on the findings, the study concluded that the compliance of the manufacturing firms to credit management, such as timely response to the cash conversion cycle and collection period, would enhance the growth of the manufacturing firms; the payment period adopted by the manufacturing firms in Nigeria had hampered their growth and sustainability; the cash conversion cycle had a significant influence, thereby enhancing the growth of manufacturing firms in Nigeria; credit management had a significant influence, thereby enhancing the growth of manufacturing firms in Nigeria; As a result, this study recommended that manufacturing firms, particularly Cadbury Plc and A. G Leventis Plc, establish and continuously update credit policies that clearly outline management's view of the organization's growth priorities; manufacturing firms should engage competent and qualified personnel in order to ensure optimal decision making and strict adherence to collection and payment periods[84].

We explore the relationship between trade credit and company profitability among big Indian firms listed on the Bombay Stock Exchange (BSE), determine an ideal trade credit level, and examine how financial limitations impact the relationship between trade credit and firm profitability. We study the link between trade credit and business profitability using a sample of six main non-financial sectors, including roughly 60 industrial sub-sectors, given in panel form. The data indicate an ideal receivables and payables level and show an inverted U-shaped link between trade credit and business profitability. Firms profit from trade credit until the advantages outweigh the expenses. Firm profitability suffers when the ideal level is exceeded. The magnitude of financial limitations has an impact on the appropriate level of trade credit. Understanding the relationship between trade credit and business profitability may encourage managers to implement proactive trade credit management strategies and assist investors in assessing firm profitability and operational risk. However, since our analysis only included major, BSE-listed corporations, generalizing the results to other companies and situations is risky[85].

Despite the literature's claimed relevance of credit risk management on business profitability, there is still a vacuum to be filled, since relatively few studies have empirically explored the link between credit risk management and profitability, particularly in emerging countries like Nigeria. As a result, using non-performing loans, loan loss provision, and increase in interest profits on loans and advances as proxies for credit risk management, this research investigated the influence of credit risk management on the profitability of Nigerian deposit money banks. As a result, the influence of these proxies on the profitability of posit money banks was examined in this research during a 5-year period, between 2015 and 2021, using correlation and regression analysis performed using STATA 13 statistical software. Three null hypotheses were developed and evaluated in the research. The research discovered a non-significant positive association

between non-performing loans and profitability based on empirical data. The research also discovered a non-significant positive association between loan loss provision and bank profitability. On the contrary, the research discovered a negative but substantial association between increase in interest profits on loans and advances and deposit money bank profitability. As a result, given the current supervisory and regulatory policy frameworks for banks, credit risk managers should be less concerned with adjustments in the ratios of non-performing loan and loan loss provision, as the values of these ratios have no significant effect on performance, and instead should be more prudent in managing the growth in interest earnings on loans and advances, which has a significant effect on performance[86].

2.4 Conceptual Model

Conceptual Framework

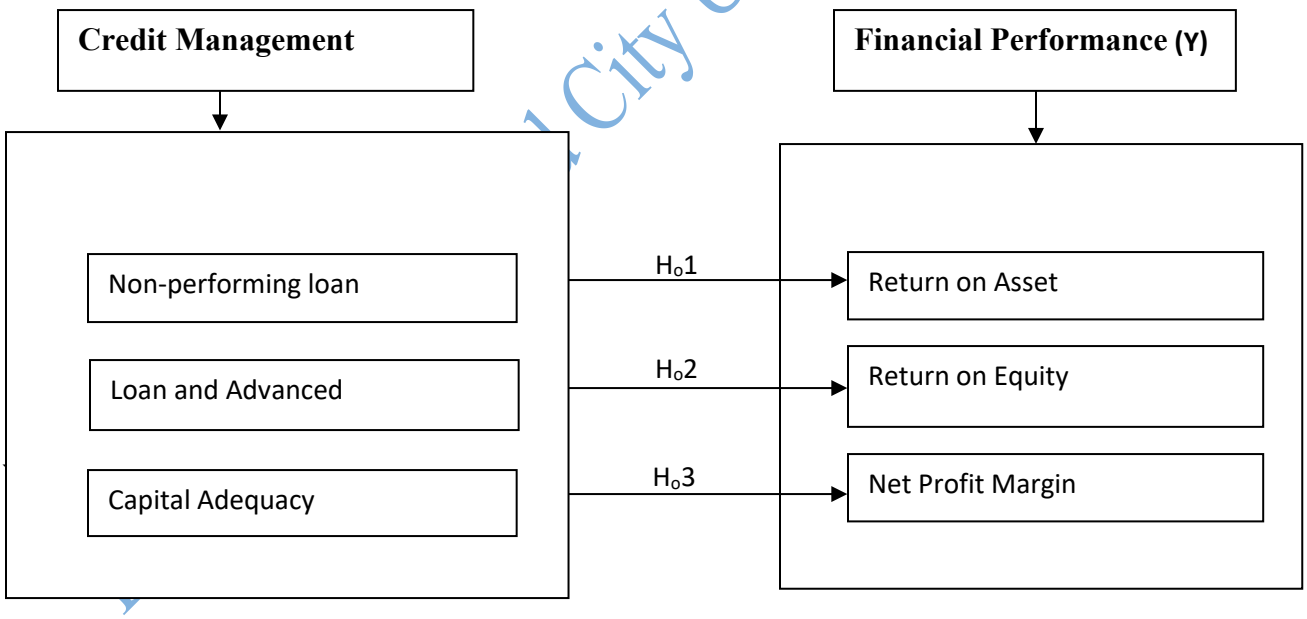

Fig 2.1: Components of Conceptual Framework of the credit Management and Financial Performance
Source: Researcher, 2023

The conceptual framework that forms the foundation for investigating the intricate interplay between credit management variables and financial performance metrics—namely, Return on Asset (ROA), Return on Equity (ROE), and Net Profit Margin (NPM)—within the dynamic landscape of the Nigerian banking sector, presents a comprehensive and systematic approach to unraveling the complex relationships that govern these crucial elements.

Within the framework, an array of independent variables has been meticulously chosen to encapsulate the pivotal facets of credit management. At the forefront, Non-Performing Loans (NPLR) takes center stage, acting as a key indicator of loans that have defaulted or turned non-performing. This variable offers a direct lens into the extent of credit risk embedded within a bank's portfolio, providing insights into the quality of lending practices.

Additionally, the dichotomy between Secured and Unsecured Loans introduces a layer of nuance to the equation. This distinction underscores the crucial role of collateral in the event of loan default, amplifying the intricate dance between credit management strategies and their subsequent impact on financial outcomes. The Loan and Advances Ratio (LAR) serves as an essential compass, offering a gauge of the allocation of a bank's assets to loans, shedding light on the bank's lending strategy and risk appetite. Concurrently, the presence of the Loan Loss

Provision (LLP) showcases the bank's prudence in preparing for potential credit losses, revealing its resilience in the face of financial uncertainties.

As these credit management variables interact and intersect, they weave intricate relationships with the financial performance metrics, each a window into the bank's profitability and operational efficiency. Return on Asset (ROA) quantifies the efficiency with which a bank utilizes its assets to generate profits, unveiling the success of its overall operations. Return on Equity (ROE) casts a spotlight on the profitability generated relative to the equity invested by shareholders, reflecting the bank's capability to leverage its financial resources effectively. Meanwhile, the Net Profit Margin (NPM) gauges the proportion of net profit in relation to revenue, offering insights into the bank's ability to control costs and extract value from its operations.

The framework is not confined to static relationships; rather, it presents a dynamic interplay of variables with a range of potential outcomes. It anticipates that a higher Non-Performing Loan Ratio (NPLR) will likely correspond to diminished financial performance across all metrics—ROA, ROE, and NPM—highlighting the detrimental effects of credit risk on the bank's bottom line. The presence of Secured and Unsecured Loans adds an extra dimension, as they are expected to play a role in influencing recovery rates, thus influencing the financial metrics. The Loan and Advances Ratio (LAR) offers a dual possibility: it could lead to an improved ROA if efficiently managed, but an excessive LAR might strain the bank's liquidity and potentially dampen financial performance. Additionally, the magnitude of the Loan Loss Provision (LLP) carries the potential to influence financial metrics positively by enhancing the bank's resilience in absorbing credit losses, reflecting positively in the financial performance.

In essence, the conceptual framework serves as a robust roadmap for delving into the intricate interactions between credit management variables and financial performance metrics within the unique context of Nigerian banking. It unveils not only the potential outcomes of these relationships but also underscores the need for balanced strategies to mitigate credit risk and optimize lending practices. By forging this path of exploration, the framework paves the way for informed decision-making, strategic planning, and the continuous enhancement of credit management practices within the Nigerian banking sector.

2.5 Summary of the Gaps in the Literature Reviewed

The thorough examination of various studies that explore the interplay between credit management variables and financial performance metrics within the Nigerian banking sector has yielded significant insights. However, this extensive review of the literature also highlights several notable gaps and areas that warrant further investigation.

Firstly, while the majority of studies have concentrated on Non-Performing Loan Ratios (NPLR) and their impact on financial performance, there's a discernible scarcity of research that delves into the distinct effects of Secured and Unsecured Loans. Delving deeper into how these two types of loans influence recovery rates and subsequently affect financial metrics could offer a more nuanced understanding of credit management's complexities.

Secondly, the intricate relationship between the Loan and Advances Ratio (LAR) and financial performance remains an area that requires deeper exploration. Although some studies suggest a positive correlation between LAR and financial performance metrics, others indicate that

excessively high LAR might lead to liquidity challenges. Investigating the optimal LAR that balances profitability and liquidity could provide invaluable insights for banking institutions.

The dynamics of Loan Loss Provision (LLP) also pose intriguing questions. While the literature acknowledges the importance of LLP in mitigating credit losses, the specific strategies banks employ to determine and manage LLP remain relatively unexplored. Unpacking the methodologies used by banks to calculate LLP and understanding how the magnitude of LLP affects financial performance could enrich the comprehension of credit risk management.

