Liquidity Management and the Financial Performance of Deposit Money Banks in Nigeria

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Certification

This is to certify that Damilola Maryam AKINBIYI with the matriculation number LCU/PG/2736 carried out this research work titled: Liquidity Management and the Financial Performance of Deposit Money Banks in Nigeria in the Department of Management & Accounting, Faculty of Management & Social Sciences, Lead City University, Ibadan, Nigeria for the award of Master of science Degree (MSc) in Accounting and this has not been previously submitted.

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Dedication

This work is dedicated to God Almighty and my family whose support is immeasurable towards the realization of this goal.

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Abstract

Nigerian DMBs struggle to maintain stability and growth. A major challenge is effective liquidity management, which is crucial for improved performance. This study examines the impact of liquidity management on the financial performance of Deposit Money Banks (DMBs) in Nigeria. Utilizing an ex-post facto design, the research analyzed 10 years of annual reports from eight listed DMBs with international authorization licenses, yielding 80 observations. Multiple regression analysis was conducted using the OLS approach via E-VIEW software. Key findings reveal that Cash Flow Coverage (CFC) significantly negatively impacts Net Interest Margin (NIM) (R^2 = 0.74863, $p < 0.05$) but has insignificant effects on Earnings Per Share (EPS) (R^2 = 0.122659, $p > 0.05$) and Bank Efficiency (BE) (R^2 = 0.309693, $p < 0.05$). Capital Adequacy Ratio (CAR) significantly positively influences EPS (R^2 = 0.210055, $p < 0.05$) and BE (R^2 = 0.065635, $p < 0.05$) but has an insignificant positive effect on NIM (R^2 = 0.718218, $p < 0.05$). Loan-to-Asset Ratio (LAR) significantly positively affects EPS (R^2 = 0.056559, $p < 0.05$) but has insignificant positive effects on NIM (R^2 = 0.720110, $p < 0.05$) and BE (R^2 = 0.306720, $p < 0.05$). Loan-to-Deposit Ratio (LDR) significantly positively impacts BE (R^2 = 0.344147, $p < 0.05$) but has insignificant effects on NIM (R^2 = 0.716810, $p < 0.05$) and EPS (R^2 = 0.000565, $p > 0.05$). The study concludes that effective liquidity management is crucial for DMBs' financial performance. This emphasize the interconnectedness of liquidity metrics (CFC, CAR, LAR, LDR) in influencing financial performance. Each metric plays a distinct role, affecting NIM, EPS, and BE. This underscores the need for a profound liquidity management approach that considers the interplay between these factors. Recommendations include optimizing cash flow coverage, maintaining higher capital adequacy ratios, responsible loan portfolio management, and balancing loan-to-deposit ratios for improved operational efficiency and profitability.

Keywords: Liquidity Management, Financial Performance, Cash Flow Coverage, Capital Adequacy Ratio (CAR), Loan-to-Asset Ratio (LAR) Loan-to-Deposit Ratio (LDR)

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List of Acronyms

Abbreviation	Meaning
AL	Autonomous Liquidity
CAR	Capital Adequacy Ratio
CBN	Central Bank of Nigeria
CBZ	Commercial Bank of Zimbabwe

CCCM	Cash Conversion Cycle Management
CFC	Cash Flow Coverage
CR	Current Ratio
CRR	Cash Reserve Requirement
DMBs	Deposit Money Banks
EPS	Earnings Per Share
FBC	First Capital Bank,
LAR	Liquid Assets Ratio
LDR	Loan-to-Deposit Ratio
LM	Liquidity management
LQ	Liquidity Ratio
MPR	Monetary Policy Rate
NIM	Net Interest Margin
NPM	Net Profit Margin
OLS	Ordinary Least Squares
OMO	Open Market Operations
QRM	Quick Ratio Management
ROA	Return on Assets

ROE	Return on Equity
VIF	Variance Inflation Factor

Introduction

1.1 Background to the Study

Understanding the dynamics and performance of deposit money banks in the financial sector is essential for several reasons. Firstly, continuous improvement or better performance serves as a pivotal metric for assessing the success, growth, and sustainability of these companies. Enhanced performance indicates efficient resource utilization, effective risk management, and strategic decision-making, all of which are vital for maintaining competitiveness and long-term viability in the banking sector. Furthermore, profitability is a critical aspect of assessing the performance of deposit money banks. The profitability of Deposit Money Banks is influenced by factors such as cost synergies, revenue-sharing arrangements, and strategic capital allocation. Understanding these dynamics is essential for evaluating the financial health and sustainability of deposit money banks.

Globally, effective management of a company's financial needs and operations is paramount to its success and sustainability[1]. This management significantly impacts both the profitability and liquidity of the firm, which are crucial indicators of its financial health. Profitability serves as a fundamental measure of a company's performance, reflecting its ability to generate earnings from its operations[2]. On the other hand, liquidity indicates the company's capacity to meet its short-term financial obligations promptly. It represents the availability of cash or liquid assets to cover immediate expenses or debt payments. Together, profitability and liquidity management are essential aspects of financial management, ensuring the company's ability to thrive in both the short and long term amidst various economic conditions and operational challenges[1].

The Nigerian banking sector plays a crucial role in the country's economy by facilitating financial intermediation, supporting businesses, and driving economic growth. Within this sector, deposit money banks, as key financial institutions, perform essential functions such as mobilizing deposits, granting loans, and providing various financial services to individuals and businesses. In recent years, a notable trend in the Nigerian banking industry has been the ownership of deposit money banks. Deposit money banks (DMBs), also known as commercial banks, play a crucial role in the financial system of an economy. They accept deposits from the public and create credit, which is essential for various economic activities. The study of DMBs encompasses several aspects, including their functions, operations, regulatory environment, and impact on economic development.

Financial needs are largely classified into two: liquidity management and fixed capital needs. That part of finance which enables an enterprise to conduct its day-to-day operations is called working capital. It is a financial measure used to assess corporate liquidity. It also represents the difference between a firm’s current assets and current liabilities called Net Assets. This is the amount of money a company has available to pay its short-term expenses. Reasonable working capital should be available to any firm to ensure that it has sufficient funds to cover its short-term obligations and to pay for future operating expenses. This guarantees the continuity of the firm's operations. In fact, it is possible to see a profitable firm forced out of business due to inability to meet its short-term obligations when they fall due. It is therefore vital for any firm to manage its working capital successfully to ensure continuity.

The Nigerian Economy is faced with several factors which could impede the speed of having a huge return on the resources employed by the organizations (companies). As a result,

however, proper initiative and capital (resource) management is required. It is worthy to note that out of every resource that an organization has, liquidity is the most important or the basic. Working capital is a vital element in any organizational setting that requires cogent attention, proper planning, and management. As resources available to organizations are scarce, it is believed that the management of an organization's working capital has a pivotal role to play in the achievement of profitability and overall performance of such an entity. This implies that a firm's liquidity does to a large extent determine its profitability.

A firm should have adequate level of liquidity because excessive liquidity results into idle funds which do not create any value. On the other hand, low level of liquidity might result into the lack of resources to meet financial obligations hence creates financial distress. The central point or the focus of working capital policy is on the liquidity of current assets to meet the short term or current liabilities. Liquidity gives the true idea of firm’s position to meet its maturing liabilities. A firm should have sufficient level of liquidity because excessive liquidity results into idle funds which do not create any value. Another point is that low level of liquidity might result into the lack of resources to meet financial obligations hence creates financial distress[1]

An organization like bank is required to maintain a balance between liquidity and organizational performance while conducting its day-to-day operations. Liquidity is a precondition to ensure that organizations can meet its short-term obligations and its continued flow can be guaranteed from a profitable venture. The importance of cash as an indicator of continuing financial health should not be surprising in view of its crucial role within the business. This requires that business must be run both efficiently and profitably. In the process, an asset-liability mismatch may occur which may increase organizational

performance in the short run but at a risk of its insolvency. Thus, the manager of a business entity is in a dilemma of achieving desired trade-off between liquidity and organizational performance in order to maximize the value of an organization through an effective Liquidity Management. Banking sector being an important financier of many business organisations should have strong liquidity management in order to serve its main objective of controlling the economic financial resources. The Nigerian banking sector faces significant challenges that must be addressed to ensure the continued health and stability of deposit money banks (DMBs). Three critical issues that demand attention are bank Net Interest Margin, bank efficiency and earnings per share (EPS). The Net Interest Margin is a key financial metric that measures the profitability of a bank's core lending and investment activities. It reflects the difference between the interest income earned from loans and investments and the interest expenses paid on deposits and borrowings. In the Nigerian banking sector, fluctuations in interest rates, credit risk, and liquidity constraints can significantly impact NIM. Low NIM may indicate inefficiencies in asset allocation, suboptimal pricing strategies, or increased funding costs, which can erode profitability and hinder sustainable growth. Maintaining a healthy NIM is crucial for DMBs to support their operations, attract investors, and remain competitive in the market. Addressing challenges related to NIM requires strategic management of interest rate risk, prudent lending practices, and effective liquidity management.

Bank efficiency, encompassing aspects such as cost management, revenue generation, and asset utilization, is essential for DMBs to achieve higher profitability and maintain competitiveness. In a landscape marked by regulatory changes, technological advancements, and economic fluctuations, improving efficiency is imperative for DMBs to enhance their

sustainability and adaptability. Additionally, EPS, a key financial metric reflecting profitability and shareholder value, requires close scrutiny. EPS indicates how much profit a DMB generates for each outstanding share of its common stock, making it crucial for investors and stakeholders. In Nigeria, where investors seek to maximize returns on their investments, monitoring EPS is vital for assessing the profitability and value proposition of DMBs. Addressing these issues is essential for the Nigerian banking sector to thrive amidst evolving market dynamics and to ensure the continued trust and confidence of investors and stakeholders.

Managing liquidity is a pivotal aspect of the overarching corporate strategy aimed at consistently enhancing performance and tackling the challenges of sustainable growth and profitability within Deposit Money Banks (DMBs). For all firms, in both developed and developing economies, one of the fundamental objectives of Liquidity Management is to ensure that they have sufficient, regular, and consistent cash flow to fund their activities. The objective of working capital management is to manage the firm's current assets and liabilities in such a way that a satisfactory level of working capital is maintained. The mismanagement of working capital may lead to a liquidity crisis and a reduction in profitability[2]. This implies that liquidity management is one of the key decisions that a finance manager makes. Further, working capital is known as life-giving force for any economic unit and its management is considered among the most important function of corporate management. Every organisation whether profit oriented or not, irrespective of size and nature of business, requires necessary amount of working capital. It is a very important component of corporate finance because it directly affects the liquidity and profitability of the company; it deals with current assets and

current liabilities. Every business organization irrespective of size and nature ought to have an efficient liquidity management for the smooth running of a business[3].

Cash is the heart of every business and considering that working capital is the cheapest source of cash, it has become critical for businesses to imbibe a cash culture and good liquidity[1]. This is a major reason why managing working capital has now become a top priority for many companies[6]. Working capital is the lifeblood of every organization and is capable of creating or destroying shareholders wealth[6]. By focusing on working capital management, firms can reduce risk and increase profitability[7]. Due to shortage of credit access and over-dependence on short-term resources, it is contended that working capital is paramount for liquidity, firm growth and profitability[9].

For all firms, in both developed and developing economies, one of the fundamental objectives of Liquidity Management is to ensure that they have sufficient, regular, and consistent cash flow to fund their activities. This objective is particularly heightened for financial institutions like banks. In banking business, profit and liquidity are not negotiable, at least for two critical reasons; to meet regulatory requirements and to guarantee enough liquidity to meet customers' unannounced withdrawals. Consequently, proper Liquidity Management would enable banks in sustaining growth which, in turn leads to strong profitability and sound liquidity for ensuring effective and efficient customer services.

Liquidity management plays a pivotal role in addressing the challenges of bank efficiency and earnings per share (EPS) within the Nigerian banking sector. The effective management of liquidity, encompassing current assets and liabilities, is imperative for deposit money banks (DMBs) to optimize their operational performance and bolster profitability[5]. Primarily, proficient liquidity management ensures that DMBs uphold sufficient liquidity to fulfill short-

term obligations while maximizing asset returns[6]. Through adept handling of cash, receivables, and inventory, banks can minimize idle funds and alleviate the expenses associated with maintaining surplus liquidity, thereby enhancing overall efficiency.

Furthermore, astute liquidity management empowers DMBs to optimize their financing and investment strategies, consequently augmenting EPS. By judiciously balancing short-term financing avenues with investment prospects, banks can amplify profitability and shareholder value[7]. For instance, by streamlining accounts receivable and payable cycles, DMBs can abbreviate cash conversion periods and enhance cash flows, thus augmenting earnings available to shareholders. Additionally, effective liquidity management serves as a buffer against risks stemming from regulatory changes, technological advancements, and economic fluctuations, fortifying the banks' competitiveness and sustainability[7,8]. By upholding optimal levels of liquidity, banks can navigate market uncertainties adeptly and position themselves to seize growth opportunities, thereby fortifying their resilience in dynamic market conditions.

The study focused on several crucial components of liquidity management to assess the financial performance of Deposit Money Banks (DMBs). These components encompassed the Cash Flow Coverage, Loan-to-Deposit Ratio (LDR), Liquid Assets Ratio, and Capital Adequacy Ratio (CAR). However, Cash Flow Coverage evaluates a bank's ability to generate sufficient cash flows to cover its financial obligations, including debt service payments and operating expenses. Optimizing Cash Flow Coverage is essential for DMBs to sustainably manage their liquidity position and support ongoing operations. Cash Flow Coverage assesses a bank's ability to generate sufficient cash flows to cover its financial obligations. A higher Cash Flow Coverage ratio indicates greater financial stability and resilience to economic downturns. Efficient management of cash flow can positively impact bank efficiency ratios by

ensuring the bank's ability to meet operating expenses and debt obligations without relying excessively on external financing. Also, strong Cash Flow Coverage can contribute to improved financial performance and EPS by providing assurance to investors and stakeholders of the bank's ability to generate consistent cash flows and sustain dividend payments. This can enhance shareholder value and potentially lead to higher EPS over time.

The Loan-to-Deposit Ratio (LDR) indicates the proportion of a bank's loans relative to its deposits, reflecting its ability to meet loan demands while maintaining liquidity. Managing the LDR effectively is essential for DMBs to strike a balance between lending activities and liquidity requirements, ensuring financial stability and regulatory compliance. The Liquid Assets Ratio measures the ratio of a bank's liquid assets, such as cash and government securities, to its total assets, providing insights into its liquidity position. Maintaining an adequate Liquid Assets Ratio is critical for DMBs to mitigate liquidity risks and meet short-term obligations promptly. The LDR is a crucial metric that indicates the extent to which a bank relies on deposits to fund its lending activities. An optimal LDR ensures that the bank maintains a healthy balance between loan assets and deposit liabilities, thereby minimizing liquidity risks while maximizing profitability. Efficient management of the LDR can positively impact bank efficiency ratios by optimizing resource allocation and reducing funding costs. Furthermore, a balanced LDR can contribute to improved financial performance and shareholder value by enhancing the bank's ability to generate interest income from loans while ensuring sufficient liquidity to meet depositor withdrawals. This, in turn, can positively influence EPS by boosting profitability and overall shareholder returns.

Lastly, the Capital Adequacy Ratio (CAR) assesses a bank's capital adequacy relative to its risk-weighted assets, ensuring it has sufficient capital to absorb potential losses. Maintaining a

healthy CAR is vital for DMBs to instill investor confidence, comply with regulatory requirements, and safeguard against financial distress. By focusing on these key components of liquidity management, the study aimed to provide insights into how DMBs can enhance their financial performance and ensure long-term sustainability in the dynamic banking landscape. The Liquid Assets Ratio measures a bank's ability to meet short-term obligations with liquid assets such as cash and marketable securities. A higher Liquid Assets Ratio indicates greater liquidity and financial stability, reducing the risk of default and enhancing investor confidence. Efficient management of liquid assets can positively impact bank efficiency ratios by improving liquidity management and reducing the need for costly emergency funding. A robust Liquid Assets Ratio can bolster financial performance and EPS by mitigating liquidity risks and ensuring the bank's ability to meet its financial obligations promptly. This can enhance investor perception and confidence, potentially leading to higher stock prices and improved EPS over time.

In 2009, 10 out of the 24 megabanks popularly called 'deposit money banks' (the commercial banks in Nigeria) were declared by the Central Bank of Nigeria (CBN) as troubled and uncertain' or 'banks in grave condition for having liquidity challenges, capital inadequacy and lack of sound risk management processes among others. Despite the stringent reforms and regulation in the Nigerian banking industry, the deposit money banks are not performing well. Most banks are facing liquidity and profitability challenges[1]. Liquidity in banking is the ability to convert current assets to cash to meet customers' demand deposits and other short-term maturing obligations. The inability to meet maturing obligations or at extra cost is called liquidity risk. The term 'profitability' means the ability to earn profits by an enterprise on its static invested capital. It expresses the relationship between profits and capital, of which a

firm is said to be successful if its profitability exceeds the weighted average cost of capital to the firm. The profitability acts as a yardstick to measure the operating efficiency of an enterprise.

Liquidity Management is a very important element to analyse the organizations' performance while conducting day to day operations, by which balance can be maintained between liquidity and profitability. Maintaining liquidity on daily basis to make sure it is running and meet its commitment is a crucial part required in managing working capital. It is, however, a difficult task for managers to make sure that the business functions or runs very well in a well-organized and advantageous manner.

1.2 Statement of the Research Problem

Deposit Money Banks (DMBs) in globally aim to attain maximum financial performance by maintaining optimal liquidity. This involves ensuring that they possess an adequate amount of liquid assets that may be promptly used to pay short-term obligations, while avoiding the negative impact of keeping large amounts of idle cash on profitability. Effective liquidity management for Deposit Money Banks (DMBs) in Nigeria encompasses various crucial elements. First and foremost, accurate prediction of future cash flows allows for proactive control of liquidity requirements. Furthermore, the act of diversifying liquid assets by adding a range of different maturities and risk profiles aids in reducing the risks linked to swings in interest rates and unforeseen withdrawals. In addition, implementing active liability management strategies, such as providing a variety of deposit products with varying withdrawal terms, helps effectively manage short-term funding sources. Furthermore, it is essential to establish and nurture robust connections with the Central Bank, since having access to liquidity facilities can act as a safeguard during times of financial turmoil. Attaining

these goals is crucial for DMBs to provide stability, comply with regulatory mandates, and facilitate sustainable expansion in the Nigerian banking industry.

However, the current situation in the Nigerian banking sector may not align with this ideal scenario. While DMBs are required to adhere to regulatory liquidity requirements, there may be variations in how effectively they manage their liquidity positions. Some banks may prioritize certain liquidity metrics over others, potentially leading to suboptimal financial performance. Additionally, the lack of in-depth analysis and longitudinal studies examining the relationship between liquidity management metrics and financial performance may limit our understanding of this critical aspect of banking operations.

Prior research in the field of liquidity management and financial performance of DMBs in Nigeria has provided valuable insights[9,10]. However, most studies have offered broad overviews of liquidity management practices without delving into specific metrics or employing advanced analytical techniques. Few studies have utilized panel data techniques or controlled for individual bank-specific factors, limiting the depth and robustness of their findings.

This study aims to bridge these gaps by focusing on specific liquidity ratios like Cash Flow Coverage Ratio, Loan-to-Deposit Ratio, Liquid Assets Ratio, and Capital Adequacy Ratio. To bridge the methodological gap, we will employ advanced panel data techniques to analyze a comprehensive dataset encompassing multiple DMBs over several years. This longitudinal approach, coupled with fixed-effects regression, allows us to examine the nuanced and evolving impact of each metric on financial performance indicators (e.g., return on assets, return on equity) while controlling for individual bank size and other relevant factors. By delving deeper into these specific metrics and their long-term trends, this study aspires to

contribute valuable knowledge on how liquidity management practices influence DMBs' financial performance. Thus, the study investigates Liquidity Management and Financial Performance of Deposit money Banks in Nigeria.

1.3 Aim and Objectives of the Study

The study examined the effect of Liquidity Management on the financial performance of Deposit Money Banks in Nigeria. The specific objectives are to:

1. assess the effect of cash flow coverage on the Net Interest Margin of Nigerian deposit money banks.
2. analyse the influence of Capital Adequacy Ratio (CAR) on Earnings per Share (EPS) for Nigerian DMBs.
3. investigate the influence of Loan-to-Deposit Ratio (LDR) on bank efficiency in Nigerian DMBs
4. examine the effect of Liquid Assets Ratio on the Net Interest Margin of Nigerian deposit money banks.

1.4 Research Questions

In line with the above statement of problem, the following research questions were drawn.

1. How does cash flow coverage affect the Net Interest Margin of Nigerian deposit money banks?
2. What is the impact of Capital Adequacy Ratio (CAR) on Earnings per Share (EPS) for Nigerian DMBs?
3. To what extent does the Loan-to-Deposit Ratio (LDR) influence bank efficiency in Nigerian DMBs?

4. What is the effect of Liquid Assets Ratio on the Net Interest Margin of Nigerian deposit money banks?

1.5 Hypotheses

The following Hypotheses stated in null form were tested in this study:

Ho1: There is no significant effect of cash flow coverage on the Net Interest Margin of Nigerian deposit money banks.

Ho2: The Capital Adequacy Ratio (CAR) does not significantly impact Earnings per Share (EPS) in Nigerian DMBs.

Ho3: The Loan-to-Deposit Ratio (LDR) does not significantly influence bank efficiency in Nigerian DMBs.

Ho4: There is no significant effect of Liquid Assets Ratio on the Net Interest Margin of Nigerian deposit money banks.

1.6 Significance of the Study

This study holds significant importance for various stakeholders in the Nigerian banking sector and contributes to the existing body of knowledge in several ways.

Firstly, from an academic perspective, this research addresses gaps in the literature by providing a comprehensive analysis of liquidity management, risk asset quality, cash reserves, and capital adequacy in Nigerian deposit money banks. By expanding the understanding of the relationships between these variables and their impact on the financial performance and stability of these banks, the study contributes to academic knowledge in the field.

Secondly, the findings of this research have practical implications for deposit money banks. By offering valuable insights, the study enables these banks to enhance their cash flow management practices, risk asset quality management, cash reserve policies, and capital

adequacy strategies. This, in turn, can improve their liquidity management, profitability, stability, and overall financial performance.

Furthermore, the research outcomes provide policymakers, regulatory authorities, and relevant stakeholders with evidence-based insights into the effectiveness of existing regulations and policies related to liquidity management, risk asset quality, cash reserves, and capital adequacy in Nigerian deposit money banks. This information can guide the development of targeted policies and regulations that promote financial stability, protect depositors' interests, and foster sustainable growth within the banking sector.

The study's findings also serve as a reference for industry practitioners and professionals in the banking sector. By providing valuable benchmarks and best practices for liquidity management, risk asset quality assessment, cash reserve management, and capital adequacy optimization, the research supports industry players in improving their decision-making processes, enhancing risk management frameworks, and aligning their strategies with industry-leading practices.

Finally, the research outcomes have implications for the broader economic development of Nigeria. Improved liquidity management, risk asset quality, cash reserves, and capital adequacy in deposit money banks can lead to enhanced financial intermediation, increased access to credit, and improved confidence in the

banking system. This, in turn, fosters economic growth and stability, benefiting the overall economy.

In summary, this study's significance lies in its ability to generate knowledge, provide practical implications, guide policies and regulations, inform industry practices, and contribute to the broader economic development of Nigeria's banking sector.

1.7 Scope of the study

The scope of this study encompasses an in-depth examination of liquidity management and financial performance within the Deposit Money Banks (DMBs) operating across Nigeria. Geographically, the study is focused solely on DMBs within the Nigerian banking sector.

In terms of data scope, the study will delve into a comprehensive analysis spanning a decade, from 2013 to 2022. Throughout this period, all 24 Deposit Money Banks operating within Nigeria will be considered, providing a robust dataset for analysis and evaluation.

Financial performance, as a dependent variable, will be evaluated through several key indices. The Net Interest Margin (NIM) will be scrutinized to assess the disparity between interest income generated by banks and the interest paid out to lenders. Bank efficiency, another crucial metric, will be examined to gauge the ability of banks to optimize operational costs while maximizing returns. Additionally, Earnings Per Share (EPS) will be analyzed as an indicator of bank profitability, calculated by dividing net income by outstanding shares.

Conversely, liquidity management will be explored as an independent variable, encompassing various components vital to bank operations. Cash Flow Coverage will be scrutinized to evaluate banks' capacity to meet financial obligations through available cash flows. The Loan-to-Deposit Ratio (LDR) will be assessed to determine the proportion of total loans relative to deposits, indicating the reliance of banks on deposit funding for lending activities. The Liquid Assets Ratio will be examined to gauge the proportion of easily convertible assets, ensuring banks' ability to meet short-term obligations. Lastly, the Capital Adequacy Ratio (CAR) will

be analyzed to assess banks' capital adequacy concerning risk-weighted assets, crucial for absorbing potential losses.

1.9 Operationalisation of the Research Variables

Financial Performance Model

The financial performance model considers key metrics to evaluate a bank's financial health:

- Net Interest Margin (NIM)
- Bank Efficiency
- Earnings Per Share (EPS)

This is expressed as:

Financial Performance = f(NIM, Bank Efficiency, EPS) + ε

Where:

- **Financial Performance:** Represents the overall financial health of the bank.
- **NIM:** Net Interest Margin.
- **Bank Efficiency:** A measure of a bank's efficiency in its operations.
- **EPS:** Earnings Per Share.
- **f:** Represents the functional relationship between financial performance and its determinants (NIM, Bank Efficiency, EPS).
- **ε:** Represents the error term, capturing any unobserved factors affecting financial performance.

Liquidity Management

The liquidity management model focuses on components crucial for a bank's operations:

- Cash Flow Coverage
- Loan-to-Deposit Ratio (LDR)

- Liquid Assets Ratio
- Capital Adequacy Ratio (CAR)

This is expressed as:

Liquidity Management = g(Cash Flow Coverage, LDR, Liquid Assets Ratio, CAR) + ε'

Where:

- **Liquidity Management:** Represents the effectiveness of the bank's liquidity management strategies.
- **Cash Flow Coverage:** The ability to meet financial obligations using available cash flows.
- **LDR:** Loan-to-Deposit Ratio, indicating the reliance on deposits for lending activities.
- **Liquid Assets Ratio:** The proportion of assets that can be easily converted to cash.
- **CAR:** Capital Adequacy Ratio, measures the bank's capital adequacy relative to risk-weighted assets.
- **g:** Represents the functional relationship between liquidity management and its determinants (Cash Flow Coverage, LDR, Liquid Assets Ratio, CAR).
- **ε':** Represents the error term, capturing any unobserved factors affecting liquidity management.

1.10 Definitions of Operational terms

Terms used for the purpose of this study and their contextual meaning are as follows:

Financial performance: Financial performance refers to the overall effectiveness and efficiency of a bank in generating profits and maximizing shareholder value through its various financial activities and operations. It encompasses a wide range of financial metrics and indicators that assess the profitability, solvency, efficiency, and growth of a bank over a

specific period. Key components of financial performance include revenue growth, profitability ratios (such as return on assets and return on equity), asset quality, capital adequacy, and overall financial stability. Evaluating financial performance provides insights into the effectiveness of a bank's strategies, management decisions, and operational execution in achieving its financial objectives and maintaining long-term sustainability.

Net Interest Margin (NIM): Net Interest Margin (NIM) refers to the difference between the interest income generated by a bank from its assets, such as loans and investments, and the interest paid out to its lenders, such as depositors and creditors. It is calculated by subtracting the total interest expenses from the total interest income and then dividing the result by the average earning assets. NIM serves as a measure of the profitability of a bank's core lending and investment activities, indicating how effectively the bank is able to generate profits from its interest-earning assets relative to its interest expenses.

Bank Efficiency: Bank efficiency represents the ability of a bank to optimize its operational costs while maximizing returns from its activities. It encompasses various operational metrics such as cost-to-income ratio, operating expenses, and revenue generation. A high level of bank efficiency implies that the institution is operating in a cost-effective manner, minimizing wastage and inefficiencies while maximizing revenue generation from its operations.

Earnings Per Share (EPS): Earnings Per Share (EPS) is a financial metric that measures the profitability of a bank on a per-share basis. It is calculated by dividing the net income attributable to common shareholders by the total number of outstanding shares. EPS serves as an indicator of a bank's profitability and its ability to generate earnings for its shareholders. A higher EPS indicates greater profitability and potential returns for shareholders.

Liquidity Management: Liquidity management refers to the strategic planning and control of a bank's assets and liabilities to ensure that it maintains an optimal level of liquidity to meet its short-term financial obligations and operational needs while minimizing liquidity risk. It involves managing the balance between the inflow and outflow of funds, maintaining sufficient liquid assets, and monitoring cash flows to mitigate the risk of funding shortages or liquidity crises. Key components of liquidity management include cash flow forecasting, liquidity ratio analysis, liquidity risk assessment, funding diversification, and the establishment of contingency funding plans. Effective liquidity management is essential for ensuring financial stability, maintaining depositor confidence, meeting regulatory requirements, and supporting the smooth functioning of a bank's operations.

Cash Flow Coverage: Cash Flow Coverage assesses a bank's ability to meet its financial obligations through available cash flows. It measures the extent to which a bank's cash inflows from operations, financing, and investing activities can cover its cash outflows, including debt repayments, operating expenses, and capital expenditures. A higher cash flow coverage ratio indicates a stronger ability to meet financial obligations and sustain operations without relying heavily on external financing.

Loan-to-Deposit Ratio (LDR): Loan-to-Deposit Ratio (LDR) measures the proportion of a bank's total loans to its total deposits. It indicates the extent to which a bank relies on deposits to fund its lending activities. A higher LDR suggests that the bank is more aggressive in lending out its deposits, potentially increasing its profitability but also exposing it to higher liquidity and credit risks.

Liquid Assets Ratio: Liquid Assets Ratio assesses the proportion of a bank's easily convertible assets, such as cash, marketable securities, and liquid investments, relative to its

total assets. It measures the bank's ability to meet short-term financial obligations and withstand liquidity shocks. A higher liquid assets ratio indicates a stronger liquidity position, providing the bank with the flexibility to meet unexpected cash demands and maintain financial stability.

Capital Adequacy Ratio (CAR): Capital Adequacy Ratio (CAR) evaluates a bank's capital adequacy in relation to its risk-weighted assets. It measures the proportion of a bank's capital, including both equity and reserves, to its total risk-weighted assets, such as loans and investments. A higher CAR indicates a stronger financial position and a greater ability to absorb potential losses arising from credit, market, or operational risks. Regulatory authorities typically set minimum CAR requirements to ensure banks maintain adequate capital buffers to safeguard against financial distress.

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Chapter Two

Literature Review

2.1 Conceptual Review

2.1.1 Financial Performance of Deposit Money Banks (DMBs)

Financial performance provides information about the company's financial condition over a specific time period within which finance is mobilized and used. Financial performance of firms can be measured using several indicators, financial performance entails measurement of the results of a firm's policies and operations in monetary terms[1]. Financial performance demonstrates the financial state of the firm, the degree of the competition in the industry, and a comprehensive knowledge about the profitability of the sectors within the firm[1]. Financial performance is a measure of a business ability to make profit or revenue based on the information provided in the financial statements. The financial statements consist of balance sheet, income statement, cash flow statement, and changes in capital[1].

Financial performance of Deposit Money Banks (DMBs) refers to their ability to generate profits and returns for shareholders while effectively managing risks and maintaining financial stability[2]. "Financial performance of Deposit Money Banks (DMBs) can be defined as their capacity to generate profits and returns for shareholders by efficiently utilizing their resources and managing risks, thereby ensuring long-term sustainability and competitiveness in the banking industry[3]. Financial performance of Deposit Money Banks (DMBs) refers to the ability of banks to achieve their financial objectives and goals, including maximizing shareholder wealth, maintaining liquidity, managing risk, and complying with regulatory requirements, which are essential for sustaining growth and stability in the banking sector[2,3]. It encompasses various quantitative indicators such as profitability ratios, liquidity ratios, solvency ratios, and efficiency ratios used

to assess the overall health and effectiveness of a bank's operations[4]. Metrics such as net interest margin, return on assets, return on equity, and earnings per share are key components in evaluating a bank's financial performance, reflecting its ability to generate profits from core activities and allocate resources efficiently[4].

When assessing financial performance, banks consider their ability to achieve financial objectives such as maximizing shareholder wealth, maintaining liquidity, managing risk, and ensuring regulatory compliance[5]. This evaluation incorporates a combination of quantitative and qualitative measures, including profitability, asset quality, capital adequacy, efficiency, and market perception, providing a comprehensive view of the bank's overall performance and competitiveness[3].

Factors influencing the financial performance of Deposit Money Banks (DMBs) in Nigeria are multifaceted and require careful consideration. One key factor is the regulatory environment, including guidelines from the Central Bank of Nigeria (CBN) regarding capital adequacy, liquidity, and risk management[4]. Compliance with these regulations can significantly impact a bank's financial stability and performance. Another crucial aspect is the macroeconomic environment, including factors like inflation rates, exchange rate fluctuations, and GDP growth. Shifts in these variables can affect a bank's loan portfolio quality, interest income, and profitability. Furthermore, the efficiency of DMBs in managing operating costs, attracting deposits, and expanding their loan portfolios plays a vital role in determining financial performance. These factors interact in complex ways, making it essential for researchers and policymakers to analyze them comprehensively to understand and improve the financial health of DMBs in Nigeria[4].

A comparative study of Deposit Money Banks (DMBs) in Nigeria with international standards is crucial in evaluating their financial performance. The Nigerian banking sector faces unique challenges stemming from economic volatility and regulatory uncertainties. By benchmarking DMBs against international standards, such as the Basel Accords, insights can be gained into the effectiveness of risk management practices, capital adequacy ratios, and overall financial stability. Previous research has shown that DMBs in Nigeria exhibit varying degrees of compliance and adherence to international best practices . These findings highlight the importance of aligning domestic banking regulations with globally recognized frameworks to enhance transparency, accountability, and competitiveness. Through a rigorous comparative analysis, this study aims to provide valuable insights into the financial soundness and performance of DMBs in Nigeria within the context of global banking standards.

Financial Performance Metrics

A crucial aspect of evaluating the health of Deposit Money Banks (DMBs) is the utilization of financial performance metrics. These metrics provide insights into the overall viability and stability of a bank, guiding stakeholders in making informed decisions. Key financial performance metrics include Return on Assets (ROA), Return on Equity (ROE), Net Interest Margin (NIM), and Capital Adequacy Ratio (CAR) among others[6]. ROA measures the profitability of a bank in generating earnings from its assets, while ROE indicates how effectively a bank is utilizing shareholders' equity to generate profits. NIM reflects the efficiency of a bank's core lending activities, and CAR assesses the bank's ability to absorb potential losses. Analyzing these metrics, regulators, investors, and bank management can assess the financial soundness and performance of DMBs, ensuring a stable and secure banking sector[6].

Financial performance metrics play a pivotal role in evaluating the health and stability of banks, particularly Deposit Money Banks (DMBs). These metrics provide valuable insights into various aspects of a bank's operations, including profitability, liquidity, asset quality, and capital adequacy. By analyzing metrics such as Return on Assets (ROA), Return on Equity (ROE), Net Interest Margin (NIM), and the Loan-to-Deposit Ratio (LDR), stakeholders can gauge how efficiently a bank is utilizing its resources and managing risks. Furthermore, comparisons of these metrics over time or with industry benchmarks can help identify areas of strength or weakness within a bank's financial performance. Therefore, incorporating a comprehensive set of financial metrics is essential for a holistic assessment of a DMB's overall health and performance in the competitive banking landscape[6].

Commonly Used Financial Performance Metrics in the Banking Sector In evaluating the health of banks, numerous financial performance metrics are widely utilized. Commonly employed metrics include Return on Assets (ROA) and Return on Equity (ROE), which provide insight into a bank's ability to generate profits from its assets and shareholders' equity, respectively. Additionally, the Net Interest Margin (NIM) is a crucial metric that assesses a bank's efficiency in managing its interest income and expenses. Furthermore, the Capital Adequacy Ratio (CAR) is a regulatory metric that measures a bank's financial strength and ability to cover risks through adequate capital reserves. These metrics, when used in combination, offer a comprehensive view of a bank's financial performance and stability, aiding stakeholders in making informed decisions regarding investment and risk management strategies[7].

the use of financial performance metrics is crucial for evaluating the health of Deposit Money Banks. Through an extensive literature review, it is evident that metrics such as Return on Assets, Return on Equity, Net Interest Margin, and Capital Adequacy Ratio play a vital role in assessing

the financial stability and efficiency of banks. These metrics provide valuable insights into the profitability, risk management, and overall performance of banks, helping stakeholders make informed decisions. By analyzing these metrics, regulators, investors, and managers can identify potential areas of improvement and develop strategies to enhance the financial resilience of banks. It is essential for Deposit Money Banks to regularly monitor and benchmark these performance metrics to ensure sustainable growth and maintain competitiveness in the dynamic banking industry. Overall, the findings highlight the significance of employing a comprehensive range of financial metrics to evaluate the health of banks effectively.

There are several ratios to measure the company's financial performance and these ratios can be broadly classified into five categories such as liquidity ratio, profitability ratio, solvency ratio, efficiency ratio, and leverage ratio[6]. Profitability ratios measure the performance of the company in terms of the profit generated over the period being considered. This study adopts EPS (Earning per share) as a measure of financial performance.