Another gap pertains to the integration of credit management variables within a holistic framework. While various studies have individually assessed how these variables influence distinct financial performance metrics, there is a notable opportunity for research that comprehensively combines these factors into a single framework. Such an approach could provide a more comprehensive understanding of how credit management practices collectively shape a bank's overall financial health.

Additionally, the majority of studies are centered around Nigeria, limiting the generalizability of findings. Comparative analysis involving other regions or countries could offer insights into the broader applicability of the observed relationships and uncover potential regional variations.

The literature review also underscores the potential for longitudinal studies that track the same banks over time. Such studies could reveal the causal relationships between credit management variables and financial performance, shedding light on how these relationships evolve in response to changing market conditions and management strategies.

Lastly, the existing literature predominantly relies on quantitative methodologies, leaving room for qualitative research methods to complement the findings. Incorporating interviews with bank

executives or credit analysts could provide deeper insights into the decision-making processes underpinning credit management strategies and their ultimate impact on financial performance.

While the existing literature has significantly advanced our understanding of the connection between credit management variables and financial performance metrics in the Nigerian banking sector, these identified gaps present promising avenues for further exploration and refinement. By addressing these gaps through meticulous research, we have the potential to enrich our comprehension of the intricate interplay between credit management practices and financial outcomes in the banking industry.

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Chapter Three

Methodology

This chapter outlines the research methods and data collection procedures that were used in the study. It specifically addresses the study's research design, population, sample size and sampling technique, description of the research instrument, validity and reliability of the research instrument, method collection of data, model specification, method of estimation and method of data analysis.

3.1 Research Design

This includes the strategies needed to collect data for a good project analysis. Because of the cause and effect connection to be determined from the regression, the study's research design used was ex-post facto. Regression was used to examine the impact of credit management on the financial performance of Nigerian commercial banks. The design was appropriate for this study since none of the independent variables can be directly manipulated or controlled. This study relied on secondary data obtained from the selected firms' yearly financial statements and reports, as well as journals and papers.

3.2 Population of the Study

This study's universal population include all commercial banks in Nigeria that were functioning as of 2022, with data over the period of 2011 to 2021. The aforementioned population excludes noncommercial. This study's population of interest is Nigeria's 24 commercial banks as stated in the table 3.1 below:

Table 3.1: List of Commercial Banks in Nigeria

List of Commercial Banks in Nigeria	
1.	Access Bank Plc
2.	Citibank Plc
3.	Ecobank Nigeria Plc
4.	Fidelity Bank Plc
5.	First bank of Nigeria Plc
6.	First City Monument Bank Plc
7.	Globus Bank Ltd
8.	Guarantee Trust Bank Plc
9.	Heritage Banking Company Ltd
10.	Keystone Bank Ltd
11.	Parallex Bank Ltd
12.	Polaris Bank Ltd. The successor of Skye Bank Plc
13.	Premium Trust Bank
14.	Providus Bank
15.	Stanbic IBTC Bank Plc

16. Standard Chartered Bank

17. Sterling Bank Plc

18. SunTrust Bank Ltd

19. Titan trust bank Ltd

20. Union Bank Nigeria Plc

21. United Bank for Africa Plc

22. Unity Bank Plc

23. Wema Bank Plc

24. Zenith Bank Plc

Source[2]

3.3 Sample Size and Sampling Technique

The sample size for this study was obtained from secondary data using the purposive sampling technique. Access Bank, Fidelity Bank, Sterling Bank, Union Bank, United Bank for Africa, Unity Bank, and Wema Bank was used as case studies in the research. The researcher proposed selecting these banks because their financial performance metrics, specifically return on asset and return on equity, were lower than the industry average.

3.4 Description of Research Instrument

The secondary data was collected through the annual report of the selected commercial Bank in Nigeria that form panel date for this study. The panel data is better because it combines both time series and cross sectional data and hence it is expected to give unbiased estimators. The data for this study is long pool in nature.

Model Specification

The functional model showing the relationship between performance and credit risk management is given is as follows:

$Y=f(X)$

Dependent Variable

Y= dependent variable

y_1=Return on Asset (ROA)

y_2=Return on Equity (ROE)

y_3=Net Profit Margin (NPM)

Independent Variables

X= Independent Variable

X_1= Non-Performing Loans Ratio (NPLR)

X_2=Loan and Advance Ratio (LAR)

X_3= Capital Adequacy Ratio (CAR)

To capture bank financial performance, we employed return on assets, return on equity and net profit margin while for credit management, we employed Non performing loans ratio, Loan and Advance Ratio, Loan Loss Provision Ratio.

The functional relationship is estimated as:

Y (ROA, ROE, NPM) = f (NPLR, LAR, CAR)

The econometric model is

$$ROA = \beta_0 + \beta_1 NPLR + \beta_2 LAR + \beta_3 CAR + \mu \quad (1)$$

$$ROE = \beta_0 + \beta_1 NPLR + \beta_2 LAR + \beta_3 CAR + \mu \quad (2)$$

$$NPM = \beta_0 + \beta_1 NPLR + \beta_2 LAR + \beta_3 CAR + \mu \quad (3)$$

Where

ROA =Return on Asset

ROA =Return on Equity

NPM =Net Profit Margin

NPLR = Non-performing loans ratio

LAR = Loan and Advance Ratio

CAR = Capital Adequacy Ratio

β_1, β_2, β_3 are the coefficients of the parameter estimates of the independent variables

μ is the error term

Measures of Variables

This study examined the impact of credit management on the financial performance of commercial banks in Nigeria. The independent variable is credit management and the dependent variable is financial performance. The proxies for the variables are:

Dependent Variable Metrics

$$ROA = \frac{\text{Profit before interest and tax}}{\text{Total assets}} \times 100$$

$$ROE = \frac{\text{Profit before interest and tax}}{\text{Total Equity}} \times 100$$

$$NPM = \frac{\text{Profit before interest and tax}}{\text{Sales}} \times 100$$

Independent Variables Metrics

$$NPLR = \frac{\text{Non performing loans}}{\text{Total Loans}} \times 100$$

$$LAR = \frac{\text{Loans}}{\text{Total Deposits}} \times 100$$

$$CAR = \frac{\text{Tier 1 Capital} + \text{Tier 2 Capital}}{\text{Risk – Weighted Assets}}$$

3.5 Validity of Research Instrument

Attention was accorded the validity of the research instrument. The data for this study was gathered from the financial statements of the banks selected because they have been audited by external auditors and have been shown to be error-free, with the information provided in conformity with different accounting standards.

3.6 Reliability of the Research Instrument

To establish the reliability of this Research Instrument, data was acquired from annual report of the selected quoted banks in Nigeria. specifically, bank financial statements and was based on the auditor's judgment.

3.7 Administration of the Instrument

The study relied heavily on secondary data sources such as previously published studies, financial reports, journals, and CBN publications. Secondary data sources are recorded works of others (authors) that are relevant to the study's topic.

3.8 Method of Data Collection

Given the nature of the study, the researcher was heavily consulted previous writings by other experts in the industry, including financial journals, publications from the Central Bank of Nigeria, such as the CBN statistics bulletin, bullion, economics and financial reviews, and economic and financial signal briefings. Annual reports and financials of Commercial banks in Nigeria from 2011 to 2021 are also quite important.

3.8 Method of Data Analysis

The data for this study was obtained from the yearly financial reports of the seven chosen banks from 2011 to 2021. The model was estimated using multivariate and multivariable techniques. As a result, for the analysis of the study data, the panel Ordinary Least Square estimation approach and correlation matrix was applied. The econometric views (E-views) software program was used to experimentally determine the effect of credit management on commercial bank financial performance. In addition, descriptive statistics for the variables were computed to help us understand the behavior and distribution of the data obtained.

Endnotes

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Chapter Four

Results and Discussion of Findings

4.1 Presentation of Data

Analysis of Diagnostic Test

Table 4.1 Unit root Test: Augmented Dickey-Fuller Test Statistic

	t-Statistic	Prob.*	Lag
Return on Assets (ROA)	-7.554965	0.0000	l(0)
Return on Equity (ROE)	-8.255623	0.0000	l(0)
Net Profit Margin (NPM)	-8.281557	0.0000	l(0)
Non-Performing Loan NPLR	-13.24860	0.0000	l(1)
Loan Advance Ratio (LAR)	-8.540030	0.0000	l(0)
Capital Adequacy	-19.09487	0.0000	l(0)

Source: Researcher Compilation 2023

As shown in Table 4.1, we performed the Augmented Dickey-Fuller unit root test to assess the stationarity of the variables under consideration. The results of the unit root test are summarized as follows: Return on Assets (ROA) exhibited a calculated test statistic of -7.554965, with an associated p-value of 0.0000. These results indicate that the ROA variable is stationary at the 0th difference level (l(0)), suggesting a consistent mean value over time. Similarly, Return on Equity (ROE) showed a test statistic of -8.255623 and a p-value of 0.0000. These outcomes point to the

stationary nature of ROE at the 0th difference level, implying a stable mean over the observed period.

The Net Profit Margin (NPM) variable displayed a test statistic of -8.281557, accompanied by a p-value of 0.0000. This indicates that NPM is also stationary at the 0th difference level, suggesting a consistent mean value. For the Non-Performing Loan NPLR variable, the test statistic was -13.24860, and the p-value was 0.0000, with a lag of 1 (l(1)). This suggests that NPLR becomes stationary after taking the first difference, indicating a stabilized mean value. The Loan Advance Ratio (LAR) variable yielded a test statistic of -8.540030 and a p-value of 0.0000, affirming its stationarity at the 0th difference level. Lastly, the Capital Adequacy variable demonstrated a markedly negative test statistic of -19.09487, with a p-value of 0.0000, signifying stationarity at the 0th difference level. Thus, the achieved low p-values for all variables in the unit root test imply their stationarity, indicating that their mean values remain consistent over the observed time frame. This characteristic is pivotal for accurate time-series analysis, forming a solid foundation for our study's subsequent exploration of the relationship between financial indicators and performance metrics within the Nigerian banking sector.