EPS is an indicator that is critical to both the organization as well as shareholders because it is widely reckoned to be the most consistent basis of evolving corporate strategic plans[7]. Worldwide, EPS is deemed to be the most accepted financial performance measure. Relevance of EPS as a reliable measure of financial performance[7]. The attractiveness of EPS is due to how well it sums up the earnings made for shareholders by management.

2.1.1.1 Net Interest Margin (NIM)

Net Interest Margin (NIM) is a financial metric used to evaluate a bank's profitability by measuring the difference between the interest income generated from its interest-earning assets (such as loans and investments) and the interest expenses paid on its interest-bearing liabilities (such as deposits and borrowings)[8]. It reflects the effectiveness of a bank's interest rate

management and its ability to earn a spread on its interest-earning assets relative to its interest-bearing liabilities. A higher NIM indicates greater profitability from core banking activities, while a lower NIM may suggest challenges in managing interest rate risk or intense competition in the lending market.

Net Interest Margin (NIM) plays a critical role in evaluating a bank's profitability and efficiency in managing its interest-related activities[9]. Measuring the difference between interest income from assets and interest expenses on liabilities, NIM provides insights into the bank's ability to generate earnings from its core banking operations. A higher NIM typically indicates stronger profitability, suggesting effective interest rate management and successful asset-liability management strategies[10]. Conversely, a lower NIM may signal challenges such as increased interest rate risk exposure or heightened competition in the lending market, potentially impacting the bank's overall financial performance and competitiveness.

In their examination of banking profitability, the determinants influencing NIM variations among commercial banks[8]. Their findings highlighted the significance of factors such as asset quality, capital adequacy, and loan portfolio composition in shaping NIM dynamics across banks. Similarly, a comprehensive analysis of NIM determinants in the Malaysian banking sector, emphasizing the influence of bank-specific factors, macroeconomic conditions, and regulatory environments on NIM trends[10]. Furthermore, a comparative analysis of NIM trends between Islamic and conventional banks, shedding light on the impact of distinct funding structures and risk profiles on NIM performance[11]. In their study on banking profitability, the determinants of Net Interest Margin (NIM) across commercial banks[12]. They found that factors such as asset quality, capital adequacy, and loan portfolio composition significantly influenced NIM variations among banks. Similarly NIM determinants in the Malaysian banking sector, revealing the impact

of bank-specific factors, macroeconomic conditions, and regulatory environment on NIM dynamics[13]. Furthermore,

2.1.1.2 A Measure of a Bank's Efficiency in its Operations:

Efficiency in banking operations refers to the ability of a bank to minimize costs while maximizing returns from its activities[14]. This measure encompasses various aspects of operational efficiency, including cost management, resource utilization, process optimization, and productivity enhancement. A high level of efficiency indicates that the bank is able to achieve its financial objectives with minimal wastage and optimal allocation of resources. Efficiency ratios such as the cost-to-income ratio, overhead ratio, and asset utilization ratio are commonly used to assess a bank's operational efficiency and performance relative to industry benchmarks[15].

Efficiency in banking operations is a critical determinant of a bank's overall performance and competitiveness in the financial marketplace[14.16]. It encompasses the bank's ability to minimize costs while maximizing returns from its activities, reflecting its capacity to achieve financial objectives with optimal resource allocation and minimal wastage. This measure is multifaceted, encompassing various aspects such as cost management, resource utilization, process optimization, and productivity enhancement. A high level of efficiency indicates that the bank is operating in a manner that maximizes profitability and effectiveness, thereby enhancing its ability to compete effectively in the market.

The determinants of cost efficiency in European banking, revealing the significant influence of market structure, regulatory environment, and technological innovation on efficiency outcomes[15]. Similarly, efficiency analysis to examine the efficiency levels of U.S. banks, uncovering substantial variations across banks and over time[17]. Furthermore, Pasiouras and Bank efficiency

studies, identifying key factors that influence efficiency scores and performance disparities among banks[16].

The determinants of cost efficiency in European banking, highlighting the role of market structure, regulatory environment, and technological innovation in shaping efficiency outcomes[17]. Similarly, the efficiency of U.S. banks using frontier efficiency analysis, revealing significant variations in efficiency levels across banks and over time[17].

2.1.1.3 Earnings Per Share (EPS):

Earnings Per Share (EPS) is a financial metric that represents the portion of a company's profit allocated to each outstanding share of its common stock[18]. It is calculated by dividing the net income attributable to common shareholders by the total number of outstanding shares. EPS serves as an indicator of a company's profitability and earnings performance on a per-share basis, providing valuable insights for investors and analysts evaluating the company's financial health and growth prospects.

Earnings Per Share (EPS) is a fundamental financial metric that provides valuable insights into a company's profitability and earnings performance on a per-share basis[19]. The portion of a company's profit allocated to each outstanding share of its common stock, EPS serves as a key indicator for investors and analysts evaluating the company's financial health and growth prospects[20]. Calculated by dividing the net income attributable to common shareholders by the total number of outstanding shares, EPS offers a clear and standardized measure of profitability, facilitating comparisons across companies and industries.

In their exploration of corporate governance and financial performance, the relationship between board characteristics and EPS in Bangladeshi listed banks[21]. Their findings underscored the significant impact of board independence and composition on EPS variability, highlighting the

importance of effective governance structures in driving earnings performance. Similarly, the determinants of EPS in the Jordanian banking sector, revealing the influence of bank-specific factors, macroeconomic conditions, and regulatory environments on EPS dynamics[20]. These studies shed light on the multifaceted nature of EPS determinants and the intricate interplay between internal and external factors shaping earnings performance.

Furthermore, a cross-country analysis of EPS determinants in ASEAN banks, identifying key factors affecting EPS growth and sustainability[21]. Their study highlighted the significance of factors such as asset quality, capital management, and market conditions in driving EPS outcomes across diverse banking environments. These findings underscore the importance of EPS as a critical measure of financial performance and its sensitivity to various internal and external factors in the banking industry. Similarly, the determinants of EPS in the Jordanian banking sector, highlighting the role of bank-specific factors, macroeconomic conditions, and regulatory environment in influencing EPS dynamics[22].

2.1.2 Liquidity and Liquidity Management of Banks

Banks Liquidity

Liquidity is a bank's ability to meet its cash and collateral obligations without incurring substantial losses[23]. Sufficient liquidity is reliant upon the bank's capacity to productively meet both expected and startling incomes and guarantee needs without antagonistically influencing either everyday tasks or the monetary state of the bank. Liquidity is commonly understood as the ease of trading assets and the immediate ability to meet financial obligations. It encompasses the capacity to fulfill demands for liability items or loan requests, making it a crucial aspect of financial intermediation and effective monetary policy[24]. From a monetary policy perspective,

liquidity encompasses bank reserves resulting from various central bank activities, which are held by banks for clearing, reserve requirements, or in their own vaults. The excess liquidity is determined by subtracting reserve requirements from total reserves. Sources of (excess) liquidity such as foreign reserves accumulation, monetary financing, and bank bailouts.

Bank liquidity is defined as the ability of the bank to ensure the availability of funds to meet financial commitments or maturing obligations at a reasonable price at all times[25]. Put differently, bank liquidity means a bank having money where they need it particularly to satisfy the withdrawal needs of the customers. Bank liquidity as the ability of the bank to maintain sufficient funds to pay for its maturing obligations[23]. It is the bank's ability to immediately meet cash, cheques, other withdrawals obligations and legitimate new loan demand while abiding by existing reserve requirements. Bank liquid assets are composed of cash and bank balances, debtors and marketable securities.

Deposit money banks address discrepancies in liquidity either through the interbank market, where overnight borrowing and lending occur among banks, or by accessing the central bank's discount window[25]. Consequently, liquidity management involves the central bank's influence on money market activities, primarily to achieve the nominal interbank rate within the standing facilities window's corridor width. Changes in banks' liquidity resulting from policy instruments are crucial for meeting demand, which is typically divided into required reserves and excess reserves, aligned with the prevailing policy stance.

The deployment of liquidity management instruments, which include open market operations (OMO), discount window activities, and reserve requirements, can induce discretionary liquidity (dl) in banks[26]. However, interbank market transactions and recourse to the central bank's standing facilities are also susceptible to shocks from autonomous liquidity (al) factors,

representing liquidity stemming from other central bank activities. As a result, changes in banks' liquidity are influenced by both discretionary and autonomous liquidity factors.

Generally, banks strive to strike a balance between profitability and liquidity[26]. In context of this research work bank liquidity refers to those assets that can be easily converted to cash in order to meet the day-to-day cash demand of depositors. The survival of deposit money banks depends greatly on how liquid they are since illiquidity being a sign of imminent distress can easily erode the confidence of the public in the banking sector. The provision of sufficient liquidity to customers at all times is an essential feature of banking. To achieve this goal, banks ensure that sufficient provision of cash and other near cash securities are made available to meet withdrawal obligations and new loan demand by customers in need of liquidity. For this reason, banks in Nigeria are statutorily required to comply with the Cash Reserve Requirement (CRR) policy of the Central Bank of Nigeria.

Having adequate proportions of liquid assets is crucial for banks, serving multiple purposes such as mitigating funding risks, compensating for potential non-receipt of funds from borrowers, and managing the risks associated with maturing obligations[27]. When liquidity is insufficient, banks may face the pressure to sell assets hastily at unfavorable prices, leading to potential losses. Moreover, liquidity shortages can undermine customer confidence, triggering bank runs and necessitating borrowing from the Central Bank, subjecting the bank to increased scrutiny.

Liquidity encompasses various components, including vault cash, balances held with the Central Bank of Nigeria (CBN), balances held with other banks in Nigeria, as well as balances held with offices and branches outside Nigeria[23]. Additionally, liquidity comprises money at call in Nigeria, inter-bank placements, placements with discount houses, treasury bills, treasury certificates, investments in stabilization securities, bills discounted payable in Nigeria, negotiable certificates

of deposits, bankers' acceptances, and commercial papers. These components collectively form the liquidity pool of banks, enabling them to meet their financial obligations and maintain stability in their operations.

Financial institutions have adapted to fund loan growth not only by reducing highly liquid investments but also by exploring alternative funding sources[24]. These sources of liquidity can be classified into two categories: stored liquidity and purchased liquidity, each encompassing various mechanisms utilized by deposit money banks to finance their operations. Stored liquidity involves temporarily investing funds with the expectation that they will mature when needed or can be sold without significant loss before maturity. This theory is underpinned by three asset liquidity theories: the liquid asset theory, real bill doctrine, and shiftability theory of liquidity management[25]. Liquid assets include cash, balances due from other banks, call balances with the Central Bank of Nigeria (CBN), balances with other banks both locally and internationally, call money funds, short-term government securities like treasury bills, treasury certificates, and government bonds nearing maturity within three years, as well as commercial paper, certificates of deposit, and other marketable securities.

On the other hand, purchased liquidity, or liability-based sources, involves acquiring funds from various sources such as deposit accounts, borrowed funds, and long-term funds[27]. Banks receive deposits from large depositors and borrow from investment banks to utilize investment opportunities. These funds are then pooled and allocated to earning and non-earning assets as deemed appropriate. Liability funding theory posits that funds can be obtained from the market and used for profitable investments, including lending and other investments.

In liquidity management, off-balance sheet sources of liquidity, have a notable impact. Banks can generate liquidity off the balance sheet by utilizing loan commitments and other types of

claims to liquid funds[28]. Off-balance sheet transactions, such as interest rate swaps, can result in either a positive or negative impact on cash flow, depending on the specific transaction and the current interest rates. Moreover, contemporary financial intermediation theory presents banks as entities that generate liquidity by converting short-term deposits into long-term investments, so offering households a safeguard against unexpected changes in consumption. Banks employ a combination of stored liquidity, purchased liquidity, and off-balance sheet sources to successfully manage their liquidity balances and facilitate their operational activities.

Liquidity refers to the level of financial resources that can be readily used for investing purposes. Currently, the majority of this capital consists of credit rather than physical currency[23]. Financial institution Liquidity refers to the bank's capacity to hold an adequate amount of funds in order to meet its upcoming financial commitments. Liquidity refers to the bank's capacity to promptly fulfill its cash, cheque, and other withdrawal obligations, as well as satisfy genuine requests for additional loans, all while adhering to the current reserve requirements. High liquidity refers to a situation when there is a significant amount of capital due to low interest rates, making funds readily accessible. What is the significance of interest rates in managing liquidity? These rates determine the cost of borrowing. Low interest rates result in affordable credit, hence increasing the likelihood of firms and investors seeking loans. As long as the return on investment exceeds the interest rate, all additional investments will appear favorable. High liquidity stimulates economic growth. Liquidity refers to the financial status or situation of a corporate organization that determines its capacity to fulfil or meet its upcoming obligations[24]. These maturing commitments consist of both current liabilities and long-term debts. Liquidity refers to the extent to which an organization possesses assets that may be readily turned into cash without incurring any loss in value. These assets are readily available to fulfill

short-term obligations. Liquid assets consist of cash, bank balances, debts, and marketable securities. Liquidity refers to a company's capacity to fulfil all its financial obligations without jeopardizing its financial stability[27]. Liquidity enables a company to prevent the need for forced liquidation, which involves selling assets at reduced prices and incurring additional expenses for legal representation, bankruptcy trustees, and liquidators. The aforementioned definitions suggest that an increase in liquidity leads to a decrease in the likelihood of technical insolvency.

Element of Liquidity

Liquidity is a complex concept as the rate of liquidity among different liquid assets differs. For instance, a savings or time deposit is more liquid than common stock and common stocks in turn are more liquid than real estate[29]. Liquidity is a relative concept because there is no specific level of any balance sheet ratio that indicates that the firm is no longer liquid. Liquidity involves three elements or characteristics namely Marketability, Stability and Conservatism. Liquid assets should be more marketable or transferable. That means, they are expected to be converted to cash easily and promptly and are redeemed prior to maturity. All assets that cannot be redeemed at maturity are said to be illiquid. Another quality of liquid asset is price stability. Based on this characteristic, bank deposits and short term securities are more liquid than equity investments such as common stocks and real estate's due to the fact that the prices of the former are fixed and have lesser variability than the prices and value of the later that experience considerable fluctuation Conservatism quality of liquidity refers to the ability of the holders of liquid assets to recover the cost of the asset on the time of resale[30]. On the basis, common stocks are not considered highly liquid asset despite its ready marketability. This can be attributed to the fact that on certain periods, the current prices are lower than their initial or original prices. In

consideration of these qualities, people and firms decide to hold cash which is the only perfectly liquid asset. Double coincidence of wants was one of the problems that made trade by barter unpopular and caused for its replacement with money. For the fact that all other asset is converted into money before they are used and for the fact that money ensures that an asset is converted to any other asset, make money the most popular liquid asset with high rate of convertibility needed of any liquid asset.

2.1.21 Liquidity Risk in Banks

Liquidity risk management in banks is simply the risk of being unable to raise funds without incurring unusually high costs. This happens when the depositors collectively decide to withdraw more funds than the bank has immediately on hand hence, liquidity risk applies symmetrically to the borrowers in their relationship with the banks and to the banks in their relationship with the depositors in practice, the banks regularly find imbalances gap between asset and liability sides that need to be equalized because, by nature, banks issue liquid liabilities but invest in well illiquid assets .If a bank fails to balance such gap, liquidity risk might occur followed by the other exposures such as insolvency risk and reputation risk.

These failures or inefficient management of liquidity is somehow determined by how strong the liquidity pressure is, how well the banks prepare the liquid instruments, how is the bank conditions in the time of liquidity pressure and, the inability of the banks to find liquid sources either inside or outside the banks[31].

Liquidity in financial markets and intermediaries has several different meanings. First, liquidity represents the capability of a financial firm to maintain equilibrium between the financial inflow and outflow over time. Banks can adopt different strategies and techniques in order to achieve

such goal. Second, liquidity is a measure of the capability of a financial firm to turn an asset into cash quickly, without capital loss or interest penalty. Third, liquidity is somehow interpreted as the capability of a bank to raise funds on the wholesale financial markets first on the unsecured interbank market by increasing its liabilities. In a broader sense, liquidity can be considered as the attitude of a financial firm to acquire funds when these funds are needed[30].

The nature of banking business implies that banks structurally invest in assets having a different degree of liquidity. Therefore, the liquidity of a financial firm involves several different managerial aspects. While a significant percentage of assets are well illiquid and cannot be easily converted in cash, without incurring in losses, typical liabilities of banks and financial firms are more liquid and imply a considerable degree of discretion as far as the timing of depositors' withdrawal. On one hand, traditional financial intermediation is based on different degree of discretionary power as far as the timing of use of funds. Consequently, the bank must maintain the confidence of depositors to have the faculty to withdraw their deposit on demand or at the scheduled moment. On the other hand, contemporary banking is based on more innovative financial services, which can also affect the capability of a bank to be liquid.

2.1.22 Efficient Liquidity Management in Banks

Bank Liquidity simply means the ability of the bank to maintain sufficient funds to pay for its maturing obligations. It is the bank's ability to immediately meet cash, cheques, other withdrawals obligations and legitimate new loan demand while abiding by existing reserve requirements[21]. The liquidity needs of the banking system are usually defined by the sum of reserve requirements imposed on banks by a monetary authority Central Bank of Nigeria. To guide Bank's Management on the expected level of liquidity in the system over a period,

liquidity management which involves the planning and control of cash and other liquid assets, may be supported by daily liquidity forecasting by the Central bank so that appropriate measures are taken to prevent undesirable market developments that may negatively impact on the objective of price stability. Liquidity management by Central banks typically refers to the framework, set of instruments, and the rules that the monetary authority follows in managing systemic liquidity, consistent with the ultimate goals of monetary policy[31].

In this regard, central banks modulate liquidity conditions by varying both the level of short-term interest rates and influencing the supply of bank reserves in the interbank market. While Central bank liquidity management has short-term effects in financial markets, its long-term implications for the real sector and on price level are more profound.

Effective liquidity management is a key factor that helps sustain bank profits and concurrently keeps the banking institution and the financial system generally from well liquidity and perhaps, insolvency. Strategic bank management aims prominently at keeping the bank solvent and liquid in order to earn good profits and remain sound. In order to maintain public confidence on the financial system of the country, Banks are required to maintain adequate amount of cash and near cash assets such as securities to meet withdrawal obligations. It is paramount for the survival of the totality of the financial system of a country and the banks in particular whose core function of financial intermediation depend on the availability of adequate liquidity.

Liquidity Management

Liquidity management refers to the planning and control necessary to ensure that the banks maintain enough liquid assets either as an obligation to the customers of the bank so as to meet some obligations incidental to survival of the business or as a measure to adhere to the monetary

policies of the central bank. Liquidity management involves the supply/withdrawal from the market the amount of liquidity consistent with the desired level of short-term interest rates or reserve money. It is the ability of a bank to meet demands for funds thereby ensuring that the bank maintain sufficient cash and liquid assets to satisfy client demand for loans and savings withdrawals and then meet its expected expenses. To guide bank's management on the expected level of liquidity in the system over a period of time, liquidity management which involves the planning and control of cash and other liquid assets, may be supported by daily liquidity forecasting by the central bank so that appropriate measures are taken to prevent undesirable market developments that may negatively impact on the objective of price stability. Liquidity management by central banks typically refers to the framework, set of instruments, and the rules that the monetary authority follows in overseeing fundamental liquidity, steady with a definitive objectives of monetary policy[28]. In such manner, central banks tweak liquidity conditions by differing both the degree of transient financing costs and affecting the supply of bank reserves in the interbank market[29].