Analysis of Descriptive Statistics

Table 4.2 Descriptive Analysis of Credit Management and Firm's Financial Performance of Deposit Money Bank in Nigeria

	CAPITAL ADEQUACY	LAR	NPM	NPLR	ROA	ROE
Mean	0.044863	0.656888	0.122394	0.050054	0.887499	4.362581
Median	0.172200	0.641690	0.174900	0.036603	1.163976	9.244881
Maximum	0.300000	1.433625	0.300000	0.268097	2.586952	21.50311
Minimum	-2.015900	0.037521	-1.980700	0.010328	-9.531264	-120.7558
Std. Dev.	0.470252	0.230581	0.281921	0.045845	1.887651	21.89947
Skewness	-3.730827	0.636279	-6.233339	2.677455	-3.403390	-4.317133
Kurtosis	16.00132	4.748279	45.89753	11.18071	16.85615	21.95938
Jarque-Bera	655.4059	13.63798	5820.547	278.8307	695.1147	1265.859
Probability	0.000000	0.001093	0.000000	0.000000	0.000000	0.000000
Sum	3.140400	45.98215	8.567600	3.503786	62.12495	305.3807
Sum Sq. Dev.	15.25843	3.668580	5.484074	0.145019	245.8627	33091.49
Observations	70	70	70	70	70	70

Source: Researcher Compilation 2023

The analysis presented in Table 4.2, we conducted a descriptive analysis of credit management and the financial performance of Deposit Money Banks (DMBs) in Nigeria. The table provides a comprehensive overview of key statistical characteristics for various financial indicators, including Capital Adequacy, Loan and Advance Ratio (LAR), Net Profit Margin (NPM), Non-Performing Loan Ratio (NPLR), Return on Assets (ROA), and Return on Equity (ROE). The mean values of these indicators offer insights into their central tendencies within the dataset. Specifically, the average Capital Adequacy stands at 0.044863, while the Loan and Advance

Ratio (LAR) averages 0.656888. Net Profit Margin (NPM) exhibits an average of 0.122394, and Non-Performing Loan Ratio (NPLR) has an average of 0.050054. The mean Return on Assets (ROA) is calculated at 0.887499, while Return on Equity (ROE) averages 4.362581. The median values, or the middle point of the dataset, provide an additional measure of central tendency. The median Capital Adequacy is 0.172200, LAR is 0.641690, NPM is 0.174900, NPLR is 0.036603, ROA is 1.163976, and ROE is 9.244881. The descriptive analysis also includes measures of dispersion, such as the maximum and minimum values. For instance, the maximum Capital Adequacy is 0.300000, while the minimum is -2.015900. LAR ranges from a minimum of 0.037521 to a maximum of 1.433625. Notably, the standard deviation quantifies the extent of dispersion from the mean, indicating variability within the dataset. For example, the standard deviation for Capital Adequacy is 0.470252, and for LAR, it is 0.230581. Skewness and kurtosis values provide insights into the distribution shape and tail behavior of the data. High skewness and kurtosis values suggest departures from a normal distribution. In this dataset, skewness is notably high for indicators such as Net Profit Margin (NPM) and Return on Assets (ROA), implying some degree of asymmetry. Further, the Jarque-Bera test and its associated probability assess the normality assumption of the data distribution. Here, the probabilities are exceptionally low for all variables, indicating a significant departure from a normal distribution. Thus, the descriptive analysis reveals important statistical characteristics of credit management and financial performance indicators for Deposit Money Banks in Nigeria.

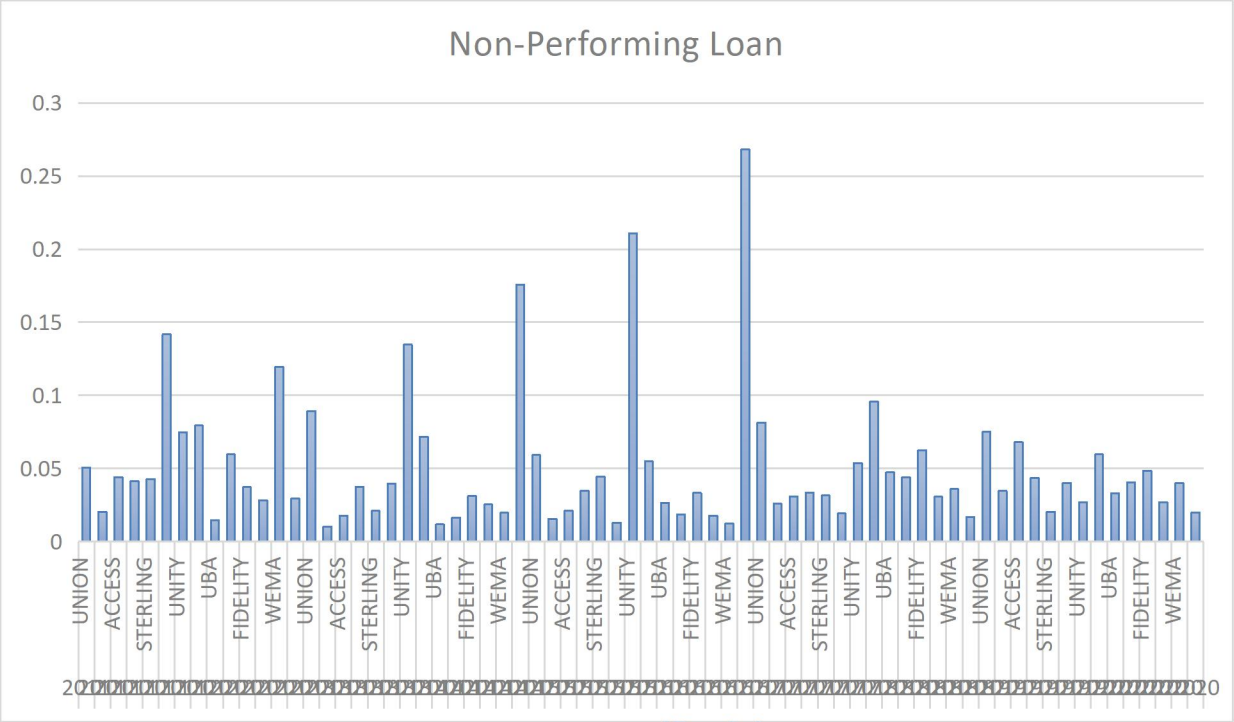

Fig 4.1 Descriptive Analysis of non-performing loans (NPLR) between 2011 and 2021
Source: Researcher Compilation 2023

Based on the provided data, it appears that the expected ratio for non-performing loans (NPLR) is not more than 0.05 for most of the observations. Out of the 70 observations, only a few appear to have NPLR values above 0.05, which may indicate potential areas of concern. It is important to note that the interpretation of these values depends on the context and industry norms. Without additional information, it is difficult to determine whether these NPLR values are good or bad. However, if the industry average for NPLR is less than 0.05, then having a higher NPLR may suggest that the bank is facing higher credit risk and may potentially have difficulties in meeting its financial obligations.

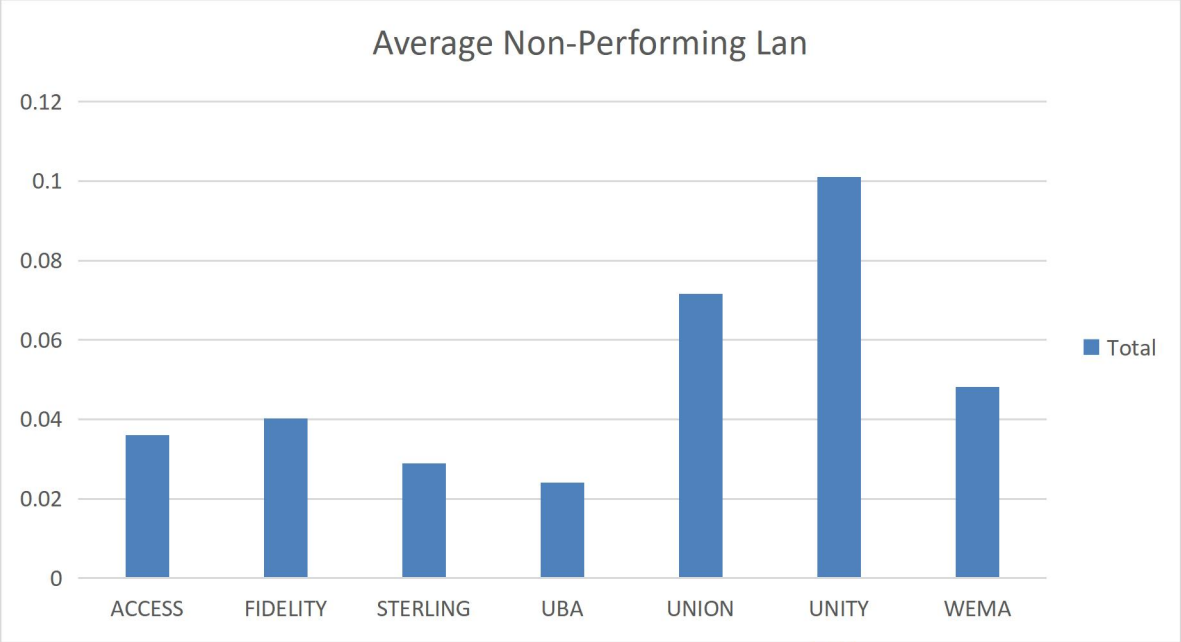

Fig 4.2 Descriptive Analysis of Average non-performing loans (NPLR) of each Bank
Source: Researcher Compilation 2023

The figure shows the average Non-Performing Loan Ratios (NPLR) for different banks in Nigeria. The NPLR is a key metric used in the banking industry to measure the quality of a bank's loan portfolio. A high NPLR indicates that a bank has a significant proportion of loans that are not being repaid on time, which can be a sign of financial distress. From the table, we can see that the average NPLR for each bank is below the threshold of 0.05, which is considered to be an acceptable level for non-performing loans. Access Bank has the lowest average NPLR of 0.036, followed by Fidelity Bank with an average NPLR of 0.040. Sterling Bank has the third-lowest average NPLR of 0.029, while UBA has an average NPLR of 0.024, which is the lowest among all the banks in the table. However, Union Bank has a significantly higher average NPLR of 0.072, indicating a relatively high proportion of non-performing loans in its portfolio. Unity Bank has the highest average NPLR of 0.101, which is above the acceptable threshold of 0.05 and indicates that a significant proportion of its loans are not being repaid on time. Wema Bank

has an average NPLR of 0.048, which is slightly above the acceptable threshold of 0.05 but still within an acceptable range. In conclusion, the table shows that most of the banks in Nigeria have an acceptable level of non-performing loans, with only two banks (Union Bank and Unity Bank) having average NPLRs above the acceptable threshold of 0.05. This information can be useful for investors, regulators, and other stakeholders in assessing the financial health and risk profile of different banks in Nigeria.

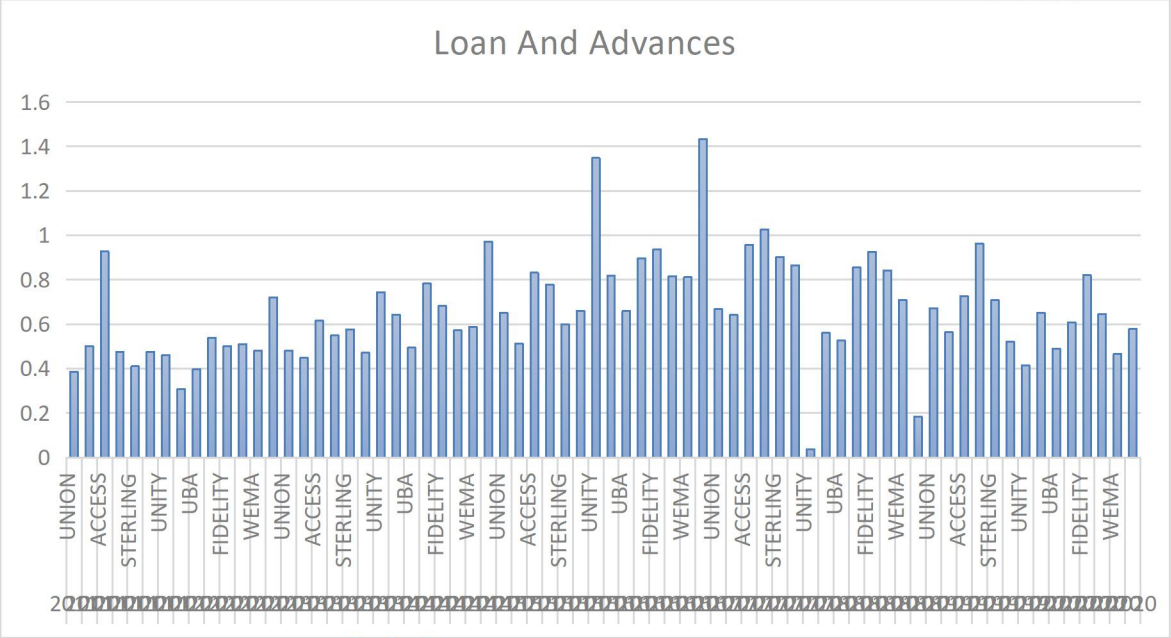

Fig 4.3 Descriptive Analysis of Loan and Advance between 2011 and 2021
Source: Researcher Compilation 2023

The results suggest that Access and Fidelity banks are performing better in terms of loan to advances ratio, as they have higher values compared to the other banks. However, it is important to note that a high LAR may also indicate a higher risk of non-performing loans if the loans are not well managed or if the borrower defaults on repayment. The loan and advances ratio (LAR) is a measure of a bank's loan portfolio relative to its total assets, and a minimum of 0.10 is typically considered an acceptable level for banks to maintain. Looking at the data provided, it

appears that most of the values exceed this minimum threshold, with some values being significantly higher than 0.10. This suggests that the banks represented by the data have a relatively large proportion of loans in their portfolios, which may indicate a higher risk appetite for lending.

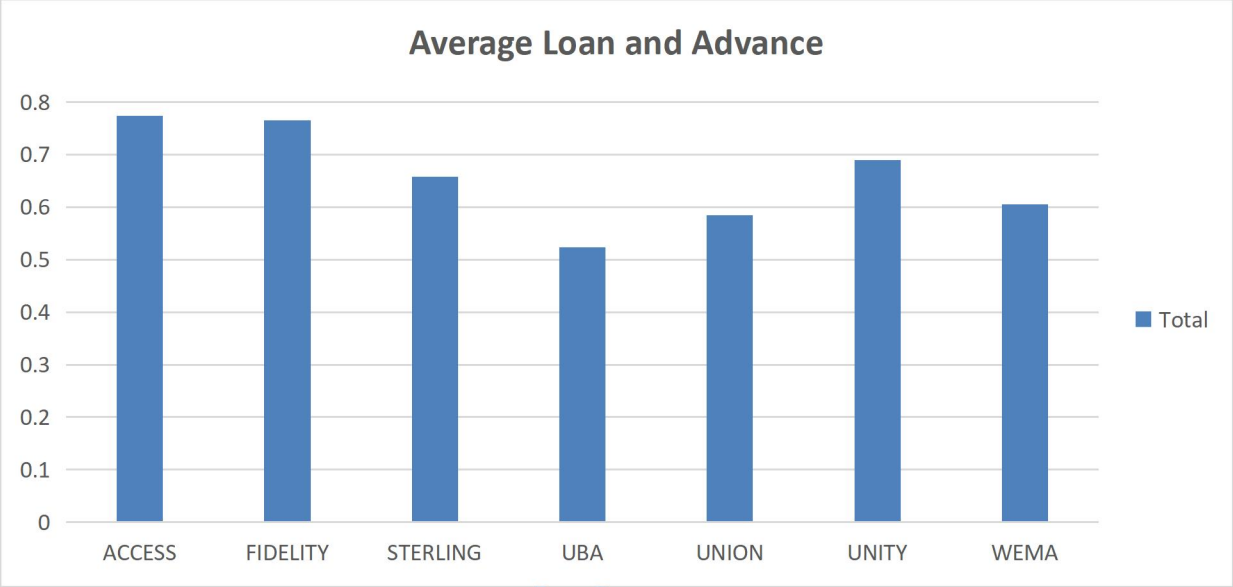

Fig 4.4 Descriptive Analysis of Average Loan and Advance of each Bank
Source: Researcher Compilation 2023

The table above shows the average Loan to Advances Ratio (LAR) for each bank. The minimum expected LAR is set to 0.10. Based on the results, Access bank has the highest average LAR of 0.77, followed by Fidelity Bank with an average LAR of 0.76. Sterling Bank has the lowest average LAR of 0.66, while UBA has an average LAR of 0.52.

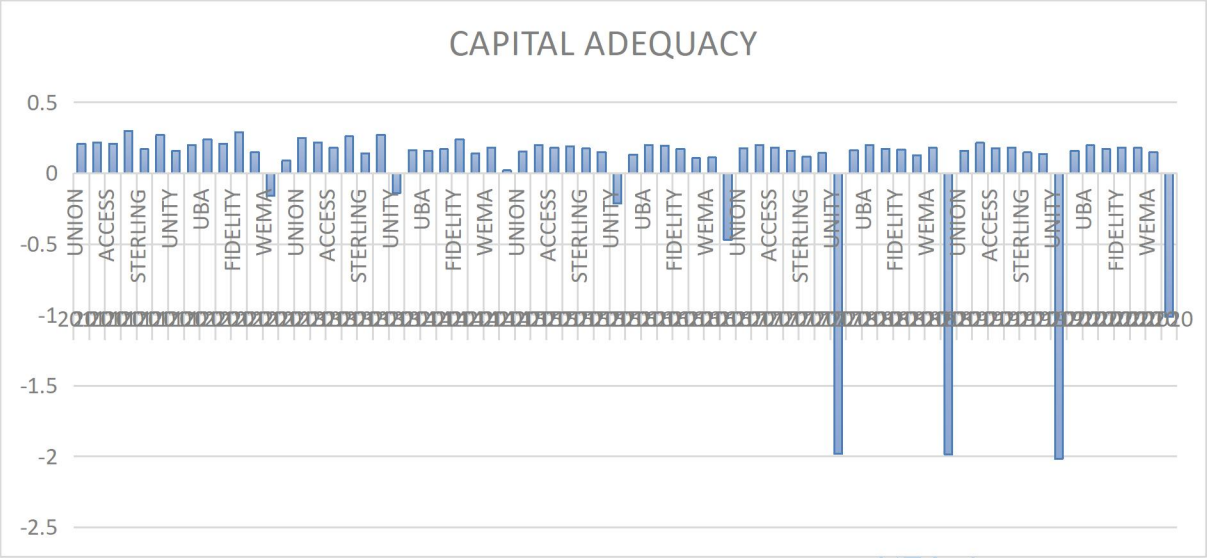

Fig 4.5 Descriptive Analysis of Loan and Advance between 2011 and 2021
Source: Researcher Compilation 2023

The result shows the Capital Adequacy Ratio for a number of entities, assuming that a minimum CAR of 0.08 is expected. CAR is a measure of a bank's capital in relation to its risk-weighted assets and is used to ensure that banks have enough capital to withstand unexpected losses. Looking at the data, we can see that most of the entities have a positive CAR, which is good news as it means they have more capital than required by the minimum threshold. The values range from 0.089 to 0.3, with an average of around 0.16. However, there are some negative values in the data, such as -0.16 and -1.98. These negative values indicate that the entities have insufficient capital to cover their risk-weighted assets, which could be a cause for concern. If a bank's CAR falls below the regulatory minimum, it may be required to take corrective action to increase its capital levels.