Liquidity management focuses on the optimal and proficient management of the firm's short-term financing and investment choices, encompassing planning and control. Working capital, consisting of current liabilities and current assets, is essential for the entire business strategy in generating shareholder value. Liquidity is a metric utilized to assess the business's ability to meet its short-term operating obligations. The primary goal of liquidity management is to uphold an optimal equilibrium among the various constituents of working capital. Liquidity management (LM) refers to the techniques utilized by central banks to control the amount of bank reserves in order to influence short-term interest rates, which is in line with their principal goal of preserving price stability. This process functions inside a framework that

regulates the choice of tools, operating protocols, and ultimate goals. Choosing an operational aim presents a macroeconomic difficulty since the variables involved must not only be controllable but also have significant connections with the desired macroeconomic variables. The LM function plays a crucial role in connecting the central bank's daily monetary operations with the overall economy by impacting the yield curve, which represents the disparity between long-term and short-term interest rates[31]. Although the central bank has a direct impact on the nominal short-term (inter-bank) rate and, depending on the current inflationary conditions, the real rate, other rates, especially long-term rates, are not explicitly considered in the model. Nevertheless, these extended-term rates have a pivotal impact on molding overall demand and the dynamics of inflation.

The performance of banks is inversely correlated with liquidity management[11]. The Global financial crisis of 2007-2008 clearly displayed a breakdown in liquidity management. The financial crisis was highly detrimental and prompted significant inquiries into the management of liquidity[22]. Amidst the crisis, banks worldwide faced significant challenges in managing their available funds, resulting in substantial reductions[32]. The signs of ineffective liquidity management include a decline in asset values, insufficient debt, and limited marketability of assets[32]. Many commercial banks are currently confronted with the challenge of reduced profitability[32].

Liquidity management encompasses the deliberate and systematic planning and regulation required to guarantee that a company maintains an adequate amount of readily available assets[33]. These assets can either be used to fulfill the organization's obligations to its clients for their business survival needs or to comply with the monetary policies established by the central bank. Liquidity management, as defined by central banks, is a framework that includes instruments and

guidelines to guide the management of overall liquidity in line with the main objectives of monetary policy[34]. Central banks manage liquidity circumstances through the manipulation of short-term interest rates and control over the availability of bank reserves in the interbank market. Efficient management of available cash resources is essential for maintaining bank profitability and protecting both the banking institution and the financial system from the risk of insufficient liquidity.

Managing liquidity is a crucial daily task that involves bank managers closely monitoring and predicting cash flows to ensure a consistent and sufficient level of liquidity is maintained[27]. In Nigeria, banks are legally required to adhere to the Cash Reserve Requirement (CRR) policy set by the Central Bank of Nigeria (CBN) as a major method of controlling liquidity positions. Adherence to the statutory reserve requirements and liquidity ratios set by the CBN is the fundamental basis for managing liquidity in the country. In addition, the CBN has implemented supplementary strategic measures to improve liquidity and stability in the banking sector, such as offering guarantees on interbank transactions[34]. Liquidity management in this study refers to the policy directives given by the CBN with the goal of ensuring, maintaining, and sustaining sufficient levels of liquidity in deposit money institutions.

Liquidity management is essential for maintaining the stability and profitability of commercial banks[24]. It involves offering recommendations for constructing and managing investment portfolios. It is a crucial instrument for commercial banks to comply with the legal obligations established by the central bank, namely with the allocation of deposits to liquid assets and loans and advances. Efficient liquidity management reduces the likelihood of bankruptcy and liquidation caused by a lack of cash or inability to pay debts, therefore protecting depositors' interests and upholding public trust in the financial markets. If a bank is regarded to have

liquidity troubles, it may face difficulties in obtaining further cash, which could result in increased borrowing expenses. Therefore, it is crucial to ensure sufficient liquidity to create and maintain public confidence.

In addition, the practice of liquidity management allows commercial banks to achieve a harmonious equilibrium between risk and reward, as well as between liquidity and profitability[33]. It functions as a means of preventing both an excessive amount of available funds and an insufficient amount of available funds, together with the negative effects connected with each situation. Important measures of liquidity management encompass the liquidity ratio (LQ), loan-to-deposit ratio (LD), cash reserve ratio (CRR), and monetary policy rate (MPR). These metrics offer useful insights into the liquidity status of commercial banks and inform their strategies for managing liquidity. Efficient liquidity management involves multiple aims, albeit these objectives are not comprehensive[35]. The formulation of management strategies for banks is contingent upon a range of distinct aspects, such as the bank's dimensions, characteristics, organization, and the intricacy of its product portfolio.

The objectives encompass maintaining financial stability by consistently meeting both on- and off-balance sheet cash outflow obligations on a daily basis[12]. In addition, effective liquidity management seeks to reduce funding expenses by eliminating the need to raise funds at higher-than-market prices or resorting to selling assets under pressure[34]. Ensuring adherence to legal obligations regarding liquidity and reserves is crucial, which requires the establishment of strong management information systems and internal controls. Furthermore, it is crucial to optimize the structure of refinancing and effectively coordinate the issuance of financial instruments in both money and capital markets as integral components of liquidity management. Moreover, by optimizing the movement of funds within a group, such as through liquidity pooling, it is

possible to decrease dependence on external sources for refinancing[35].
It is worth emphasizing that although creating liquidity is vital, having too much liquidity can lead to significant losses when trying to sell assets that are difficult to convert into cash in order to fulfill unforeseen requests from customers who deposit money or borrow funds. Torre defines treasury management as a collection of strategies designed to improve a company's immediate cash flow and overall profitability by influencing elements and activities that directly affect cash. The primary goal is to enhance short-term liquidity and raise both liquidity and profitability.

Surplus funds should be deliberately allocated to short-term securities until they are required. Nevertheless, the task of establishing the minimal liquidity threshold that a corporation needs is a considerable difficulty for several organizations. The minimal level is essential to ensure that management maintains an adequate amount of liquid assets to cover their daily operational costs. To optimize liquidity balances, it is important to have a thorough grasp of the bank's liquidity position in different currencies, accounts, business lines, and counterparties[35]. The standard procedure encompasses four essential stages: identification, analysis, administration, and optimization of liquidity. These steps are interconnected, with the successful completion of one resting on the achievement of the others.

It indicates that banks in Nigeria maintain optimal levels of liquidity are more likely to optimize their earnings[36]. Remarkably, the correlation between liquidity and returns demonstrates a downward-concave parabolic pattern, with the relationship leveling off at the highest liquidity level. A comprehensive liquidity management program consists of multiple components. First and foremost, it is essential to establish a robust liquidity management policy. Furthermore, enhancing finance tactics is crucial for ensuring sufficient liquidity. Furthermore, the implementation of contingency finance techniques guarantees the efficient coverage of liquidity

gaps. In addition, the creation of alternative scenarios in liquidity planning and the measurement of mismatches through gap analysis are essential components of a well-functioning liquidity management framework.

Liquidity Management and Financial Performance of DMBs

Liquidity management is crucial in determining the performance of Deposit Money Banks (DMBs), as it supports their primary goal of increasing revenue for shareholders while maintaining the stability and sustainability of the financial system.[37] The basic objective of any bank is to maximize profits, which reflects the crucial role of the financial sector in promoting stability and growth in the economy. Therefore, it is crucial to maintain adequate levels of liquidity in order to reduce the danger of bank collapse, since this guarantees the prompt fulfillment of existing obligations.

Although having too much liquidity can impair profitability by keeping cash unused, efficient liquidity management improves the financial health and performance of DMBs[38]. Having a significant amount of liquidity allows banks to fulfill borrowing requests, which in turn boosts interest earnings and enhances overall financial performance. On the other hand, inadequate management of liquidity can hinder financial performance, highlighting the important role of liquidity management in maintaining the efficient functioning of DMBs and the wider financial system[39]. Customers prioritize banks' fast fulfillment of obligations, underscoring the crucial role of good liquidity management in meeting deposit withdrawal requests and pleasing creditors and loan customers. Banks ensure public confidence and promote economic activity and stability by retaining an adequate amount of operational funds in the short term.
The relationship between liquidity and financial performance highlights the importance of

adopting a well-rounded strategy[40]. Although liquidity is commonly evaluated using indicators such as the current ratio, an undue emphasis on liquidity might hinder financial performance. Hence, achieving the optimal equilibrium is vital for increasing profitability while guaranteeing sufficient liquidity to fulfill obligations and foster expansion. Liquidity management is a fundamental aspect of DMB operations, aimed at maximizing revenue, ensuring stability, and preserving public confidence[33]. Through efficient liquidity management, banks may successfully traverse the intricacies of the financial environment, maintain profitability, and enhance the overall robustness and well-being of the financial system.

Instruments for Liquidity Management

A firm's financial well-being relies heavily on an efficient liquidity management plan, as miscalculating liquidity requirements can result in dire consequences, such as the potential for bankruptcy[39]. In the subsequent sections, we will explore the instruments and tactics used to effectively manage a company's liquidity. Multiple metrics exist for evaluating business liquidity, with distinct ratios carrying varying degrees of significance for different stakeholders. The choice of measurement techniques for assessing a company's liquidity levels is influenced by the perspective from which it is examined[40]. Certain ratios may hold more significance for banks, while others may be of higher importance to investors. Moreover, accounting metrics for liquidity provide a unique viewpoint when evaluating liquidity. Our study strategy primarily focuses on analyzing liquidity from a financial management standpoint. We specifically exclude accounting measures and instead concentrate on ratios that are routinely utilized by financial managers. Prior research emphasizes substantial disparities in liquidity planning and monitoring methodologies within the realm of financial management. Hence, our objective is to incorporate solely the most frequently employed formulas, while the compilation may not be comprehensive.

Ratio information has multiple functions, and one important set of users is lenders. The examination of liquidity ratios is especially beneficial for lenders in three primary contexts. Initially, lenders employ liquidity measures to evaluate the financial well-being and stability of organizations before to granting credit. Through the examination of liquidity ratios, lenders can evaluate a company's capacity to fulfill its immediate financial obligations and evaluate the degree of risk involved in providing loans[42]. In addition, lenders frequently create covenants that are structured on liquidity ratios in order to increase the probability of loan repayment. These covenants may stipulate the need to uphold specific liquidity ratios or other financial measures. Lenders incorporate liquidity ratios into loan covenants to reduce the likelihood of default and assure prompt repayment of loans.

Finally, lenders consistently oversee borrowers' adherence to established loan covenants in order to evaluate their financial soundness and adherence to mutually agreed-upon parameters[43]. Liquidity ratios are essential in assessing whether borrowers are meeting the required liquidity requirements stated in loan agreements, aiding lenders in this review process. Failure of borrowers to achieve these standards may indicate financial trouble and lead lenders to take necessary actions, such as renegotiating loan conditions or instituting corrective measures. Liquidity ratio analysis offers lenders useful information about the financial well-being, risk level, and compliance status of borrowers. This helps lenders make informed choices about extending credit, designing loan agreements, and managing loans.

When examining liquidity management as a separate factor in the context of banking operations, several important elements become the main emphasis. Cash Flow Coverage is a vital factor that gauges a bank's capacity to fulfill its financial responsibilities by utilizing its existing cash flows. Through careful examination of Cash Flow Coverage, experts seek to evaluate the sufficiency of

a bank's cash reserves in meeting its diverse financial obligations. Another crucial aspect being analyzed in liquidity management is the Loan-to-Deposit Ratio (LDR). This ratio offers a perspective on the percentage of a bank's overall loans compared to its deposits, revealing the degree to which the bank depends on deposit funding for its lending operations[44]. Researchers study the Loan-to-Deposit Ratio (LDR) to analyze the relationship between a bank's loan portfolio and its deposit base. This evaluation is important for determining liquidity risk and financing stability.

In addition, the assessment of liquidity management involves a review of the Liquid Assets Ratio. This ratio is used to measure the percentage of a bank's assets that may be readily converted into cash or cash equivalents, thus ensuring its capacity to fulfill short-term obligations. Researchers analyze the Liquid Assets Ratio to determine the liquidity status of banks and their ability to meet short-term funding requirements without relying on asset sales or external funding. An in-depth analysis of liquidity management as an independent variable entails a thorough investigation of three crucial components: Cash Flow Coverage, Loan-to-Deposit Ratio, and Liquid Assets Ratio. The objective of this investigation is to have a deeper understanding of how banks manage liquidity risk and their capacity to uphold financial stability under shifting market conditions and operational difficulties.

2.1.2.1 Cash Flow Coverage

Cash Flow Coverage refers to the ability of a company to generate enough cash flow to cover its financial obligations[45]. Cash flow coverage is a crucial financial measure that evaluates a bank's ability to meet its financial obligations by utilizing its incoming cash flows. This indicator is highly important in the field of banking operations as it offers valuable insights into a bank's tactics for managing liquidity and how they impact the overall financial performance[46]. The idea

of cash flow coverage has been thoroughly analyzed in scholarly literature, revealing its complex character and its crucial importance in the banking sector. Cash flow coverage is an important measure of a bank's liquidity and its ability to handle short-term financial challenges[46]. Through the examination of cash flow coverage ratios, researchers and industry professionals can assess the sufficiency of a bank's cash reserves in fulfilling several payment commitments, such as operating expenses, debt servicing requirements, and client withdrawals.

The importance of cash flow coverage when evaluating the financial well-being and stability of institutions[46]. Advocates assert that maintaining strong cash flow coverage ratios is crucial to ensure sufficient liquidity and protect against liquidity crises that could potentially threaten a bank's financial stability and sustainability. In addition, the relationship between cash flow coverage and liquidity management methods, emphasizing the importance of banks using sound liquidity risk management practices to maintain positive levels of cash flow coverage[47].

Cash flow coverage ratios are important benchmarks for assessing a bank's profitability and ability to manage risk in the context of financial performance analysis[46,48]. It is suggested that banks with higher cash flow coverage ratios are more capable of generating sustainable earnings, enduring unfavorable market conditions, and providing consistent returns to shareholders. Brigham and Ehrhardt stress the significance of connecting liquidity management strategies with broader strategic goals to maximize cash flow coverage ratios and improve overall financial performance.

The significant importance of cash flow coverage in assessing the liquidity risk that banks encounter[48]. Their analysis highlighted the need of banks maintaining adequate cash flow coverage ratios to ensure their ability to meet short-term obligations independently, reducing dependence on external sources of finance. The authors emphasized the correlation between cash

flow coverage and liquidity management, suggesting that implementing efficient liquidity management measures can improve cash flow coverage ratios. Expanding on this basis, the connection between cash flow coverage and the strategies of managing liquidity risk in the banking industry[49]. Their findings supported the claims made the crucial importance of maintaining sufficient cash flow coverage ratios in reducing liquidity risks. In addition, the many elements of successful liquidity management techniques that enhance cash flow coverage ratios, thus strengthening a bank's ability to withstand liquidity difficulties[48]. Furthermore, a study that offered additional understanding of the relationship between liquidity management and cash flow coverage in banking operations[49] . The influence of several liquidity management strategies on cash flow coverage ratios. Banks that use proactive measures to manage their liquidity had greater cash flow coverage ratios. This highlights the significance of strategic liquidity planning in improving financial resilience.

A significant correlation between strong cash flow coverage ratios and enhanced financial performance criteria, such as profitability and solvency indicators[50]. The importance of implementing effective ways to manage liquidity in order to maintain positive levels of cash flow coverage. This, in turn, contributes to the overall financial health and stability of DMBs[51]. Moreover, the importance of cash flow coverage in not only reducing liquidity concerns but also enhancing financial performance results. Managing liquidity in changing market conditions for DMBs[23]. They highlighted the significant connection between having sufficient cash flow coverage and achieving good financial performance metrics. This connection plays a crucial role in molding the overall operational efficiency and resilience of DMBs. Moreover, Banking practitioners and regulators, underlining the importance for DMBs to prioritize liquidity management initiatives as a strategy to maximize cash flow coverage and

drive sustainable financial performance[44]. The research enhanced knowledge in the field of banking and financial management by exploring the relationship between liquidity management, cash flow coverage, and financial consequences.

Cash flow coverage ratios of different banks in a developing nation[51]. Their analysis revealed a strong association, revealing that banks having higher cash flow coverage ratios demonstrated heightened resilience notably during economic downturns. This finding emphasized the crucial function of intelligent liquidity management in assuaging financial risks and preserving seamless corporate operations even amidst poor economic situations. The relevance of cash flow coverage, Gupta and Gupta shed light on its deep consequences for the overarching financial performance environment of deposit money banks (DMBs)[50]. Moreover, the substantial consequences of cash flow coverage on the holistic financial performance paradigm inside the banking industry[49]. Also, reinforced cash flow coverage ratios exerted a practical impact, promoting sustained profitability and strengthening competitiveness among DMBs. The subtle relationships between liquidity management methods, cash flow coverage measurements, and the broader financial viability of banks operating within developing nations.

2.1.2.2 Loan-to-Deposit Ratio

The Loan-to-Deposit Ratio (LDR) holds important importance in banking operations, notably in evaluating liquidity management strategies and financial performance measures for Deposit Money Banks (DMBs). The Loan-to-Deposit Ratio acts as a vital indicator of a bank's liquidity status and funding structure. It indicates the proportion of a bank's total loans relative to its total deposits, emphasizing the reliance of the bank on deposit funding for its lending activities[52]. This

ratio offers crucial insights into the bank's liquidity risk exposure and its capacity to meet short-term funding obligations.

In the context of liquidity management, the Loan-to-Deposit Ratio plays a vital role in analyzing the adequacy of a bank's financing sources and the potential mismatches between assets and liabilities. Maintaining an appropriate LDR is critical for ensuring liquidity adequacy and limiting the risk of financing gaps, which could jeopardize the bank's stability and solvency[53]. The relationship between the Loan-to-Deposit Ratio and financial performance metrics of DMBs has been extensively investigated in scholarly study. The importance of LDR in measuring the liquidity risk of banks and its impact on financial stability[54]. They suggest that an overly high LDR may imply over-reliance on short-term funding sources, increasing the vulnerability of banks to liquidity shocks and future liquidity crises. Conversely, the favorable association between modest LDRs and better financial performance measures, such as profitability and resilience during economic downturns[53]. They argue that banks with balanced LDRs are better positioned to manage liquidity risk and preserve profitability over the long term, hence contributing to overall financial stability in the banking industry.