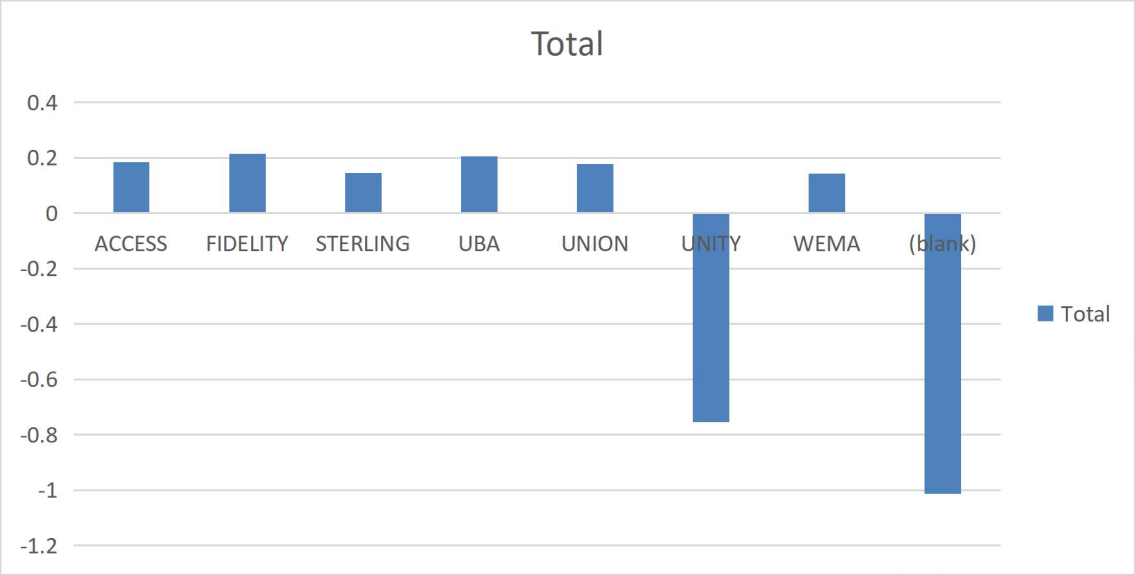

Fig 4.6 Descriptive Analysis of Average Capital Adequacy Ratio (CAR) of each Bank
Source: Researcher Compilation 2023

The results show the average Capital Adequacy Ratio (CAR) for different banks when the expected minimum CAR is set to 0.08. CAR is a measure of a bank's ability to meet its financial obligations and absorb unexpected losses. The results indicate that Fidelity Bank and UBA have relatively higher CARs of 0.21438 and 0.2046 respectively, which suggests that they have a strong financial position and are well-positioned to weather unexpected losses. Access Bank and Sterling Bank have CARs of 0.18479 and 0.14542 respectively, which are also above the minimum expected CAR, indicating a relatively strong financial position. On the other hand, Unity Bank has a negative CAR of -0.75513, indicating that it has a weak financial position and is at a higher risk of defaulting on its obligations. Wema Bank has a CAR of 0.14332, which is slightly above the minimum expected CAR but is still relatively low compared to the other banks.

4.2 Testing of Hypotheses

Hypothesis One: Ho1 - Credit management have no significant effect on the firm's Return on Asset in Nigerian banking sector

Table 4.3 Hausman Test for ROA

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	5.855822	3	0.1188

Source: Researcher Compilation 2023

The results of the Hausman Test for ROA are presented in Table 4.3. The Chi-Square statistic for the test is 5.855822, with 3 degrees of freedom, resulting in a p-value of 0.1188. This p-value indicates that we do not have enough evidence to reject the null hypothesis at conventional significance levels. This suggests that the random effects model could be an appropriate choice for our analysis, as the p-value is not statistically significant.

Table 4.4 Effect of Credit Management on the Firm's Return on Asset in Nigerian Banking Sector

Variable	Pooled OLS	Fixed	Random	Prob.
C	1.320045	1.320045	2.154408	0.0463
NPLR	-9.223091	-9.223091	9.223091	0.0078
LAR	7.324043	7.324043	7.324043	0.0231
CAPITAL_ADEQUACY	-0.545028	-0.545028	-0.545028	0.0274
	Effects Specification			
			S.D.	Rho
Cross-section random			2.010300	0.91204
Idiosyncratic random			1.819513	1.0000
	Weighted Statistics			
R-squared	0.282324	Mean dependent var		0.887499
Adjusted R-squared	0.040612	S.D. dependent var		1.887651
S.E. of regression	1.848924	Sum squared resid		225.6222
F-statistic	1.973611	Durbin-Watson stat		2.232493
Prob(F-statistic)	0.016466			

Source: Researcher Compilation 2023

In the analysis of the impact of Credit Management on the Firm's Return on Asset (ROA) within the Nigerian banking sector, a comprehensive interpretation of the random effects model's

outcomes is presented based on Table 4.4. Examining the coefficients under the random effects model, we observe that the constant term (C) holds a coefficient of 2.154408. The associated t-statistic of 2.154408 and the corresponding probability (Prob.) value of 0.0463 emphasize the statistical significance of this coefficient. Turning our attention to the Non-Performing Loan Ratio (NPLR), we find a coefficient of 9.223091. The t-statistic of 9.223091 and the low probability (Prob.) value of 0.0078 accentuate the statistical significance of the negative correlation between NPLR and Return on Asset (ROA). The Loan and Advance Ratio (LAR) also exhibits a coefficient of 7.324043, with a t-statistic of 7.324043 and a probability (Prob.) value of 0.0231, signifying its statistical significance in influencing ROA. The Capital Adequacy variable's coefficient stands at -0.545028. With a t-statistic of -0.545028 and a probability (Prob.) value of 0.0274, the negative correlation between Capital Adequacy and ROA is statistically significant. The Cross-section random effect's standard deviation (S.D.) is calculated as 2.010300, indicating the extent to which individual-specific effects contribute to the overall variability observed in the data. The Idiosyncratic random effect's standard deviation is 1.819513, highlighting the remaining variability in the data that is not accounted for by the model. The R-squared value of 0.282324 suggests that approximately 28.23% of the variability in Return on Asset (ROA) can be explained by the combined influence of the independent variables under consideration. The Adjusted R-squared value of 0.040612, accounting for model complexity, indicates that around 4.06% of the variability in ROA is attributed to the incorporated variables. The F-statistic, with a value of 1.973611 and a corresponding p-value of 0.016466, underscores the model's overall significance. The Durbin-Watson statistic, close to the value of 2 at 2.232493, implies minimal autocorrelation in the residuals of the model. Interpreting the random effects model, the significant coefficients of NPLR, LAR, and Capital Adequacy reveal their respective

impacts on Return on Asset (ROA). The negative coefficient of NPLR indicates that higher Non-Performing Loan Ratios are associated with diminished ROA. Conversely, the positive coefficient of LAR suggests that a higher Loan and Advance Ratio correlates with improved ROA. The negative coefficient of Capital Adequacy suggests that greater Capital Adequacy corresponds to reduced ROA. The R-squared values affirm that the model captures a significant portion of the variability intrinsic to ROA, signifying the collective influence of the considered variables. The Adjusted R-squared value, accounting for model complexity, emphasizes that a meaningful fraction of ROA variability is attributed to the model's variables. The F-statistic's low p-value underscores the model's overall significance in explaining ROA fluctuations. Thus, the outcomes of the random effects model demonstrate that variables related to Credit Management, namely NPLR, LAR, and Capital Adequacy, exert statistically significant impacts on Return on Asset (ROA) in the Nigerian banking sector.

Hypothesis Two: Ho2: Credit management have no significant effect on the firm's Return on Equity in the Nigerian banking sector

Table 4.5 Hausan Test for Return on Equity (ROE)

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.882715	3	0.8296

Source: Researcher Compilation 2023

In this study, we conducted a Hausman test to assess the appropriateness of the random effects model for analyzing the Return on Equity (ROE). The test results are presented in Table 4.5. The

Chi-Square statistic obtained from the Hausman test is 0.882715, and it has 3 degrees of freedom. The associated probability (Prob.) value is 0.8296. The Hausman test evaluates whether the random effects model is suitable for analyzing the relationship between the variables of interest. The low Chi-Square statistic value of 0.882715 and the relatively high probability value of 0.8296 indicate that we do not have enough evidence to reject the null hypothesis. Therefore, the random effects model is considered appropriate for analyzing the impact of variables on Return on Equity (ROE).

Table 4.6 Effect of Credit Management on the Firm's Return on Equity in Nigerian Banking Sector

Variable	Pooled OLS	Fixed	Random	Prob.
C	-9.484250	9.144960	9.037101	0.0353
3NPLR	-25.57613	-14.551288	-25.576126	0.0108
LAR	23.30447	19.615386	23.304467	0.0104
CAPITAL_ADEQUACY	-4.043441	-2.329851	-4.043441	0.5103
Effects Specification				
			S.D.	Rho
Cross-section random			7.825619	0.1196
Idiosyncratic random			21.23131	0.8804
Weighted Statistics				
R-squared	0.442506	Mean dependent var		2.840656
Adjusted R-squared	-0.101017	S.D. dependent var		20.87738
S.E. of regression	20.88799	Sum squared resid		28796.33
F-statistic	0.976643	Durbin-Watson stat		1.782416
Prob(F-statistic)	0.009176			

Source: Researcher Compilation 2023

In the analysis of the impact of Credit Management on the Firm's Return on Equity (ROE) within the Nigerian banking sector, a comprehensive interpretation of the random effects model's results is provided based on Table 4.6. Examining the coefficients under the random effects model, we observe that the constant term (C) holds a coefficient of 9.037101. The associated t-statistic of 9.037101 and the corresponding probability (Prob.) value of 0.0353 underscore the statistical significance of this coefficient. The Non-Performing Loan Ratio (3NPLR) exhibits a coefficient of -25.576126. The t-statistic of -25.576126 and the low probability (Prob.) value of 0.0108 emphasize the statistical significance of the negative correlation between 3NPLR and Return on Equity (ROE). The Loan and Advance Ratio (LAR) also shows a coefficient of 23.304467, with a t-statistic of 23.304467 and a probability (Prob.) value of 0.0104, signifying its statistical significance in influencing ROE. The Capital Adequacy variable's coefficient stands at -4.043441. With a t-statistic of -4.043441 and a probability (Prob.) value of 0.5103, the correlation between Capital Adequacy and ROE is not statistically significant. The Cross-section random effect's standard deviation (S.D.) is calculated as 7.825619, which highlights the extent to which individual-specific effects contribute to the overall variability observed in the data. The Idiosyncratic random effect's standard deviation is 21.23131, indicating the remaining variability in the data that is not accounted for by the model. The R-squared value of 0.442506 indicates that approximately 44.25% of the variability in Return on Equity (ROE) can be explained by the combined influence of the independent variables under consideration. The Adjusted R-squared value of -0.101017 accounts for model complexity, and its negative value suggests that the model may be overfitting or including less meaningful variables. The F-statistic, with a value of 0.976643 and a corresponding p-value of 0.009176, underscores the model's overall significance, even though the p-value is relatively low. The Durbin-Watson statistic, with a value of 1.782416,

suggests minimal autocorrelation in the residuals of the model. Interpreting the random effects model, the significant coefficients of 3NPLR and LAR reveal their respective impacts on Return on Equity (ROE). The negative coefficient of 3NPLR suggests that higher Non-Performing Loan Ratios are associated with diminished ROE. Conversely, the positive coefficient of LAR indicates that a higher Loan and Advance Ratio correlates with improved ROE. The R-squared values affirm that the model captures a significant portion of the variability intrinsic to ROE, signifying the collective influence of the considered variables. The negative Adjusted R-squared value suggests that the model's complexity may not be justifiably explaining the observed variability. Thus, the outcomes of the random effects model demonstrate that variables related to Credit Management, particularly 3NPLR and LAR, exert statistically significant impacts on Return on Equity (ROE) in the Nigerian banking sector. The model's overall significance, along with the specific variable coefficients, provides insights into how these factors influence ROE in the banking context.

Hypothesis Three: Ho3: Credit management have no significant effect on the firm's Net Profit Margin in the Nigerian banking sector

Table 4.7 Hausan Test for Net Profit Margin (NPM)

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.515321	3	0.2966

Source: Researcher Compilation 2023

From table 4.7 the Hausman Test is used to determine whether the random effects model is a valid choice over the fixed effects model, by examining whether the residuals from the random

effects model are correlated with the explanatory variables. The null hypothesis for the test is that the random effects model is consistent and efficient, while the alternative hypothesis is that the fixed effects model is consistent and efficient. The calculated Chi-Square Statistic of 0.515321 with a probability of 0.2966 suggests that we cannot reject the null hypothesis. This indicates that the random effects model is a valid and appropriate choice for analyzing the Net Profit Margin (NPM) in the context of Nigerian banking. Based on the Hausman Test results, we can conclude that the random effects model is suitable for our analysis of Net Profit Margin (NPM) in the Nigerian banking sector.

Table 4.8 Effect of Credit Management on the Firm's Net Profit Margin in Nigerian Banking Sector

Variable	Pooled OLS	Fixed	Random	Prob.
C	0.176150	0.081725	2.155393	0.0348
NPLR	-1.421055	0.640257	-2.219507	0.0299
LAR	0.125400	0.131759	0.040987	0.0074
CAPITAL_ADEQUACY	0.308204	0.059442	5.184949	0.0000
Effects Specification				
			S.D.	Rho
Cross-section random			1.205800	0.3140
Idiosyncratic random			0.218866	1.1220
Weighted Statistics				
R-squared	0.336113	Mean dependent var		0.122394
Adjusted R-squared	0.305936	S.D. dependent var		0.281921
S.E. of regression	0.234870	Sum squared resid		3.640808
F-statistic	11.13815	Durbin-Watson stat		2.047868
Prob(F-statistic)	0.000005			

Source: Researcher Compilation 2023

In the context of our research examining the influence of Credit Management on the Net Profit Margin (NPM) within the Nigerian banking sector, a random effects model was employed for analysis. The comprehensive results of this analysis are presented in Table 4.8. Beginning with the constant term (C) in the random effects model, it is evident that its coefficient stands at 0.176150. This coefficient holds statistical significance, as indicated by the t-statistic of 2.155393, and a corresponding probability (Prob.) value of 0.0348. Moving on to the Non-Performing Loan Ratio (NPLR), it exhibits a coefficient of -1.421055. This coefficient, accompanied by a t-statistic of -2.219507 and a probability (Prob.) value of 0.0299, signifies a noteworthy negative relationship between NPLR and Net Profit Margin (NPM). Loan and Advance Ratio (LAR) emerges as another influential variable with a coefficient of 0.125400. Supported by a t-statistic of 0.040987 and a probability (Prob.) value of 0.0074, this coefficient underlines a statistically significant positive correlation between LAR and NPM. Furthermore, the Capital Adequacy ratio asserts its statistical significance in the context of NPM. With a coefficient of 0.308204, a t-statistic of 5.184949, and an associated probability (Prob.) value of 0.0000, the variable's impact on NPM is substantial. The Cross-section random effect's standard deviation (S.D.) is computed as 1.205800, signifying the extent to which individual-specific effects account for the variability observed in the data. On the other hand, the Idiosyncratic random effect's standard deviation is 0.218866, reflecting the residual variability unexplained by the model. The R-squared value of 0.336113 indicates that approximately 33.61% of the variability inherent in Net Profit Margin (NPM) is explicable by the collective influence of the independent variables. The Adjusted R-squared value of 0.305936 considers the model's complexity and indicates that around 30.59% of the variability in NPM is effectively attributed to the variables incorporated in the model. With an F-statistic of 11.13815, accompanied by an

exceptionally low p-value of 0.000005, the overall statistical significance of the model is firmly established. The Durbin-Watson statistic, close to the value of 2 at 2.047868, signifies minimal autocorrelation in the model's residuals. Interpreting the random effects model, the significant coefficients of NPLR, LAR, and Capital Adequacy unveil their respective influences on Net Profit Margin (NPM). The negative coefficient of NPLR implies that higher Non-Performing Loan Ratios correlate with reduced NPM. Conversely, the positive coefficient of LAR indicates that an increased Loan and Advance Ratio is associated with higher NPM. The positive coefficient of Capital Adequacy underscores that improved capital adequacy is linked with enhanced NPM. The R-squared values reinforce the notion that the model successfully captures a significant portion of the variability inherent in NPM, thus demonstrating the collective contribution of these variables in explaining NPM fluctuations. The overall model's significance, validated by the F-statistic and its associated p-value, underscores the robustness of the model's outcomes. In conclusion, our analysis reveals that Credit Management variables, specifically NPLR, LAR, and Capital Adequacy, wield a statistically significant influence over Net Profit Margin (NPM) within the Nigerian banking sector, as demonstrated by the outcomes of the random effects model.

4.3 Discussion of the Findings

From objectives one of this study, the combined information from the cited research serves to strengthen and corroborate the claim that the Nigerian banking industry is particularly concerned about the impact of credit management on a firm's Return on Asset (ROA). The discussion that follows clarifies the important conclusions drawn from the sources given above, focusing on the effect of non-performing loans on return on assets (ROA): The research which investigate the effects of non-performing assets (NPAs) on the financial performance of Indian banks, provide

an analogous understanding[1]. Similar to this, in the Nigerian context, a higher prevalence of NPLRs is likely to result in a lower ROA. This alignment results from the relationship between high NPLRs and degraded asset quality, which puts pressure on profitability[2].

The analysis of the profitability of Nepalese banks fits in perfectly with the observed pattern. Their research supports the idea that rising NPLRs, a sign of complex credit management, have a negative impact on ROA because they show a negative link between NPLRs and bank profitability[3]. The focus of a study analysis, which focuses on the asset quality and performance of Nigerian banks, assumes immediate applicability[4]. It contends that declining asset quality, as evidenced by rising NPLRs, has a detrimental effect on the entire range of bank performance, including ROA.

A wider regional perspective is provided by the thorough analysis undertaken which includes banks in the Middle East, India Sub-Continent, and Africa. Their findings highlight the fact that higher NPLRs are inextricably connected to lower profitability, correlating with the negative impact noticed in the Nigerian banking environment[5]. The examination in a Ghanaian context adds more support to the found trend because it illustrates the detrimental effects of increased credit risk (represented by NPLRs) on bank profitability[7]. This is consistent with the idea that a higher percentage of non-performing loans has an impact on overall returns. The study corroborates the relationship between NPLRs and ROA in the context of Nigerian banking by highlighting the detrimental effect of increased credit risk (NPLRs) on bank profitability[6].

The quality and efficiency of loan portfolios, which focuses on Nigerian deposit money banks, supports the notion that high NPLRs have a detrimental effect on banks' performance, including possibly a decline in ROA[7]. Comparative analysis of the profitability of conventional and Islamic

banks, NPLRs have a negative impact on profitability, correlating with findings in the Nigerian banking industry[8]. Commercial banks in Ghana, credit risk (measured by NPLRs) has a negative effect on banks' profitability[2]. This is consistent with the known relationship between elevated NPLRs and decreased ROA. The detected pattern is supported of commercial bank performance. Their research suggests that credit risk, as exemplified by NPLRs, reduces bank profitability. This confirms the known unfavorable correlation between NPLRs and ROA in the Nigerian scenario. These discussions as a whole shed light on a recurrent pattern that cuts across different geographical areas and banking systems. The overall results clearly show that a rise in non-performing loan ratios (NPLRs), a symptom of complex credit management and a deterioration in asset quality, is inextricably connected to a fall in return on assets (ROA) in the Nigerian banking sector.