The Loan-to-Deposit Ratio (LDR) is a fundamental statistic in banking, typically defined as the ratio of a bank's total loans to its total deposits. This indicator serves as a vital tool for analyzing the reliance of banks on deposit money for their lending activities. The LDR is crucial in offering insights into a bank's liquidity status and risk exposure.

The LDR offers a clear indicator of the proportion of a bank's loan portfolio financed by customer deposits. A high LDR signifies that the bank is largely reliant on deposits to sustain its lending activities, while a low ratio indicates a more conservative approach with a considerable amount of deposits maintained as reserves or invested in low-risk assets[55]. In the context of

liquidity management, the Loan-to-Deposit Ratio plays a significant role in establishing the adequacy of a bank's funding sources. Banks with high LDRs may encounter liquidity issues during instances of deposit outflows or interruptions in funding markets[56]. Conversely, banks with lower LDRs may have greater flexibility in managing liquidity and lowering funding risks[56]. The relationship between the Loan-to-Deposit Ratio and financial performance metrics of Deposit Money Banks (DMBs) has been thoroughly examined. The need of maintaining a balanced LDR to promote sustainable profitability and financial stability[56]. An excessively high LDR may expose banks to liquidity risk and hamper their ability to meet short-term borrowing needs. The relevance of prudent liquidity management methods in sustaining optimal LDRs and supporting overall financial health in the banking industry[54].

In the field of liquidity management, the Loan-to-Deposit Ratio (LDR) plays a vital role in analyzing a bank's short-term liquidity status and its capacity to satisfy financial obligations promptly. The LDR bears vital importance in identifying the liquidity risk faced by a bank[55]. A high Loan-to-Deposit Ratio shows that a considerable amount of a bank's assets are tied up in loans relative to its deposit base. This scenario may cause issues during times of liquidity crisis, as the bank may have limited readily available funds to cover deposit withdrawals or other short-term funding demands. The illiquid character of loans compared to deposits can raise liquidity risk, potentially leading to liquidity shortages and difficulties in satisfying obligations. The need of maintaining a balanced LDR to limit liquidity risk and ensure financial stability. Banks with overly high LDRs may have heightened liquidity issues, particularly in turbulent market conditions or economic downturns[57]. Such banks may struggle to dispose loans swiftly to generate cash, placing them at risk of liquidity difficulties and funding disruptions. However, banks with lower LDRs often have a more conservative approach to lending, with a bigger

portion of deposits retained in liquid assets or reserves[58]. While this may reduce potential revenue from lending activities, it strengthens the bank's ability to absorb liquidity shocks and maintain appropriate cash buffers to pay short-term obligations.

The link between the Loan-to-Deposit Ratio and liquidity risk underlines the significance of good liquidity management methods in banking operations. Regularly monitoring and controlling the LDR, banks can proactively detect and remedy liquidity risks, thereby maintaining their financial resilience and assuring ongoing operations even under tough market conditions[58]. The relationship between the Loan-to-Deposit Ratio and financial success of DMBs has been extensively researched. Studies such as those conducted by Khan and Ahmed (2017) have revealed a nuanced relationship between LDR and profitability metrics, suggesting that while higher LDRs may lead to increased interest income from lending activities, they also entail greater liquidity risk and potential exposure to funding mismatches. Consequently, proper LDR management is vital for balancing profitability objectives with appropriate liquidity management techniques to maintain the overall financial health of DMBs.

The important relevance of maintaining an appropriate Loan-to-Deposit Ratio (LDR) in limiting liquidity risk and boosting financial performance within Deposit Money Banks (DMBs)[54]. The need of reasonable LDRs for guaranteeing steady financial performance among DMBs[53]. DMBs sustaining moderate LDRs demonstrated more consistent and steady financial performance. This established a balance between deposit funding and the expansion of their loan portfolios, thereby minimizing liquidity risk while enabling sustainable growth[56].

In contrast, DMBs with extremely high or low LDRs faced higher liquidity risk, leading to potential unfavorable consequences on profitability and solvency indices. Banks with high LDRs may struggle to meet short-term funding demands, while those with low LDRs may miss out on

attractive lending opportunities. The study highlights the need of proper LDR management in striking a healthy balance between liquidity and profitability. Banks that optimize their LDRs successfully allocate resources, ensuring appropriate liquidity buffers to meet obligations while optimizing revenues from lending activity.

2.1.2.3 Liquid Assets Ratio

The Liquid Assets Ratio (LAR) bears important relevance as a statistic for analyzing liquidity management techniques and their influence on the financial performance of Deposit Money Banks (DMBs)[57]. Scholarly literature gives extensive definitions and discusses the significance of the Liquid Assets Ratio in the banking sector. The Liquid Assets Ratio is typically described as the proportion of a bank's liquid assets to its overall assets[58]. Liquid assets often comprise cash, reserves maintained with central banks, and marketable securities that can be rapidly changed into cash. This ratio serves as a critical indicator of a bank's liquidity status, demonstrating its capacity to satisfy short-term obligations without relying on external funding sources.

The relevance of the Liquid Assets Ratio in assessing liquidity risk and preserving financial stability for DMBs[58]. A higher Liquid Assets Ratio suggests a greater capacity to resist liquidity shocks and honor deposit withdrawals, therefore minimizing the danger of financial hardship. Empirical research have emphasized the relationship between the Liquid Assets Ratio and numerous financial performance metrics. Banks with higher Liquid Assets Ratios tend to display superior liquidity situations and resilience during economic downturns[59]. This, in turn, contributes to better profitability and solvency, as banks can effectively manage liquidity risks and sustain uninterrupted operations. Conversely, a lower Liquid Assets Ratio may suggest liquidity issues for DMBs, particularly during periods of heightened market volatility or unanticipated liquidity requests[60]. Insufficient liquidity buffers can impede lending activities and

hamper profitability, posing hazards to the overall financial health of the bank. The Liquid Assets Ratio is typically described as the ratio of a bank's liquid assets to its total assets[57]. Liquid assets often comprise cash, reserves maintained with central banks, and easily marketable securities. This ratio serves as a critical statistic for analyzing a bank's liquidity condition, reflecting the proportion of easily available assets to pay short-term obligations.

Within the field of liquidity management, research literature highlights the vital significance of the Liquid Assets Ratio (LAR) in evaluating a bank's ability to satisfy short-term liabilities and honor deposit withdrawals without relying on external funding sources. The crucial function of the Liquid Assets Ratio in determining liquidity resilience and ensuring financial stability for banks.

A higher Liquid Assets Ratio shows a greater proportion of liquid assets held by the bank relative to its total assets. This suggests a healthy liquidity situation, as it shows that the bank has sufficient resources readily available to satisfy its short-term obligations. A greater Liquid Assets Ratio, banks can effectively handle liquidity shocks and unplanned funding requirements, hence ensuring financial stability[61]. The Liquid Assets Ratio acts as a critical risk management tool, offering a buffer against liquidity crises and market disruptions. Banks with larger Liquid Assets Ratios are better positioned to weather severe economic conditions and disruptions in funding markets, since they have substantial liquidity buffers to draw upon in times of need.

Empirical research have verified the importance of the Liquid Assets Ratio in supporting financial resilience and stability. Banks with higher Liquid Assets Ratios tend to display greater liquidity resilience and are less prone to liquidity shocks[61]. This, in turn, contributes to increased financial performance and sustainability, as banks can effectively manage liquidity risks and ensure uninterrupted operations. Empirical study has shed light on the relationship between the

Liquid Assets Ratio (LAR) and financial performance metrics for Deposit Money Banks (DMBs). Studies such as those have revealed a favorable association between higher Liquid Assets Ratios and stronger liquidity positions across banks[62]. Banks with larger Liquid Assets Ratios are better able to weather liquidity issues and interruptions in funding markets. By retaining a bigger proportion of liquid assets relative to their overall assets, these institutions can ensure a more robust liquidity position, hence increasing their financial stability.

Banks with greater LARs are frequently better positioned to manage liquidity risks effectively, minimizing the chance of liquidity crises and disruptions in operations. This, in turn, contributes to enhanced profitability and solvency for DMBs[61]. Furthermore, a healthy liquidity position enables banks to satisfy their short-term obligations promptly, instilling confidence among depositors and investors. This promotes faith in the bank's capacity to honor its financial commitments and continue uninterrupted operations, ultimately boosting overall financial success and sustainability. The possible issues encountered by Deposit Money Banks (DMBs) with reduced Liquid Assets Ratios. These banks may confront liquidity limitations, particularly during times of economic instability or when faced with sudden deposit withdrawals[62]. Insufficient liquidity buffers can greatly damage a bank's ability to meet its short-term obligations and fund lending activity[59]. DMBs with lower Liquid Assets Ratios may find themselves constricted in finding funds for loans and other investments, which might hinder their capacity to earn returns and maintain profitability.

During instances of economic stress or market disruptions, banks with lower Liquid Assets Ratios may be particularly exposed to liquidity problems. Inadequate liquidity buffers may leave these institutions ill-prepared to respond to abrupt spikes in deposit withdrawals or interruptions in financing markets, potentially increasing liquidity issues and financial instability. Furthermore,

a lack of proper liquidity buffers can erode depositor confidence and investor trust in the bank's capacity to honor its financial commitments. This can have broader ramifications for the bank's reputation and long-term viability in the market.

2.2 Theoretical Review

This work mostly relies on the trade-off hypothesis proposed by Brealey and Myers. The trade-off model highlights those enterprises with high leverage face increased costs of servicing their debt, which in turn affects their profitability and makes it challenging for them to secure financing from alternative sources. Both smaller and larger organizations have cash reserves at that moment. The size of a corporation is irrelevant when considering the impact of bankruptcy on the decision about the capital structure. Thus, in this study, the trade-off theory is employed to support and establish the variables being examined.

Researchers have examined Working Capital using several theories, including trade-off theory, agency theory, stakeholder theory, and Pecking Order Theory, among others. The pertinent theories for this study encompass the trade-off theory, agency theory, and the pecking order theory.

2.2.1 Trade-off Theory of Liquidity

The trade-off theory of liquidity, proposed by Brealey and Myers in 1991, suggests that enterprises aim to achieve an optimal level of liquidity in order to balance factors such as profitability, return on assets, return on equity, stock return, and earnings per share[64].

Advantages and disadvantages of maintaining a cash reserve. The Trade-off Theory of Liquidity suggests that firms, including banks, must balance the costs and benefits associated with maintaining different levels of liquidity. Liquidity refers to a firm's ability to meet short-term

obligations with minimal losses. According to this theory, there is an optimal level of liquidity that maximizes firm value, taking into account the costs of holding liquid assets and the benefits of being able to quickly meet financial obligations. Scholars have expanded on Myers' original concept, emphasizing the importance of considering factors such as transaction costs, agency costs, information asymmetry, and market conditions when determining the optimal level of liquidity for a firm[66,67]. They argue that liquidity management should be tailored to the specific needs and circumstances of each organization.

The expense associated with keeping cash includes a low rate of return on this asset due to the liquidity premium and potential tax disadvantages. The advantages of keeping cash are twofold: corporations can reduce transaction costs for raising financing and avoid the need to sell assets in order to make payments[66]. Furthermore, organizations have the option to utilize liquid assets to support their operations and investments in cases where alternative funding sources are unavailable or too costly. The significance of this theory in the study lies in its ability to minimize expenses and optimize the advantages associated with working capital components[64]. In a scenario where perfect capital market conditions are assumed, the act of holding cash does not result in the creation or destruction of value[66]. A company can consistently obtain financing from capital markets whenever it requires funds, without incurring any costs associated with these transactions.

Additionally, the funds can always be acquired at a reasonable price due to the assumption that capital markets possess complete information about the company's prospects. The trade-off hypothesis posits that companies aim to achieve an optimal level of liquidity in order to strike a balance between the advantages and disadvantages of keeping cash. Companies reduce transaction costs by raising cash and avoid the need to sell assets in order to make payments[67].

Furthermore, a company can utilize liquid assets to support its operations and investments in the absence of other financing options or when alternative sources of capital are prohibitively costly. The trade-off model is a theoretical concept that highlights the impact of high leverage on organizations. According to this model, firms with high levels of debt have higher costs while servicing their debt, which in turn affects their profitability. Additionally, these firms may encounter difficulties in raising financing from alternative sources. Both smaller and larger organizations have cash reserves at that moment. The size of a firm does not have any impact on the capital structure decision when the possibility of bankruptcy arises. Thus, in this study, the trade-off theory is employed as the foundation for the variables being examined. The significance of this theory in the study lies in its ability to minimize costs and optimize the advantages associated with working capital items, as mentioned before in relation to deposit money banks. Recognizes that it is essential to maintain an appropriate level of liquidity as the most effective approach.

Critics of the Trade-off Theory of Liquidity argue that it may oversimplify the complexities of liquidity management by assuming a linear relationship between liquidity and firm value. They contend that in dynamic and uncertain environments, firms may face trade-offs that are more nuanced and difficult to quantify accurately[65]. Additionally, some critics suggest that the theory does not adequately account for the role of market liquidity and external shocks in influencing firm value. Despite its criticisms, the Trade-off Theory of Liquidity provides a valuable framework for understanding the factors that influence liquidity management decisions[67,68]. By considering the trade-offs between the costs and benefits of holding liquid assets, firms can develop strategies to optimize their liquidity positions and enhance overall performance. The

theory also highlights the importance of aligning liquidity management practices with broader organizational goals and risk tolerance.

The Trade-off Theory of Liquidity has significant implications for liquidity management and the performance of banks. Banks must strike a balance between holding liquid assets to meet deposit withdrawals and loan demand while also investing in higher-yielding, less liquid assets to maximize profitability. Effective liquidity management can enhance a bank's stability, reduce funding costs, and support lending activities, ultimately contributing to improved performance.

Banks can apply the principles of the Trade-off Theory of Liquidity to inform their liquidity management strategies. This involves conducting thorough assessments of liquidity needs, market conditions, regulatory requirements, and risk factors to determine the optimal balance between liquidity and profitability. By implementing robust liquidity risk management practices, banks can mitigate potential adverse effects of liquidity shocks and maintain resilience in volatile market environments, ultimately supporting long-term financial performance.

2.2.2 Pecking Order Theory of Liquidity

The Pecking Order Theory was formulated by Myers and Majluf. According to this hypothesis, corporations adhere to a financing hierarchy as a result of the expenses associated with acquiring information[69]. Myers and Majluf published a paper in 1978. When firms seek to raise capital from external markets, they generally encounter two types of expenses: information asymmetry costs and transaction costs. The presence of these supplementary expenses increases the cost of obtaining external capital, hence prompting enterprises to prefer using internal funds over external ones. Information asymmetry occurs as a result of the division between ownership and management[71]. Managers possess greater knowledge regarding the firm's worth and would

endeavor to release stock when its market value is elevated. As a result of the unequal access to knowledge between external investors and managers, the value of stock may be intentionally set lower to compensate for the managers' motivation[69]. This could result in equity being a costly means of funding and causing companies to engage in insufficient investment. Such difficulties do not have any impact on retained earnings.

Furthermore, due to the necessity of making regular interest payments, debt is less susceptible to the impact of information asymmetries. The Pecking Order Theory posits that a firm's capital structure is determined by its preference to fund new projects primarily through internal sources, followed by low-risk loans, and as a last resort, equity[71]. Consequently, companies favor using internal funds rather than seeking external funding. The reference "Myers & Majluf " is provided[70]. This theory is applicable to both large and small enterprises. Small enterprises, due to their lack of transparency and significant adverse selection issues, experience credit rationing and incur substantial information costs. Due to the varying quality of financial statements among small enterprises, there is typically a higher degree of asymmetric information in these firms. While investors may have a preference for audited financial statements, small enterprises may opt to avoid incurring these expenses. The expenses associated with raising fresh capital are very expensive, whereas for internal funds, the costs might be regarded as negligible. Debt incurs costs that fall between those associated with equity and internal finances.

Consequently, companies prioritize using their own profits (retained earnings) as the primary source of funding, followed by borrowing, and only consider issuing equity as a final option. The pecking order hypothesis is applicable in this study since it suggests that a bank's profitability has an impact on its choices about financing. The firm raises debt when it has an investment opportunity that surpasses its internally generated funds[72]. Therefore, alterations in the capital

structure frequently act as an indication to external parties regarding the present condition of the company, as well as the managerial projections for future profits. The fundamental principle behind the pecking order theory of capital structure is the belief that managers possess privileged knowledge. The pecking order theory posits that organizations prioritize the deployment of capital to finance their businesses based on the information asymmetries that exist between the firm and potential investors.

However, challenges exist. Economic and regulatory dynamics, like interest rate fluctuations, can influence financing preferences and liquidity strategies. Balancing financial flexibility with regulatory compliance is crucial[72]. Additionally, market conditions and investor sentiment may disrupt the pecking order hierarchy during financial turmoil, prompting banks to seek alternative funding avenues. Flexibility and adaptability are key in navigating these challenges while maintaining optimal liquidity management practices[73].

The financial performance of banks benefits from adhering to this approach. By reducing reliance on external financing, costs are minimized, and shareholder ownership dilution is avoided. Prioritizing internal funds maintains financial flexibility, enabling swift responses to unexpected liquidity demands or market shifts. This, in turn, can boost investor confidence, lower information asymmetry costs, and potentially drive-up stock prices while facilitating access to capital markets. Furthermore, avoiding equity issuance during perceived undervaluation safeguards shareholder value and avoids negative market signals.

When banks apply the Pecking Order Theory to manage liquidity, they prioritize internal sources like deposits and retained earnings over external options such as borrowing or issuing debt. Deposits are favored for their stability and cost-effectiveness, serving as the primary funding

source. Retained earnings are also retained to bolster liquidity reserves rather than seeking external funds.

2.3 **Empirical Review**

2.3.1 Liquidity Management Practice on Financial Performance

From 2010 to 2018, this research looks at how liquidity management affected the bottom lines of Nigerian banks[24]. Five Nigerian banks that are listed on the stock exchange provided the secondary data used in the study. Some of the proxies used for liquidity management are the liquidity ratio, the loan-to-deposit ratio, the cash reserve ratio, and the deposit ratio. On the other hand, profitability may be measured by return on assets (ROA), return on equity (ROE), and return on net interest margin (NIM). In order to estimate the model and choose between a fixed effect and a random effect model, the study used panel regression analysis and the Hausman test. According to the research, DMB's financial performance, as shown by ROA, ROE, and NIM, is positively and significantly impacted by liquidity ratio (LQR). The report concludes that Nigerian banks should improve their risk management and governance by creating policies and strategies for managing liquidity that are integrated into overall risk management practices. They should also set up a backup plan to cover funding gaps during times of stress or emergencies, and they should keep a close eye on their liquidity funding to make sure any problems that could cause a crisis are dealt with quickly. The capacity to pay off debts is known as liquidity in the business world, but in the banking industry, it mostly means being able to pay out deposits when they come due. Liquidity is essential for banks since a significant amount of their obligations (deposits) are due on demand.

However, in general, assets with high liquidity tend to have lower returns. Therefore, considering the extent of a bank's liabilities, the choice of asset combination would significantly impact the management of liquidity, profitability, and risk. The purpose of this article was to examine the relationship between banks' financial performance and effective liquidity management in the context of a weak economy[25]. To keep up with the dynamic economic climate in Zimbabwe, we regularly examine factors such asset liability mix, regulatory and market developments, and liquidity management methods. The researchers opted for a mixed-methods approach, which combines qualitative and quantitative techniques to address the study question from several angles. This research looked at the banking industry in Zimbabwe as a whole, and it selected five (5) major

banks—CBZ, Standard Chartered Bank of Zimbabwe, First Capital Bank, FBC Bank, and ZB Bank—to represent its sample. The study's main takeaway is that effective liquidity management correlates positively with financial performance for banks. Profit margins in Zimbabwean banks shrank over the research period as a result of the trade-off between liquidity and profitability, but the increased stability that resulted ensured better performance and sustainability. All parties participating in the exercise should adopt a comprehensive view of liquidity management, therefore suggestions have been sent their way.

The purpose of a research was to determine how liquidity management affected the bottom lines of Botswana's commercial banks[26]. Financial performance was measured in the research using Return on Assets and Return on Equity. As a means of measuring liquidity, we looked at the following ratios: cash and cash equivalents to total assets; cash to deposits; loans to deposits; loans to total assets; liquid assets to total assets; and liquid assets to deposits. From 2011 to 2019, all nine of Botswana's commercial banks served as the study's research population. Monthly

secondary data from the Bank of Botswana Financial Statistics database was used in this descriptive analysis. For this data set, the analysts turned to descriptive statistics, correlation, and regression. A positive correlation between the ratio of liquid assets to total assets and the ratio of loans to total assets was found in the regression analysis, as was a positive correlation between the ratio of loans to total assets and return on equity. Return on assets and return on equity were negatively correlated with the ratio of loans to deposits and the ratio of liquid assets to deposits, according to statistical analysis. There was a weak but positive correlation between the ratio of cash and equivalents to total assets and ROA and ROE, and a weak but negative correlation between cash to deposits and ROA and ROE. Based on the results, commercial banks should aim to improve their performance by optimizing liquidity factors. To ensure banks can maintain a healthy profit margin, policymakers should work with the Central Bank to implement measures like minimum liquidity requirements.

This research looks at how commercial banks in Pakistan fare financially after using liquidity risk management strategies[27]. The success and stability of Pakistan's financial market are highly dependent on the country's banking industry. Consequently, the state of the national economy is very sensitive to the health of the banking sector. To fulfill its goal of stability, the Pakistan Central Bank makes sure that banks are in the best possible liquidity position to maximize profits. Using panel data for Ordinary Least Square analysis, this study examines the impact of liquidity risk management on financial performance. From 2006 to 2019, financial data from all commercial banks in Pakistan were retrieved from the State Bank of Pakistan website's archives. It is determined that commercial banks in Pakistan operate better when they have more liquidity. Several research and the existing literature support the findings. When making policy choices about the minimum liquidity requirements of banks in this region, this report might serve as a

valuable reference. Extending the study's duration and adding other factors relevant to Pakistan's banking industry (e.g., bank size, age of bank, etc.) might improve it even more. To make the study even stronger and more reliable, future research may include additional types of non-commercial banks.

A study is to analyze the financial performance of Jordanian manufacturing businesses listed on the Amman Stock Exchange from 2010 to 2019 and to determine the effect of liquidity and solvency management on that performance[28]. A control variable was the company's size. The research uses ROA and EPS, or earnings per share, to evaluate the company's financial health. Proxies for liquidity and solvency management were the current ratio (CR) and total debts to total assets, whereas the size was measured by the logarithm of total assets. The data has been analyzed using multi regression and correlation. While the size of the company, liquidity, and solvency management are all independent and control variables that significantly affect financial performance, the detailed results of the hypotheses show that liquidity has an insignificant negative effect on financial performance. When controlling for other factors, size has a favorable effect on performance while solvency has a negative one. According to the study's findings, large-sized enterprises with minimal debt can improve their performance by boosting investments in their assets through internal finance.

Using time series data from 2011–2020, the study empirically explores how liquidity management affects the financial performance of Nigerian deposit money banks. After conducting tests to choose the most effective estimator among pool OLS, fixed effect, and random effect estimators using the Breusch and Pagan LM test, F-test, and Hausman test, the study uses STATA 11 for descriptive and correlational analyses. Since the P-value of 7.9% is higher than the 5% significant level, we may conclude that the link between the deposit-to-asset

ratio and returns on assets of DMBs in Nigeria is negative but not statistically significant. With a p-value of 22.1%, which is higher than the 5% significant level, the link between cash reserve ratio and returns on equity of DMBs in Nigeria is positive but statistically insignificant. The net interest margin of Nigerian deposit banks is negatively correlated with the loan deposit ratio; however, this correlation is not statistically significant (P = 91.8%, which is less than the 5% level of significance). The report concludes that the Central Bank of Nigeria (CBN) should work toward strengthening its regulatory authority over all of Nigeria's DMBs. The government ought to create a special financial court to bring those responsible for repeated loan defaults to justice. The CBN and the bank's board of directors should promote staff professional development and ongoing training and retraining. It would be wise for CBN to establish a ceiling on the degree of education and experience that DMB employees can achieve without proper credentials[29].

This study primarily aims to analyze the relationship between SACCOs' financial performance and various aspects of liquidity management in Bushenyi District[30]. A total of seventy-two SACCOs in the Bushenyi District participated in the cross-sectional survey that formed the basis of this study. A total of 183 respondents were surveyed from 61 SACCOs in Bushenyi. The sample was determined using Krejcie and Morgan's Table, and the units of analysis were accountants, managers, and credit officers. In order to determine whether the research instrument was valid, we used the content validity index. To determine whether it was reliable, we used Cronbach's alpha, which measures how consistently we get the same findings from the same respondents when we give them the instrument at various times. We used inferential statistics, namely regression and correlation analysis, to achieve our study goals. Cash and liquidity ratios, as well as financial success, are positively correlated with one another, according to the results. The study concludes that there is a favorable correlation between financial success and the

components of comprehensive liquidity management. Any improvement in SACCOs' liquidity management practices is likely to have a beneficial effect on their bottom line. As a result, optimizing the use of available funds may be achieved through better liquidity management, and sound planning and allocation of resources can be ensured through effective cash budgeting. To boost SACCOs' bottom lines, it's important to take into account debtor management and bank reconciliation statements in addition to liquidity management, which have weakly favorable relationships.

Examining the effects of liquidity, credit, and financial leverage risks on the 2008–2018 financial performance of Sudanese Islam banks is the primary objective of this research. A panel dataset of 143 observations from thirteen different banks was utilized for this investigation. Using robust random effects estimates, two models of ROA and NPM were created to evaluate the study assumptions. The financial leverage ratio, liquidity risk, and credit risk are the independent variables. Nonperformance of loan (financing) and provision of loan (financing) loss ratios measure credit risk, whereas cash to deposits, liquid assets to total assets, and total loan (financing) to total deposits ratios assess liquidity risk. Return on assets and net profit margin ratios are two measures of financial performance used to assess Islamic banks in Sudan. Based on the findings, Islamic banks in Sudan are severely impacted financially by credit risk and financial leverage, but liquidity risk is typically deemed minimal. Regardless, the liquidity risk, measured by the ratio of liquid assets to total assets, has a notable and beneficial effect on the financial performance of banks in Sudan. The study's significance lies in the fact that it addresses the most important categories of risks encountered by Islamic banks in Sudan throughout their operating cycles[31].

The impact of liquidity risk management on consumer goods businesses' financial performance is the focus of the study. With the hope of improving their financial performance, consumer products firms might learn how serious they are about managing their cash on hand, cash defensive intervals, long-term loans, and quick ratios. The liquidity measuring factors were derived using data extracted from the examined firms' annual reports and financial records. Findings from analyses conducted utilizing multiple regression analysis approaches indicate that cash defensive intervals, long term debts, and quick ratios all significantly impact ROA and EPS, whereas cash ratio and long term debts only impact ROCE. The empirical evidence points to a strong correlation between consumer goods businesses' financial success and liquidity risk management. The results also show that consumer goods businesses' financial performance is greatly impacted by companies' careless approach to managing liquidity risk[32]. Consumer products businesses should convey a transparent strategy for managing liquidity risk to all of their functional units and include it in their strategic policy framework, according to the report. Establishing and monitoring risk warning dashboards can help consumer products firms, which play a crucial role in customers' quality of life, quickly address and manage risk variability and volatility[32].

From 2010 to 2018, this research looks at how liquidity management affected the bottom lines of Nigerian banks[33]. Five Nigerian banks that are listed on the stock exchange provided the secondary data used in the study. Some of the proxies used for liquidity management are the liquidity ratio, the loan-to-deposit ratio, the cash reserve ratio, and the deposit ratio. On the other hand, profitability may be measured by return on assets (ROA), return on equity (ROE), and return on net interest margin (NIM). In order to estimate the model and choose between a fixed effect and a random effect model, the study used panel regression analysis and the Hausman test.

According to the research, DMB's financial performance, as shown by ROA, ROE, and NIM, is positively and significantly impacted by liquidity ratio (LQR). The report concludes that Nigerian banks should improve their risk management and governance by creating policies and strategies for managing liquidity that are integrated into overall risk management practices. They should also set up a backup plan to cover funding gaps during times of stress or emergencies, and they should keep a close eye on their liquidity funding to make sure any problems that could cause a crisis are dealt with quickly.

Using time series data from 2011–2020, the study empirically explores how liquidity management affects the financial performance of Nigerian deposit money banks[34]. After conducting tests to choose the most effective estimator among pool OLS, fixed effect, and random effect estimators using the Breusch and Pagan LM test, F-test, and Hausman test, the study uses STATA 11 for descriptive and correlational analyses. Since the P-value of 7.9% is higher than the 5% significant level, we may conclude that the link between the deposit-to-asset ratio and returns on assets of DMBs in Nigeria is negative but not statistically significant. With a p-value of 22.1%, which is higher than the 5% significant level, the link between cash reserve ratio and returns on equity of DMBs in Nigeria is positive but statistically insignificant. The net interest margin of Nigerian deposit banks is negatively correlated with the loan deposit ratio, however this correlation is not statistically significant (P = 91.8%, which is less than the 5% level of significance). The report concludes that the Central Bank of Nigeria (CBN) should work toward strengthening its regulatory authority over all of Nigeria's DMBs. The government ought to create a special financial court to bring those responsible for repeated loan defaults to justice. The CBN and the bank's board of directors should promote staff professional development and

ongoing training and retraining. It would be wise for CBN to establish a ceiling on the degree of education and experience that DMB employees can achieve without proper credentials.

Understanding the connection between liquidity and profitability and how liquidity affects profitability is the main goal of this study. A fixed panel regression analysis was conducted on ten publicly traded businesses in Nigeria's oil and gas industry that hold a larger market share. For the 10 years spanning 2011–2020, we relied on secondary data collected from their published annual reports. Return on equity (ROE), profit after tax (PAT), and return on assets (ROA) were utilized to ascertain profitability. The behavior of the dependent variable was determined by internal liquidity factors like equity, debt, and sales. To further explain profitability behavior, external aspects such as lending interest rate and exchange rate were used. Using a multivariate regression technique, the data were evaluated. According to the results, debt significantly reduces a company's profitability. The oil and gas industry's debt financing is less advantageous to businesses than equity capital and retained earnings. According to the report, oil and gas companies may raise shareholder value by increasing equity capital, improving revenues, increasing retain profits, and decreasing debt financing.

No business can afford to ignore Liquidity Management as it is fundamental to their operations. Since declining liquidity management is the most common reason for bad financial performance, sound liquidity management is crucial for the stability and profitability of financial organizations. Listed deposit money banks in Nigeria will be the focus of this empirical investigation on the connection between liquidity management and financial success[35]. Eight foreign banks listed on the Nigerian Exchange Group's annual reports between 2010 and 2020 were used to compile panel data on liquidity management and return on equity. We utilized the following statistical

tools to examine the data: ordinary least square regression analysis, augmented dickey fuller unit root test, lanrange multiplier test, Johansen co-integration test, and error correction model. According to the findings, there is a strong correlation between return on equity and liquidity management. According to the study, there is a strong correlation between good liquidity management and financial performance. The researchers suggest that the Central Bank of Nigeria should examine and supervise how well banks are using liquidity policy tools, and if necessary, punish those banks that aren't following the rules. This will help them achieve their desired level of liquidity.

Nigerian deposit money banks' liquidity and performance were the subjects of the investigation. Determine the link between the current ratio and the performance of money banks that accept deposits; investigate the relationship between the loans to deposit ratio and the performance of money banks that accept deposits in Nigeria; these are the particular objectives of the study. Ratio of deposits to total assets and performance of Nigerian money banks. Secondary sources provided the data. Sources for the panel data included the bank's annual report and the fact book of the Nigerian Stock Exchange. After analyzing the obtained panel data, researchers found that the current ratio had a weakly negative correlation with the performance of Nigerian deposit money institutions. Consequently, the report suggests, among other things, that regulatory agencies like the Nigerian Deposit Insurance Corporation and the Central Bank of Nigeria should implement measures to help banks better manage their liquidity[36].

When it comes to microfinance institutions, liquidity management is crucial because it determines how readily a company can turn its assets into cash, ensuring that the organization always has the money it needs to run its operations. Out of thirteen microfinance institutions surveyed, five turned a profit in 2016, while the other eight posted losses. This trend continues

with a general decrease in the percentage of return on asset, from 2% in 2014 to 1% in 2015 and 0.5% in 2016. Microfinance institutions in Nairobi City County, Kenya, were the focus of this study, which looked at their financial performance and liquidity management from 2011 to 2017. In this study, financial performance is the dependent variable, while capital sufficiency, loan repayment, cash management, and inflation serve as the independent factors. The thirteen microfinance institutions located in Nairobi City County were the intended recipients. By using structured questionnaires to determine independent variables and audited statements to determine dependent variable, the study employed a descriptive survey research methodology that drew from both primary and secondary sources of information. After careful preparation and editing, the data was entered into SPSS Version 22.0 for analysis. While loan repayments and cash management showed a strong positive correlation with financial performance of MFBs, the results for capital adequacy showed a mild positive correlation that was not statistically significant. According to the research, MFBs should keep their capital bases strong so that they can withstand any risks in the future. In addition, MFBs should protect themselves from credit risks that can hurt their financial performance by implementing effective loan management practices. Finally, in order to improve their financial performance, MFBs should implement policies that are efficient with cash[37].

This research looked at the relationship between the yearly inflation rate and the profitability of Nigerian banks[38]. The study used an ex-post facto methodology. Information was culled from chosen Nigerian banks' yearly reports and bank records. Twenty (20) of Nigeria's deposit money banks were included in the study's population as of the research work's completion. Twenty (20) deposit money banks were operational in Nigeria as of the end of 2019, according to the Nigeria Stock Exchange (NSE). To test the hypothesis, SPSS 20.0 was used in conjunction with

regression analysis. Banks' bottom lines are unaffected by changes in the yearly inflation rate, according to the study. The study's author concluded that financial institutions would benefit from regular inflation rate forecasts so they may profitably alter their interest rates.

The impact of liquidity management on the performance of Nigerian banks from 1980 to 2017 is the focus of this research[40]. Finding ways to enhance bank performance and liquidity situation, as well as empirical proof of the degree to which good liquidity management influences bank performance, were the key goals of the study. In order to examine the connection between liquidity management and banks' performance, we utilized the cointegration and error correction approach that was developed from the ARDL data analysis technique. Additionally, we utilized the Granger causality test. Despite LQR being the sole significant variable in the model from the individual test, the study shows that the liquidity components jointly impact banks' performance in Nigeria in the long run, suggesting a relationship between the selected key variables and banks' performance. We conclude from the data that the Nigerian central bank should improve the efficiency and efficacy of reviewing and monitoring banks' liquidity policy instruments to stabilize the performance of deposit money banks and fortify the economy's financial sector.

A study focuses on the obvious effects of liquidity management on business output. In 2020, the Nigerian Stock Exchange Fact Book included full financial data from 2010 to 2019, so researchers could use an ex-post factor study design and a purposive sample approach to focus on 20 consumer products[41]. The methods used for the analysis included a panel data design, descriptive statistics, multiple regressions, the Variance Inflation Factor (VIF) Test (for multicollinearity), and Pearson's product moment correlation coefficient. The F-statistic and P-value demonstrate statistical significance in the regression model, and the results reveal that the independent variables collectively explain 56% of the dependent variable. Our study's four

explanatory variables—current ratio management (CRM), quick ratio management (QRM), cash conversion cycle management (CCCM), and operating cash flow (OCFM)—show that these factors have a negative, positive, and insignificant impact, respectively, on the return on assets (ROA), of the Nigerian firms that were polled. Our contributions include the updated model used for the study and the vast, rich academic literature on the topic. We advise that policymakers in the field of business management concentrate on ways to maintain and grow profitability through the appropriate management of these separate components. The implications suggest that, when handled correctly, some aspects of liquidity management might boost a company's success. The rationale behind each variable's effect on ROA is, however, dictated by the efficacy of management policy.

Understanding the connection between liquidity and profitability and how liquidity affects profitability is the main goal of this article. A fixed panel regression analysis was conducted on ten publicly traded businesses in Nigeria's oil and gas industry that hold a larger market share[42]. For the 10 years spanning 2011–2020, we relied on secondary data collected from their published annual reports. Return on equity (ROE), profit after tax (PAT), and return on assets (ROA) were utilized to ascertain profitability. The behavior of the dependent variable was determined by internal liquidity factors like equity, debt, and sales. To further explain profitability behavior, external aspects such as lending interest rate and exchange rate were used. Using a multivariate regression technique, the data were evaluated. According to the results, debt significantly reduces a company's profitability. The oil and gas industry's debt financing is less advantageous to businesses than equity capital and retained earnings. According to the report, oil and gas companies may raise shareholder value by increasing equity capital, improving revenues, increasing retain profits, and decreasing debt financing.

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2.3.2 Cash Flow Coverage on Financial Performance

A firm with proper cash flow management can increase its financial performance, while improper management might lead to financial failure. Therefore, it is significant for a firm to manage cash inflows and outflows properly. The current study investigates the effect of cash flow from operations (CFOs) on the financial performance of insurance and manufacturing companies in Saudi Arabia. The data were extracted from companies’ annual reports by

considering Return on Assets (ROA) and Return on Equity (ROE) as dependent variables, CFOs as an explanatory variable, firm size (SIZE) and Leverage (LEV) as control variables, and an industry dummy. The results report a positive and significant association between financial performance (ROA and ROE) and operating cash flows (CFOs), and a negative association for SIZE and LEV. Therefore, the study concludes that the firms' operating cash flows in the insurance and manufacturing sectors in Saudi Arabia affect financial performance[45].