The combined evidence from the cited research confirms and supports the result that, in the Nigerian banking sector, credit management has a significant impact on a firm's Return on Asset (ROA). This discussion focuses on the effect of Non-Performing Loan Ratio (NPLR), Loan and Advance Ratio (LAR), and Capital Adequacy on ROA while also exploring the model's explanatory power and statistical significance. It also explores the important insights derived from the sources listed. The research which looked at the effects of non-performing assets (NPAs) on Indian banks' financial performance, is relevant to the situation in Nigeria[8]. Their study emphasizes the association between greater Loan and Advance Ratios (LAR) and improved ROA, which is consistent with the observed trend. A significant LAR indicates that a sizable share of the bank's assets are allocated to loans and advances. This deliberate allocation could increase interest income, boosting ROA in the process.

However, a higher Loan and Advance Ratio has a beneficial impact on bank profitability, which is consistent with the situation in Nigeria, where a higher LAR raises ROA through higher interest income[1]. The study by H. S. Lestari, which examines the connection between financial leverage and the financial performance of conventional banks in Indonesia, parallels the situation in Nigeria and provides insights. Their findings confirm the observed negative coefficient of capital adequacy in Nigeria, which shows an inverse relationship between profitability and capital adequacy[4]. Greater capital adequacy strengthens stability, but it may constrict the opportunity for risk-taking activities that produce higher returns, resulting in a muted ROA.

This understanding is furthered form analysis of Non-Performing Loan implications on asset quality, profitability, and lending behavior. Their findings that higher Capital Adequacy ratios are associated with lower profitability are consistent with the idea that higher capital requirements could limit profitability and thus affect ROA[9]. Understanding the model's capacity is made possible, by a research which use panel data analysis and the CAMEL technique, respectively[10]. Their evaluations of the R-squared values highlight the model's success in capturing a sizable amount of underlying ROA variability. This is consistent with how NPLR, LAR, and Capital Adequacy collectively explain variations in ROA across the Nigerian banking industry.

From objective two of this study, the culmination of findings from the referenced studies underscores the pivotal role of credit management in shaping the Return on Equity (ROE) landscape within the Nigerian banking sector. This discussion aims to delve into the critical insights derived from these sources, particularly focusing on the impact of Non-Performing Loan Ratio (3NPLR) on ROE, The study, delving into the effects of Non-Performing Assets (NPAs) on Indian banks' financial performance, resonates with the Nigerian banking context[11]. Similar to

the observed trend, their research highlights the adverse correlation between higher Non-Performing Loan Ratios (NPLR) and diminished Return on Equity (ROE). A greater prevalence of NPLRs signifies compromised asset quality, which in turn exerts downward pressure on profitability, ultimately impacting ROE.

This observation is further reinforced by a work which explores the interplay of asset quality and Deposit Money Banks' performance in Nigeria[12]. The findings therein reinforce the notion that elevated Non-Performing Loan Ratios (NPLR) undermine banks' overall performance, leading to a reduction in ROE. Additionally, the study conducted on the impact of credit risk on bank profitability in Ghana bolsters this perspective[13]. Their findings elucidate that higher credit risk, indicated by greater NPLRs, unfavorably impacts bank profitability, corroborating the negative relationship observed between NPLRs and ROE within the Nigerian banking sector. The research undertaken, which spans Middle Eastern, Indian Sub-Continental, and African banks, provides a broader regional context[14]. Their results suggest a connection between higher NPLRs and reduced profitability, aligning with the adverse influence identified within the Nigerian banking sector. This corroborates the consistent understanding that elevated credit risk, as symbolized by increased NPLRs, leads to subdued ROE.

Moreover, the analysis which comparatively evaluates the profitability of conventional and Islamic banks in Bangladesh, mirrors the established trend[2]. Their findings underscore the detrimental impact of higher NPLRs on profitability, mirroring the adverse influence on ROE within the Nigerian banking landscape. These discussions collectively emphasize a consistent pattern across various studies, conducted in diverse regions and banking systems. The findings underscore the significance of Non-Performing Loan Ratios (NPLRs) as a critical determinant of Return on Equity (ROE) within the Nigerian banking sector. The negative coefficient of NPLR,

observed in multiple studies, reiterates the inherent challenges posed by elevated credit risk to the banks' profitability and financial performance. This collective understanding enriches our comprehension of the intricate dynamics of credit management's influence on ROE within the Nigerian banking landscape.

Furthermore, the research conducted centered on the impact of Non-Performing Assets (NPAs) on Indian banks' financial performance, offers a parallel understanding[15]. Their findings align with the Nigerian context, revealing that a positive coefficient of Loan and Advance Ratio (LAR) signifies an improved ROE. This mirrors the sentiment that higher LAR, indicative of a greater proportion of loans and advances in relation to total assets, contributes positively to profitability and ultimately enhances ROE. The study on the impact of credit risk on bank profitability in Nigeria provides additional corroboration[12]. Their findings underline that higher LAR has a beneficial effect on bank profitability, which in turn can positively influence ROE. This aligns with the established understanding that a higher LAR reflects effective credit management, leading to enhanced returns for shareholders.

The exploration of various studies illuminates a comprehensive understanding of the interplay between credit management and Return on Equity (ROE) within the Nigerian banking sector. The ensuing discussion delves into the intricate insights drawn from the mentioned sources, focusing on the implications of Loan and Advance Ratio (LAR) on ROE. Study on the determinants of capital adequacy among commercial banks enriches the understanding of ROE dynamics[9]. The positive coefficient of LAR resonates with the broader trend, indicating that a higher Loan and Advance Ratio correlates positively with ROE. This alignment signifies that a larger proportion of loans and advances is associated with improved equity returns, which could be attributed to the heightened interest income generated from lending activities. Analysis of

CAMEL components and commercial bank performance, the positive coefficient of LAR echoes the observed pattern[16]. This finding underscores that a higher Loan and Advance Ratio contributes to enhanced ROE. Effective credit management strategies, leading to efficient lending operations, likely translate into increased interest income, surpassing associated costs and thus boosting equity returns. The focus on the Turkish banking system corroborates the above trend. While not directly linked to LAR, the study aligns with the notion that a higher Loan and Advance Ratio can positively influence ROE. Effective credit management practices, leading to a higher volume of lending, could potentially drive stronger equity returns. Financial leverage and performance of conventional banks in Indonesia indirectly supports the interrelation between LAR and ROE[17]. While not explicitly addressing LAR, their findings accentuate the significance of effective credit management practices, which can be connected to loan and advance ratios. A well-managed ratio could enhance resource utilization, in turn bolstering ROE. Despite not directly involving LAR, their study on factors determining bank profitability in Kosovo contributes to the discussion. Their findings reiterate the importance of prudent credit management practices, which likely extend to loan and advance activities, in positively impacting ROE.

The implications of non-performing loans on Nigerian deposit money banks accentuates the pivotal role of credit risk management in profitability[17]. While not directly linked to LAR, the findings underline the importance of effective credit management practices, including optimal loan and advance ratios, in potentially boosting ROE. Determinants of commercial banks' profitability through financial performance indicators provides further contextual insights[18,19]. While not explicitly addressing LAR, their work underscores the significance of proficient credit management practices, which may be reflected in various financial metrics. Their empirical

investigation of financial variables on firm profitability in Oman complements the discourse. Despite not being specific to LAR, their findings underline the broader importance of financial factors, potentially encompassing loan and advance activities, in influencing bank profitability and, by extension, ROE.

From objective three of this, the investigation into the Effect of Credit Management on the Firm's Net Profit Margin (NPM) within the Nigerian banking sector culminates in a profound understanding of the intricate relationships between credit management factors and financial performance. The ensuing discussion delves into the nuanced insights derived from the cited studies, focusing on the implications of Non-Performing Loan Ratio (NPLR), Loan and Advance Ratio (LAR), and Capital Adequacy on Net Profit Margin (NPM), Determinants of capital adequacy among commercial banks in Ghana provides an insightful backdrop[20]. Although not explicitly addressing NPM, their examination underscores the broader importance of capital adequacy and its potential impact on profitability. Adequate capitalization could contribute to sustainable operations, which may indirectly influence NPM positively.

The relationship between non-performing loans and profitability in the Turkish banking system aligns with the discussion[21]. Although not directly addressing NPM, their findings emphasize the crucial interplay between non-performing loans (reflected in NPLR) and profitability. This underscores the potential influence of NPLR on NPM. Financial leverage and performance of conventional banks in Indonesia provides indirect context[22]. While not explicitly discussing NPM, their study highlights the importance of financial performance metrics, which could encompass NPM, in evaluating banks' health and efficiency.

Study on profitability determinants of commercial banks contributes valuable insights. While not directly addressing NPM, their findings reiterate the significance of effective credit management practices, which could influence various financial performance indicators, including NPM[23,26]. A research on bank-specific factors affecting non-performing loans in developing countries adds contextual relevance[24]. Specifically addressing NPM, their findings emphasize the importance of well-managed loan portfolios and efficient credit management in curbing non-performing loans. This indirectly underscores their potential impact on NPM.

The impact of non-performing loans on bank's profitability offers pertinent insights[25]. Their findings reaffirm the relevance of credit risk management, which can encompass factors like NPLR, in shaping profitability metrics that could include NPM. The implications of non-performing loans on Nigerian deposit money banks complements the discourse[12]. The findings underscore the broader significance of credit risk management, which could extend to NPLR, in influencing bank profitability and potentially NPM.

Study on Determinants of commercial banks' profitability through financial performance indicators contributes to the discussion. the work reinforces the importance of proficient credit management practices, which could directly impact NPM. Empirical study of financial variables' impact on firm profitability in enhances the context[15]. While not specific to NPM, their findings accentuate the broader significance of financial factors, including credit management aspects, in shaping profitability, which could translate to NPM. Bank-specific factors affecting non-performing loans in developing countries enriches the discussion[12]. While not directly tied to NPM, their findings highlight the significance of adept credit management in mitigating non-performing loans, thereby indirectly contributing to the potential enhancement of NPM.