The importance of the cash flow position to the financial performance of bank and other corporate entities have been emphasized by scholars, but with little venture into how bank funds management have affected liquidity. By the nature of banking firms as financial intermediaries, there is not downplaying of how cash flow can affect their liquidity. It is on the basis of this that this study set out to know the effects of cash flow through operating activities of the liquidity positions of First Bank of Nigeria[46]. Times series data were used from the study spanning from 2009 to 2020. Simple regression was used as technique of data analysis collected through secondary source. Loan to deposit ratio was used as proxy for bank liquidity, the explained variable for the study is nCOF (net cash flow from operating activities of First Bank of Nigeria). This study's empirical findings revealed that net cash flow from operating activities have significantly affected liquidity position of First Bank of Nigeria. In conclusion the net cash flow from operating activities of First Bank of Nigeria have significant effect on its liquidity position. The study then recommends that Cash flow ratio should be use in evaluating the liquidity position of first Bank Nigeria limited.

The post-crisis liquidity framework improves banking stability by imposing stricter liquidity requirements. However, consistent bank performance continues to be an essential factor in achieving this goal. This study examines the impact of the liquidity coverage ratio (LCR) on the

profitability and non-performing assets (NPAs) of Indian banks using annual data from 2010 to 2019. By applying the dynamic panel data regression technique, we found that compliance with the minimum level of the LCR reduces the net interest margins (NIMs) of banks due to a narrower interest spread, thereby impacting banks profitability. Moreover, the NPAs of the banks tend to grow with an increase in LCR. The study's findings have far-reaching implications for policymakers. Indian policymakers/regulators need to understand the strategies used by banks to meet liquidity standards and, if necessary, revisit the policy framework to achieve better compliance results. The study's framework establishes a foundation that can be used for conducting similar research in other complex geographies such as India[47].

This study aims to examine the impact of financial leverage on the financial performance of conventional banks listed on the Indonesia Stock Exchange. The dependent variable used in this study is a return on assets and return on equity. Meanwhile, this study's independent variables are debt ratio, debt to equity ratio, interest coverage ratio, and cash coverage ratio. The sample used was 21 conventional banks for ten years from 2010-2019. The type of data used is secondary data. The sampling technique used was the purposive sampling method. The data analysis model used was panel data regression. The results showed that the debt ratio positively affects return on assets and return on equity. The debt-equity ratio has a positive effect on return on assets but has a negative and significant effect on return on equity. Interest coverage ratio has no effect on return on assets and return on equity, and cash coverage ratio has no effect on return on assets and return on equity. Maximizing shareholder profits and financial performance can be made by considering the debt ratio and debt-equity ratio[50].

Dividend pay-out is a concern for both managers and shareholders. The managers may use dividend policy to signal their performance. Thus, this study examines the effect of free cash

flow, liquidity, bank size, leverage, profitability and bank age on the dividend pay-out ratio. The multiple regression analysis (panel data) was used to examine the hypothesis. The study found that free cash flow, liquidity, leverage and profitability were influential factors affecting the dividend pay-out ratio in Jordanian banks from 2004 to 2015. However, the bank size and bank age were found to be insignificantly related to the dividend pay-out in Jordanian banks. Similar to previous studies, this study suffered from different limitations. The main limitation was the data collection. The data was collected from Data Stream. However, only ten banks were found in the Data Stream reducing the sample to 120 observations/years. This study suggests that future studies to take into consideration the effect of the ownership structure on the dividend pay-out policy[51].

2.3.3 Loan-to-Deposit Ratio (LDR) and Financial Performance

This study seeks to examine the impact of certain factors on the profitability of conventional banking companies listed on the Indonesia Stock Exchange during the observation period from 2013 to 2017. The factors under analysis include the Loan to Deposit Ratio (LDR), Non-Performing Loans (NPL), and Capital Adequacy Ratio (CAR). The data used in this study is collected from the annual financial statements of banking companies on the Indonesia Stock Exchange via the official website. Data collected spans a period of five years, from 2013 to 2017. We utilised the Purposive Sampling method for sample collection and conducted data analysis using the SPSS 23.0 programme with multiple regression analysis. The results of the hypothesis test indicate that LDR, NPL, and CAR have a significant impact on profitability. The significance level of 0.000 further supports this finding. Based on the results of hypothesis testing (t test), it is found that the LDR variable does not have a significant effect on Profitability, with a significance level of 0.767. On the other hand, NPL has a negative and significant effect

on Profitability, with a significance level of 0.000. Similarly, CAR has a positive and significant effect on Profitability, with a significance level of 0.000[52].

This study seeks to understand the influence of capital adequacy and loan to deposit ratio on financial performance, taking into account credit risk as a moderating variable. The focus is on banking companies listed on the Indonesia Stock Exchange from 2015 to 2019. a total of 43 banking companies in our population, and we have selected a sample of 23 companies[53]. The data analysis model is an interactive method commonly known as Moderated Regression Analysis (MRA). Based on the findings, it is evident that the level of capital adequacy significantly influences the financial performance of banking firms listed on the Indonesia Stock Exchange during the period of 2015 to 2019. The loan to deposit ratio has no impact on financial performance. When credit risk is taken into account, it becomes apparent that it has a significant impact on the relationship between capital adequacy and financial performance, as well as the relationship between the loan to deposit ratio and financial performance. Furthermore, the inclusion of credit risk as a moderating variable enhances the impact of capital adequacy and loan to deposit ratio on financial performance.

The banking industry plays a crucial role in fostering equity and driving economic growth. Unfortunately, the growing number of banks has led to a challenging environment where competition is fierce. This has resulted in a decline in the performance of some banks, making them financially unstable. This study seeks to investigate the impact of certain factors on the Return on Assets in Conventional Banking listed on the Indonesia Stock Exchange from 2015 to 2019. Specifically, it examines the influence of Non-Performing Loans, education diversity, and Loan to Deposit Ratio. The study also takes into account the geographical location, as the effects of loans may vary depending on the geographical perspective. The study employs a quantitative

research method, specifically utilising panel data. A purposive sampling technique was employed to select a sample of 33 companies from a population of 41 companies. The research employs various data analysis techniques, including descriptive statistical analysis, the coefficient of determination test, the F test, and the t-test. The data processing was done using SPSS 20. The findings indicated that the Non-Performing Loan, the Loan to Deposit Ratio, and education diversity collectively had a substantial impact on Return on Assets. Partially, the presence of Non-Performing Loans has a notable detrimental impact on Return on Assets, while the Loan to Deposit Ratio has a noteworthy positive influence on Return on Assets[54]. Geographical variations were observed to have an impact on the return on assets and the effect of loans.

This study seeks to analyse the impact of operating costs and income, as well as the loan to deposit ratio, on the return on assets (ROA) of public-private foreign exchange banks listed on the Indonesia Stock Exchange (IDX) from 2015 to 2018[56]. This study employs a quantitative approach, utilising financial reports of Public-Private Foreign Exchange Banks listed on the IDX as the primary data source. The study focuses on a population of 25 Public-Private Foreign Exchange Banks that are listed on the IDX. This study utilises purposive sampling to select a sample of 21 banking companies. The data was analysed using various methods of multiple linear regression and descriptive statistics. The calculation results of the F Test indicate that the variables of free operating expenses, operating income, and the loan to deposit ratio have a simultaneous and significant impact on the return on assets (ROA) variable in Public-Private Foreign Exchange Banks listed on the IDX. The findings of this study suggest that the combination of operational costs, operational income, and loan to deposit ratio has a notable impact on the return on assets (ROA). The impact of operational costs and operational income on

return on assets is notably negative. According to the findings, the third hypothesis suggests that the Loan to Deposit Ratio has a positive but insignificant impact on Return on Assets.

This study aimed to investigate the impact of various factors on the financial performance of PT Bank DKI during the period of 2010-2019. Specifically, the study examined the influence of Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), and Net Profit Margin (NPM) on the bank's overall performance. The method employed is a descriptive quantitative approach, utilising various statistical tests such as classical assumption test, Multiple Linear Regression, T-test, F-test, and Coefficient of Determination Test. The t-test results indicate that there is no significant impact of CAR on ROA. There is no substantial impact of LDR on the return on assets (ROA). NPM has a strong positive impact on the return on assets. The F-test results indicate that the variables CAR, LDR, and NPM collectively have a noteworthy impact on the return on assets (ROA) at PT Bank DKI during the period of 2010-2019. The test results revealed that the independent variables, namely Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), and Net Profit Margin (NPM), collectively contribute to 72.5% of the Return On Assets (ROA) as per the Adjusted R2. The remaining 27.5% is influenced by other factors. One potential drawback of this study is the selection of research samples, which solely focuses on financial statements from 2010 to 2019. The variables considered are solely focused on banking fundamental factors, specifically liquidity ratios and profitability ratios. This research aims to enhance the existing knowledge and literature on banking financial performance. It utilises key banking fundamental ratios, including Capital Adequacy Ratio (CAR), Loan to Deposits (LDR), Net Profit Margin (NPM), and Return On Assets (ROA), to provide valuable insights and references[57].

Financial performance reflects the company's level of success and can be understood as the outcomes of its various activities. Profitability is a metric used to evaluate a company's capacity to generate profits. This ratio also serves as an indicator of the efficiency of a company's management. This study aims to investigate the impact of certain factors on financial performance. Specifically, it examines the relationship between NPL, LDR, and NIM, and their influence on ROA, with the potential mediating role of CAR. The chosen analytical method is Multiple Linear Analysis. Prior to this, the data underwent various tests including Descriptive Analysis, Classical Assumption Tests (Normality Test, Heteroscedasticity Test, Multicollinearity Test, Linearity Test), and Path Analysis. The final step involved conducting Hypothesis Tests using the SPSS version 26 programme. The findings indicated that there was no significant impact of non-performing loans (NPL) and loan-to-deposit ratio (LDR) on return on assets (ROA), while net interest margin (NIM) had an effect on ROA. The impact of NPL and LDR on CAR is minimal, while NIM has a significant effect on CAR. The capital adequacy ratio (CAR) has a significant impact on the return on assets (ROA) of commercial banks that are listed on the IDX. At Commercial Banks listed on the IDX, CAR has the ability to mediate NPL against ROA. However, it is unable to mediate LDR and NIM to ROA. All the independent variables (NPL, LDR, and NIM) are simultaneously influenced by CAR Variables with a 3.1% impact. The remaining portion (100%-3.1%) is accounted for by additional variables that were not considered in this study[58].

This study aims to analyse the impact of various factors on the performance of Bank Muamalat Indonesia, specifically focusing on the effects of CAR, NPF, FDR, BOPO, and NIM. The research will utilise the ROA as a measure of performance. This research utilises the quantitative method and employs multiple linear regression analysis, employing an analytical technique

known as the least square equation (OLS). This study employed a purposeful sampling technique to ensure that the data collected accurately represents the entire population. In addition to primary data, secondary data was also utilised in this research. Specifically, the financial ratios from The Bank Muamalat Indonesia's trimester financial statements from 2009 to 2018 were analysed. Based on the findings of the study, it is evident that the multiple regressions model demonstrates a significant R square value of 0.731. This indicates that the variables of CAR, NPF, FDR, BOPO, and NIM, which are independent factors, are influenced by a substantial 73.1 percent ROA. However, there was an additional factor of 26.9 percent that was influenced by a factor outside the model. The findings of this study suggest that Muamalat Bank should focus on enhancing their performance effectiveness and efficiency. Additionally, it is important for future research to make valuable contributions to the banking literature. The assessment study on bank performance serves as a crucial factor in comprehending third-party funds management and making significant decisions for Muamalat Bank's management[59].

2.3.4 Capital Adequacy Ratio (CAR) and Financial Performance

The study examined the causal relationship between specific factors related to banks and the adequacy of capital in licensed commercial banks operating in Kenya[75]. The research was conducted based on theories related to liquidity, information asymmetry, and buffer capital. The study utilized a descriptive survey design for its research methodology. The study focused on 43 commercial banks that were authorized to operate during the period from 2016 to 2021. The research did not conduct any sampling due to the small size of the population, resulting in a census being conducted instead. The research utilized annual secondary data spanning from 2016 to 2021, sourced from audited financial statements of the banks. The data was recorded on a data

collection sheet. The data collected was entered into an Excel sheet and the variables were created before being exported to STATA version for the purpose of generating descriptive and inferential statistics. For the descriptive analysis, we utilized measures such as mean, minimum, maximum, and standard deviation. The analysis utilized a Panel Correlated Standard Errors (PCSEs) regression model to address issues of serial correlation and heteroskedasticity. The regression analysis showed that a significant portion of the variation in capital adequacy was accounted for by the explanatory variables in the model. In addition, the study found a significant direct impact of managing return on assets and bank liquidity on capital adequacy. In addition, the quality of assets and the size of the bank had a significant impact on capital, but in the opposite direction. In general, the research findings indicated that the factors specific to banks had a significant impact on the capital adequacy of licensed commercial banks regulated by CBK. Considering the findings of empirical studies, it was observed that there is a significant and direct relationship between ROA and capital adequacy. As a result, the study recommended that top executives of commercial banks should focus on enhancing profitability by exploring both interest-based and non-interest-based revenue sources. The CBK will maintain a vigilant approach to overseeing commercial banks, ensuring that the audited financial statements accurately reflect the banks' profitability and provide a true and fair view. The study also advises commercial bank executives to enhance their liquidity position. It is crucial for banks to have sufficient liquidity in order to meet their financial obligations, such as maturing deposits and other liabilities. Enhancing liquidity by having more cash and cash equivalents can boost the bank's credibility and inspire trust among customers and investors. This, in turn, can improve the bank's capital adequacy by attracting more share capital. The CBK should maintain a vigilant and rigorous oversight of commercial banks' liquidity to ensure it remains at an acceptable level,

particularly a strong or satisfactory level. The study indicates that it is not advisable for management of commercial banks to increase their assets size without a corresponding increase in total capital. It is important for the bank to consider increasing their capital in order to align with the growth in their assets. This will help maintain a healthy capital adequacy ratio. The study also recommends that commercial banks enhance their credit analysis and implement rigorous loan application screening to identify potential loan defaulters. The CBK should also maintain ongoing oversight of the asset quality of commercial banks to safeguard the stability of the banking system and prevent the occurrence of extensive loan losses.

Recently, there has been a growing recognition of the significant role that good corporate governance plays in the financial success of banks in both developed and developing economies. This is evident in the experiences of Nigerian banks, both before and after the consolidation era. This study investigated the relationship between credit risk management, corporate governance, and financial performance of banks in Nigeria. The main focus of this study is to analyze the banking performance in Nigeria, both before and after the implementation of the mandatory code of corporate governance in 2014[76]. Additionally, the study aims to examine the impact of corporate board characteristics and CEO characteristics on banking performance. It also seeks to evaluate the moderating effect of credit risk management on the relationship between corporate board characteristics and banking performance, as well as the relationship between CEO characteristics and banking performance in Nigeria. The study utilized secondary data from annual reports of Nigerian Banks quoted on the Nigerian Stock Exchange. Both descriptive and inferential statistical techniques were utilized. The statistical tools utilized encompassed correlation analysis, Generalised Method of Moment (GMM) regression analysis, and Structural Equation modeling with the assistance of E-views and Smart-PLS computer packages. The

findings revealed that the coefficient of board size (0.096), board independence (2.835), board financial expertise (0.449), and board foreign director (0.5041) all have a noteworthy impact on the financial performance of banks in Nigeria, specifically in relation to Corporate Board Characteristics. (with a significance level of $p< 0.05$). In addition, the findings indicated that the coefficient of CEO Ownership (163.63), CEO Tenure (0.115), and CEO Nationality (3.438) have a noteworthy impact on the financial performance of banks in Nigeria. (with a significance level of 0.05). However, the significance of CEO expertise was not observed ($p > 0.05$). In addition, the study found that credit risk management had a notable impact (0.153) on the connection between Corporate Board Characteristics and the financial performance of banks in Nigeria (at $p< 0.05$). However, the results indicated that credit risk management had no significant mediating effects (0.359) on the connections between CEOs' characteristics and the financial performance of banks in Nigeria (at $p> 0.05$). It is suggested that CEOs should have a longer tenure to gain valuable insights and experience in the banking industry. In addition, it is important to consider the appropriate board size to strike a balance between effective monitoring and avoiding overwhelming board members with excessive workloads. Furthermore, it is crucial to integrate effective credit risk management strategies and policies into banking practices in order to effectively moderate the characteristics of CEOs, corporate boards, and bank financial performance in Nigeria. The study thus concludes that credit risk management has a mitigating effect on the relationship between corporate governance and financial bank performance in Nigeria.

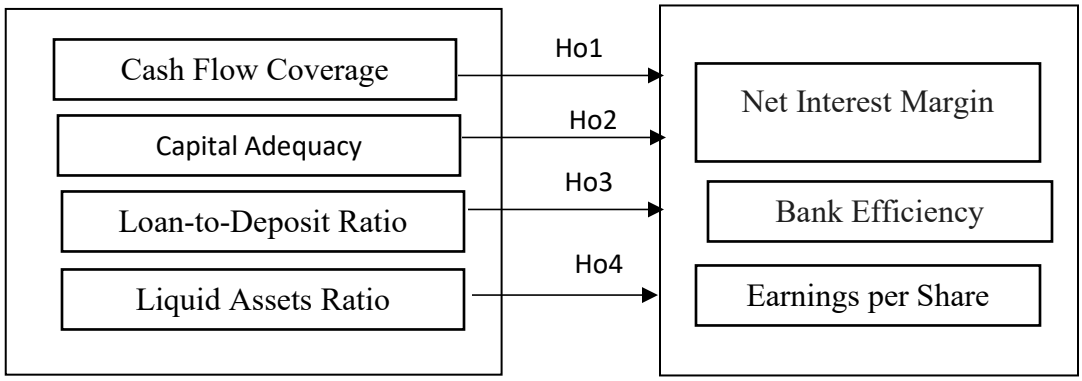
Operating as a bank, whether in Nigeria or globally, requires strict adherence to regulatory prerequisites, with the minimum capital requirement being of utmost importance. In Nigeria, the Central Bank of Nigeria (CBN) sets and enforces capital requirements that serve as a crucial

benchmark for banking institutions[77]. Even if all other requirements are met, an entity cannot operate as a bank without meeting the minimum capital requirement. This requirement highlights the regulator's primary focus on ensuring that banks have sufficient financial resources to serve their existing and potential customers. The importance of capital in banking has a far-reaching impact on the industry, affecting different aspects in both direct and indirect ways. When evaluating the stability and security of a bank, capital becomes a crucial factor. A sufficient capital base serves as a safeguard, protecting against various risks that are inherent to a bank's operations. It ensures the protection of potential losses, thus maintaining the trust of depositors. In addition, the availability of capital sets the maximum limit for a bank's assets. According to Greuning (2009), capital has two main functions: ensuring stability and protecting depositors and creditors in case of liquidation by absorbing losses. It is important for a bank's capital to possess three key characteristics: durability, no mandatory fixed charges against earnings, and compliance with legal subordination to depositor and creditor rights.