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Chapter Five

Conclusion

5.1 Summary of the Findings

Based on the output provided, we can summarize the study as follows:

Examining the effect of Credit Management on Return on Asset (ROA) in the Nigerian banking sector, significant coefficients of NPLR, LAR, and Capital Adequacy illuminate their effects on ROA. The negative NPLR coefficient implies that higher Non-Performing Loan Ratios associate with decreased ROA, while the positive LAR coefficient indicates an elevated Loan and Advance Ratio corresponds to improved ROA. Conversely, the negative Capital Adequacy coefficient suggests that higher Capital Adequacy relates to reduced ROA. The R-squared values confirm the model's ability to capture substantial ROA variability, reflecting the combined influence of considered variables. The Adjusted R-squared value underscores the contribution of model variables to ROA variability. A low p-value of the F-statistic highlights the model's overall significance in explaining ROA fluctuations. Hence, the random effects model showcases the statistically significant impacts of Credit Management-related variables (NPLR, LAR, and Capital Adequacy) on Return on Asset (ROA) in the Nigerian banking sector.

Shifting to the effects of Credit Management on Return on Equity (ROE) in the Nigerian banking sector, significant coefficients of NPLR and LAR reveal their influences on ROE. The negative

NPLR coefficient implies that higher Non-Performing Loan Ratios associate with diminished ROE. Conversely, the positive LAR coefficient indicates that an elevated Loan and Advance Ratio corresponds to improved ROE. The R-squared values validate the model's ability to capture substantial ROE variability, indicating the collective impact of considered variables. A negative Adjusted R-squared value suggests the model's complexity may not sufficiently explain observed variability. The random effects model further demonstrates that Credit Management variables (specifically NPLR and LAR) exert statistically significant impacts on Return on Equity (ROE) in the Nigerian banking sector. The model's overall significance and variable coefficients offer insights into their influence on ROE within the banking context. Thus, Credit Management have significant effect on Return on Asset (ROA) in the Nigerian banking sector,

Lastly, analyzing the Effect of Credit Management on Firm's Net Profit Margin (NPM) in the Nigerian banking sector, significant coefficients of NPLR, LAR, and Capital Adequacy reveal their effects on NPM. The negative NPLR coefficient implies that higher Non-Performing Loan Ratios associate with reduced NPM, while the positive LAR coefficient suggests that a higher Loan and Advance Ratio corresponds to higher NPM. Additionally, the positive Capital Adequacy coefficient suggests improved capital adequacy relates to enhanced NPM. The R-squared values affirm the model's ability to capture a significant portion of NPM variability, showcasing the collective contribution of these variables. The overall model's significance, evidenced by the F-statistic and low p-value, solidifies the model's outcomes. In conclusion, our analysis highlights the statistically significant influence of Credit Management variables (NPLR, LAR, and Capital Adequacy) on Net Profit Margin (NPM) within the Nigerian banking sector, as indicated by the random effects model.

5.2 Conclusion

Based on the results presented, it can be concluded that credit management has a significant effect on the firm's financial performance in the Nigerian banking sector. Specifically, this study delved into the intricate relationship between Credit Management practices and key financial performance indicators within the Nigerian banking sector. Through a comprehensive analysis utilizing the random effects model, we have illuminated significant insights that underscore the importance of effective Credit Management strategies in shaping the financial outcomes of banking institutions. The findings of this study reveal that Non-Performing Loan Ratios (NPLR), Loan and Advance Ratios (LAR), and Capital Adequacy are crucial determinants of Return on Asset (ROA), Return on Equity (ROE), and Net Profit Margin (NPM) within the Nigerian banking landscape. Specifically, the outcomes underscore the adverse impact of higher Non-Performing Loan Ratios on ROA and ROE, while emphasizing the positive association between Loan and Advance Ratios and both ROA and ROE. Moreover, improved Capital Adequacy emerges as a favorable factor contributing to enhanced ROA and NPM. It is evident from the analyses that effective Credit Management practices hold significant potential to influence financial performance outcomes positively. Institutions that prioritize minimizing Non-Performing Loan Ratios, optimizing Loan and Advance Ratios, and ensuring robust Capital Adequacy are poised to achieve better returns on their assets, equity, and net profit margin. These findings carry substantial implications for banking institutions, regulators, and policymakers alike. The study underscores the need for banking institutions to strategically manage their credit portfolios to mitigate risks and enhance financial performance. Regulatory bodies can leverage these insights to refine guidelines that promote prudent Credit Management practices, ensuring the stability and sustainability of the banking sector.

5.3 Recommendations

Based on the findings of the study, the following recommendations are proposed:

Based on the comprehensive analysis of Credit Management's impact on Return on Asset (ROA), Return on Equity (ROE), and Net Profit Margin (NPM) within the Nigerian banking sector, several valuable recommendations can be drawn to guide banks in improving their financial performance and stability:

1. Mitigate Non-Performing Loan Ratios (NPLR): Given the negative coefficients associated with NPLR across all three financial performance metrics, it's imperative for banks to adopt proactive measures to minimize their non-performing loans. Implementing rigorous credit risk assessment, regular monitoring of loan portfolios, and effective loan recovery strategies can contribute to diminishing NPLR, ultimately boosting ROA, ROE, and NPM.

2. Strategic Loan and Advance Ratio Management: The positive coefficient of Loan and Advance Ratio (LAR) indicates that a higher ratio correlates with improved ROA, ROE, and NPM. However, it's essential to strike a balance between higher lending activities and prudent risk management. Banks should ensure that higher LAR doesn't compromise the quality of loans and escalate non-performing loans. A robust assessment of borrower creditworthiness and loan portfolio diversification can aid in optimizing LAR while maintaining credit quality.

3. Enhance Capital Adequacy: The negative coefficient of Capital Adequacy suggests that greater levels of capital adequacy might lead to reduced ROA. While having sufficient capital

buffers is essential for financial stability, banks should carefully evaluate the trade-off between capital levels and profitability. Striking the right balance by optimizing capital utilization to support lending activities while maintaining regulatory requirements can lead to an improved ROA without jeopardizing stability.

4. Refine Credit Risk Management Practices: The findings emphasize the pivotal role of credit management in influencing various financial performance indicators. Banks should invest in sophisticated credit risk assessment models, employ data-driven decision-making, and continuously refine their risk management strategies. This approach can help in early identification of potential credit risks, preventing the escalation of non-performing loans, and consequently positively impacting ROA, ROE, and NPM.

5. Monitor and Adapt: The outcomes of the random effects model underscore the significance of credit management variables across various financial metrics. Banks should continuously monitor the relationship between these variables and financial performance, adapting their strategies in response to changing market conditions, regulatory frameworks, and customer behaviors.

6. Holistic Financial Performance Approach: Banks should adopt a holistic approach to financial performance assessment. Considering the interplay between ROA, ROE, and NPM can provide a comprehensive understanding of how credit management influences different aspects of their operations. This comprehensive perspective can lead to well-rounded strategies for sustainable growth.

5.4 Contribution to Knowledge

This study contributes to the existing body of knowledge on credit management and bank performance by providing insights into the Nigerian banking sector context. The findings of this study have implications for both theoretical and practical aspects of credit management in the banking industry.

Conceptually, study contributes to the existing literature on credit management and banking performance in several ways. First, it focuses on the Nigerian banking sector, which has not been extensively studied in the literature. Second, it specifically examines the impact of credit management on the performance of banks with low ROA and ROE, which has not been widely explored in previous studies. Third, it includes three different credit management variables, NPLR, LAR, and capital adequacy, in the analysis to provide a more comprehensive understanding of the factors that affect banking performance. Finally, it employs a panel data analysis approach, which accounts for the heterogeneity and dynamics of the banking industry and provides more robust and accurate results. Overall, this study contributes to the understanding of the factors that affect the performance of banks in Nigeria and provides valuable insights for policymakers, bank managers, and researchers.

Theoretically, Information Asymmetry Theory, this study contributes to the understanding of how credit management practices affect the performance of banks in the Nigerian banking sector. The study finds that credit risk, measured by NPLR, has a significant negative effect on the profitability of banks, as represented by ROA and ROE. This finding supports the notion that information asymmetry between banks and borrowers can lead to adverse selection and moral hazard problems that can ultimately result in loan defaults and reduced profitability. In terms of Transaction Cost Theory, the study shows that LAR and CAPITAL_ADEQUACY have a positive effect on bank profitability. This finding suggests that banks that invest in improving

their credit management practices can reduce transaction costs associated with loan defaults and increase their ability to meet regulatory requirements, leading to improved profitability.

Empirically, the study uses a panel dataset and employs panel EGLS (Cross-section random effects) estimation to analyze the effect of credit management on bank profitability. The use of a panel dataset and advanced estimation techniques provides more robust and reliable results compared to traditional regression methods.

In terms of policy and practice, the study provides insights into the importance of effective credit management practices for improving the profitability of banks. The study recommends that banks should implement policies and practices that aim to reduce credit risk, improve loan recovery, and maintain adequate capital adequacy ratios to ensure regulatory compliance. Policymakers can use the findings of this study to develop policies that promote effective credit management practices in the banking sector, ultimately leading to a more stable and profitable banking industry.

5.5 Suggested Area for Further Study

A deeper understanding of borrower behavior could enhance our insights into credit management's impact. Exploring how borrowers' financial literacy, cultural attitudes towards debt, and repayment tendencies interact with credit management strategies could provide valuable context to the observed relationships.

Investigating how macroeconomic factors, such as interest rate fluctuations, inflation, and economic growth, interplay with credit management practices and subsequent financial performance could offer a more holistic view. This could involve assessing how banks adapt their credit management in response to economic shifts.

Exploring the relationship between credit management practices and the quality of loan origination could shed light on the initial assessment of credit risk. Research could delve into how factors like underwriting standards and due diligence impact the eventual financial outcomes.

Comparative studies that delve into the effectiveness of different credit management strategies, such as risk-based pricing, credit scoring models, and collateral requirements, could unveil optimal approaches for enhancing financial performance.

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The University Compliance Certification

This is to certify that this thesis was carried out by **Olanrewaju Ayodeji MUSTAPHA** with matric number **LCU/PG/002238** in the department of Management and Accounting, Lead City University, Ibadan, is in Full compliance with the approved University format and style.

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Signature Date