Operating as a bank, whether in Nigeria or globally, requires strict adherence to regulatory prerequisites, with the minimum capital requirement being of utmost importance. In Nigeria, the Central Bank of Nigeria (CBN) sets and enforces capital requirements that serve as a crucial benchmark for banking institutions. In order to operate as a bank, an entity must meet the minimum capital requirement, in addition to fulfilling other criteria. This requirement highlights the regulator's primary focus on ensuring that banks have sufficient financial resources to serve their existing and potential customers. The importance of capital in banking resonates throughout the industry, impacting its different aspects both directly and indirectly. When evaluating the strength and security of a bank, capital becomes a crucial factor. Having a sufficient capital base is crucial for a bank to protect itself against various risks that come with its operations. It ensures

the protection of potential losses, thus maintaining the trust of depositors. In addition, the availability of capital sets the maximum limit for a bank's assets. Capital has two main functions: ensuring stability and protecting depositors and creditors in case of liquidation by absorbing losses. It is important for a bank's capital to possess three key characteristics: durability, no mandatory fixed charges against earnings, and compliance with legal subordination to depositor and creditor rights[78].

2.4 Conceptual Framework



Source: Researcher's Conceptual Model
Fig 2.1 Conceptual framework of Liquidity Management and Financial Performance

2.5 Summary of Gaps in Literature Reviewed

Further examination of studies revealed that there is little empirical evidence on the liquidity management and its impact on performance in case of deposit money banks in Nigeria. Thus, most of the empirical studies that abound on working capital management in the banking system are drawn from developed markets. Also, most of the empirical studies that explore working capital management aimed at understanding its relationship with the company's profitability and not a comprehension of its key drivers or determinants. This few empirical evidence on the working capital management determinants and their sensitivity to imperfect market situation in quoted Nigerian deposit money banks is one of the key knowledge gap this study intends to fill and also estimates the relationship between liquidity management variables like Financial performance): Net Interest Margin (NIM), Bank efficiency, Earnings Per Share (EPS). Independent variable (Liquidity management): Cash Flow Coverage, Loan-to-Deposit Ratio (LDR), Liquid Assets Ratio, and Capital Adequacy Ratio (CAR).

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Chapter Three

Methodology

In this chapter, the study's methodology, data sources, and model specifications are expounded upon, with particular emphasis on data analysis techniques, econometrics, and statistical standards.

3.1 Research Design

The research utilized an ex-post facto design, which uses past data to predict future trends and examines how an independent variable that existed prior to the study affects a dependent variable. This design is quasi-experimental, as it does not involve direct control over the independent variables, whose effects have already occurred and cannot be manipulated. Instead, the relationship between variables is inferred without intervening or varying the independent or dependent variable. The ex-post facto design was chosen as it allowed the researcher to examine the influence and relationship between variables that had already occurred, without the need for manipulation. Additionally, this design aligned with earlier studies in this area[1].

3.2 Population of the Study

The population for this study consisted of the Deposit Money banks DMBs that are listed on the Nigerian Stock Exchange as of December 31st, 2014. At the time of the study, there will be 24 listed Deposit Money banks DMBs in Nigeria[2]. The entire population will be included in the study, subject to the condition that the firms have complete data available in their published annual reports for the period between the years 2014 and 2023.

3.3 Data and Observation Size

The study sample size consisted of ten (10) years of annual reports and financial statements from all eight (8) listed Deposit Money Banks (DMBs) on the Nigerian Stock Exchange with international authorization licenses. This selection yielded a total of eighty (80) annual reports, constituting the observation size. The rationale for selecting these particular banks lies in their comprehensive representation of the sector's financial activities and liquidity management practices, given their international authorization and prominent market presence.

3.4 Description of the Research Data

The data for this study was collected from the annual financial statements of the eight (8) listed Deposit Money Banks on the Nigerian stock exchange market. Financial performance was measured by Net Interest Margin (NIM), Bank efficiency, Earnings Per Share (EPS. Liquidity management): Cash Flow Coverage, Loan-to-Deposit Ratio (LDR), Liquid Assets Ratio, and Capital Adequacy Ratio (CAR) from 2014 to 2023. The data collected was carefully selected and verified to ensure its accuracy and relevance to the research question and design.

Model Specification

The functional model showing the relationship between liquidity management and Financial performance is given is as follows:

$$Y=f(X)$$

The functional relationship is estimated as:

$$Y\ (y_{1,\ y2}) = f\ [(X]$$

$$X = [x1_1,\ x1_{2,}\ x1_{3,\ x14}];$$

Dependent Variable

Y= dependent variable – Financial Performance

y_1= Net Interest Margin (NIM)

y_2= Earnings per share (EPS)

Independent Variables (X):

- X1: Cash Flow Coverage Ratio
- X2: Loan-to-Deposit Ratio (LDR)
- X3: Liquid Assets Ratio
- X4: Capital Adequacy Ratio (CAR)

To build a regression model, we can use the following equations:

Model Specification:

1. Hypothesis 1: Net Interest Margin (NIM) as the Dependent Variable

Functional Model:

Y = f(X)

Estimated Relationship:

NIM (y) = f(X1, X4)

Variables:

- **Dependent Variable (Y):** Net Interest Margin (NIM)
- **Independent Variables (X):**
    - X1: Cash Flow Coverage Ratio
    - X4: Capital Adequacy Ratio (CAR)

Regression Equation:

$NIM = \beta_0 + \beta_1 * CFC + \beta_2 * CAR + \varepsilon$

Hypothesis Testing:

- : $\beta_1 = 0$ (There is no significant effect of Cash Flow Coverage Ratio on NIM)
- : $\beta_2 = 0$ (There is no significant effect of Capital Adequacy Ratio on NIM)

2. Hypothesis 2: Net Interest Margin (NIM) as the Dependent Variable

Functional Model:

$Y = f(X)$

Estimated Relationship:

Net Interest Margin (NIM) (y) = f(X2, X3)

Variables:

- **Dependent Variable (Y):** Net Interest Margin (NIM)
- **Independent Variable (X):**
    - X2: Loan-to-Deposit Ratio (LDR)
    - X3: Liquid Assets Ratio (LAR)

Regression Equation:

Bank Efficiency $= \beta_0 + \beta_1 * LDR + \beta_2 * LAR + \varepsilon$

Hypothesis Testing:

- $\beta_1 = 0$ (There is no significant effect of Loan-to-Deposit Ratio on Net Interest Margin (NIM)
- : $\beta_2 = 0$ (There is no significant effect of Loan-to-Deposit Ratio on Net Interest Margin (NIM)

Hypothesis 3: Bank Efficiency as the Dependent Variable

Functional Model:

$Y = f(X)$

Estimated Relationship:

Bank Efficiency (y) = f(X2)

Variables:

- **Dependent Variable (Y):** Bank Efficiency
- **Independent Variable (X):**
    - X2: Loan-to-Deposit Ratio (LDR)

Regression Equation:

Bank Efficiency = $\beta_0 + \beta_1 * LDR + \varepsilon$

Hypothesis Testing:

- H_{03}: $\beta_1 = 0$ (There is no significant effect of Loan-to-Deposit Ratio on Bank Efficiency)

Hypothesis 4: Earnings per Share (EPS) as the Dependent Variable

Functional Model:

$Y = f(X)$

Estimated Relationship:

EPS (y) = f(X4)

Variables:

- **Dependent Variable (Y):** Earnings per Share (EPS)
- **Independent Variable (X):**
    - X4: Capital Adequacy Ratio (CAR)

Regression Equation:

$EPS = \beta_0 + \beta_1 * CAR + \varepsilon$

Hypothesis Testing:

- H_{04}: $\beta_1 = 0$ (There is no significant effect of Capital Adequacy Ratio on EPS)

Measurement of Variables

Variable	Description	Typical Measurement
Net Interest Margin (NIM)	Profitability measure reflecting the difference between interest income earned on assets and interest expense paid on liabilities.	((Interest Income - Interest Expense) / Average Earning Assets)
Cash Flow Coverage Ratio	Liquidity measure indicating a bank's ability to service debt obligations using operating cash flow.	Net Operating Cash Flow / (Current Interest Expense + Short-Term Debt)
Loan-to-Deposit Ratio (LDR)	Liquidity and risk measure reflecting the proportion of loans funded by deposits.	Total Loans / Total Deposits
Liquid Assets Ratio	Liquidity measure indicating a bank's ability to meet short-term obligations with readily available assets.	(Cash + Marketable Securities) / Total Liabilities
Capital Adequacy Ratio (CAR)	Capital sufficiency measure indicating a bank's capital reserves relative to its risk-weighted assets.	[(Tier 1 Capital + Tier 2 Capital) / Risk-Weighted Assets] x 100%
Bank Efficiency	Broad concept reflecting a bank's ability to generate profits with minimal resource usage.	Non-Interest Expenses / Total Revenue
Earnings per Share (EPS)	Profitability measure reflecting a company's net profit divided by the number of outstanding common shares.	Net Income / Outstanding Common Shares

3.5 Validity of Research Data

Ensuring the validity of the research data was paramount for the success of the study, and the researchers implemented various procedures to establish validity. Firstly, they verified that the

acquired data was relevant and pertinent to the study's subject matter. Secondly, the researchers assessed the credibility and reliability of the data sources. The data utilized in this study was validated by reputable professional audit agencies. The financial statements of Deposit Money Banks underwent auditing and preparation in accordance with institutional and regulatory standards by esteemed professional audit firms.

To ensure the accuracy of the acquired data, the researchers also confirmed that the data sources were current and up-to-date. Furthermore, diagnostic tests were employed to ensure the reliability and absence of errors in the model. Two types of diagnostic tests were utilized in this study to validate the model's robustness and accuracy. Firstly, the Variance Inflation Factor (VIF) was employed as a measure of the extent of collinearity among the independent variables in the model. The VIF test was conducted to verify that the independent variables were not strongly correlated, as this could lead to inaccurate conclusions.

Additionally, the Breusch-Pagan test was utilized to detect heteroskedasticity, which represents a violation of the assumption of constant variance in residuals. This test was imperative as heteroskedasticity within the model could potentially lead to erroneous conclusions.

3.6 Reliability of the Research Instrument

To ascertain the reliability of the data, researchers gathered information from multiple sources. This approach involved obtaining annual reports from the websites of Deposit Money Banks and sources within the stock exchange market, and subsequently cross-referencing them to ensure data accuracy and consistency. This process aided in confirming the consistency and accuracy of the data obtained across various outlets. Furthermore, diagnostic tests were conducted on the statistical model to identify potential flaws or challenges. This served to ensure the robustness and reliability of the outcomes. To validate the fulfilment of model assumptions, researchers

employed a range of diagnostic tests, including assessments for heteroscedasticity, autocorrelation, and normality.

3.7 Method of Data Collection

This study will rely on secondary data sourced from annual reports of listed Deposit Money Banks obtained from both company websites and the Nigerian stock exchange market spanning the period from 2014 to 2023. Employing secondary data offers a cost-effective and time-efficient means of data collection. Furthermore, secondary data is readily accessible, contributing to consistency and comparability across different time frames. To ensure the accuracy and relevance of the data used in the study, researchers will meticulously select and validate the data sources. Leveraging secondary data enables the study to tap into a wide-ranging and diversified dataset, thereby providing accurate and credible insights into the research inquiries.

3.8 Method of Data Analysis

In this study, descriptive statistics and regression analysis was utilized as analytical techniques. Descriptive statistics will be employed to elucidate the trend of the collected data by determining its central tendency, variability, and dispersion. Additionally, multiple regression analysis will be conducted to assess how independent factors collectively influence the dependent variable, aiming to uncover the relationship between different metrics of liquidity management and financial performance. The findings will be presented through tables, charts, and graphs to facilitate comprehension and visualization. Prior to employing these analytical methods, unit root testing and diagnostic tests will be conducted.

For inferential statistics, the Ordinary Least Squares (OLS) regression method will be adopted, which is widely employed in economics and finance for data analysis and regression model estimation. Due to its capability to estimate the relationship between dependent and independent

variables, OLS is well-suited for this investigation. Through estimating the coefficients of the independent variables, the impact of various liquidity management metrics and financial performance can be examined. Furthermore, OLS allows for the calculation of residuals, enabling assessment of the regression model's goodness of fit. The E-VIEW software program will be utilized for implementing the OLS approach, as it is commonly used in economic and finance research. These analytical tools will facilitate a comprehensive examination of the relationship between variables and testing of the hypotheses proposed in this study.

Chapter Four

Results and Discussion of Findings

This chapter encapsulates the outcomes and thoughtful discussions derived from the investigation. Grounded in alignment with the study's objectives, the findings unfold in response to the research questions and hypotheses meticulously formulated for the purpose of this research endeavour.

4.1 Presentation of Data

4.1.1 Presentation of Diagnostic Tests

Unit Root Test

The table provides the results of a unit root test using the Levin, Lin & Chu t* method for seven variables, namely Net Interest Margin (NIM), Earnings Per Share (EPS), Efficiency, Cash Flow Coverage (CFC), Capital Adequacy Ratio (CAR), Loan-to-Asset Ratio (LAR), and Loan-to-Deposit Ratio (LDR). The unit root test is used to determine whether the variables are stationary or not. The null hypothesis is that the variable has a unit root, which indicates non-stationarity, while the alternative hypothesis is that the variable is stationary.

Table 4.1 Method Levin, Lin & Chu t*

	Statistic	Prob.**
NIM	5.55811	0.0000
EPS	3.82597	0.0001
EFFICIENY	6.22008	0.0000
CFC	11.15711	0.0000
CAR	5.201009	0.0000
LAR	3.41147	0.0316
LDR	3.66126	0.0000

** Probabilities are computed assuming asympotic normality

Source: Field Result, 2024

The Levin, Lin & Chu t-test results in Table 4.1 provide insights into the stationarity of various financial variables of Nigerian deposit money banks. This test assesses whether the data series exhibit unit roots, which would indicate non-stationarity, or whether they are stationary, which is essential for reliable statistical analysis.

For Net Interest Margin (NIM), the test statistic is 5.55811 with a probability value of 0.0000. This indicates that NIM is stationary, as the p-value is highly significant. The stationarity of NIM suggests that the net interest margin data series does not have a unit root and is stable over time, making it suitable for further panel data analysis.

The test for Earnings Per Share (EPS) produces a statistic of 3.82597 and a probability of 0.0001, also confirming the stationarity of EPS. This result implies that the EPS data is not affected by trends over time, making it a reliable variable for analysis in terms of profitability.

For Efficiency, the Levin, Lin & Chu t-test gives a statistic of 6.22008 and a probability of 0.0000. The highly significant result shows that Efficiency is stationary, indicating that the bank's efficiency measures are stable and do not exhibit unit roots.

In the case of Cash Flow Coverage (CFC), the test statistic is 11.15711 with a probability value of 0.0000, suggesting strong stationarity. This means that cash flow coverage data does not show trends or variability over time, making it a solid variable for analyzing its impact on bank performance.

The test for Capital Adequacy Ratio (CAR) yields a statistic of 5.201009 and a p-value of 0.0000, confirming the stationarity of CAR. The result shows that the capital adequacy of Nigerian deposit money banks remains consistent over time, allowing for reliable comparisons and analyses.

For the Loan-to-Asset Ratio (LAR), the test statistic is 3.41147 with a probability value of 0.0316. While this result indicates stationarity, the slightly higher p-value compared to other variables suggests that LAR may be less stable than the other financial indicators, though still suitable for analysis.

Lastly, Loan-to-Deposit Ratio (LDR) has a test statistic of 3.66126 and a probability of 0.0000, indicating strong stationarity. This result means that the ratio of loans to deposits is stable and can be reliably used in examining its impact on the banks' performance.

Thus, all the indicators that is NIM, EPS, Efficiency, CFC, CAR, LAR, and LDR are confirmed to be stationary based on the highly significant Levin, Lin & Chu t-test results. This stationarity ensures that the variables are reliable for subsequent analyses in panel data models, as they are free from unit roots and trends over time.

Variance Inflation Factor (VIF)

The Variance Inflation Factor (VIF) analysis for the included variables are presented. The VIF values are calculated to assess the degree of multicollinearity among the variables, where a value greater than 1 indicates that there is a potential problem with multicollinearity.

Table 4.2 Variance Inflation Factors

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	10.5220	429.3302	NA
NIM	0.17950	17.14591	1.114842
EPS	0.41248	41.46309	1.900910
EFFICIENY	0.16427	3.211395	1.607561
CFC	0.24970	9.07038	2.672992
CAR	0.37919	3.11702	1.989234
LAR	0.16427	3.21395	1.267561

LDR	0.19900	29.2308	2.269927
NIM	0.22249	6.67024	1.989234

Source: Field Result, 2024

The table 4.2 presented provides Variance Inflation Factor (VIF) results for various financial variables in the Nigerian banking sector. These results offer valuable insights into the multicollinearity among the predictor variables in the regression model. Let's interpret each component:

Coefficient Variance: This column shows the variance of the estimated coefficients for each variable. The constant (C) has the highest variance (10.5220), indicating greater uncertainty in its estimate. Among the variables, EPS has the highest coefficient variance (0.41248), suggesting more variability in its estimated effect.

Uncentered VIF: These values indicate the severity of multicollinearity without centering the variables. The constant (C) has the highest uncentered VIF (429.3302), which is expected and not a concern. Among the variables, EPS has the highest uncentered VIF (41.46309), followed by LDR (29.2308) and NIM (17.14591). These high values suggest potential multicollinearity issues when the variables are not centered.

Centered VIF: This is the most commonly used measure for assessing multicollinearity. A general rule of thumb is that VIF values exceeding 5 or 10 indicate problematic multicollinearity. In this case, all centered VIF values are below 3, which is encouraging. CFC has the highest centered VIF (2.672992), followed by LDR (2.269927) and EPS (1.900910). While these values suggest some correlation among predictors, they don't indicate severe multicollinearity.

The relatively low centered VIF values across all variables indicate that multicollinearity is not a major concern in this model. This suggests that the independent variables are sufficiently distinct from each other, allowing for more reliable coefficient estimates and interpretations. The

difference between uncentered and centered VIF values highlights the importance of proper variable scaling and centering in regression analysis, particularly when dealing with financial ratios that may have different scales or units of measurement. Thus, the results provide confidence in the stability and reliability of the regression model, indicating that the chosen financial variables can be used effectively to analyze and predict banking sector performance in Nigeria without significant concerns about multicollinearity distorting the findings.

Heteroskedasticity Test of Breusch-Pagan test

The Breusch-Pagan-Godfrey test for heteroskedasticity. The null hypothesis of the test is homoskedasticity, which means that the variance of the errors is constant across observations. The alternative hypothesis is heteroskedasticity, which means that the variance of the errors is not constant across observations.

4.3 Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.567710	Prob. F(6,83)	0.369
Obs*R-squared	3.622100	Prob. Chi-Square(6)	0.285
Scaled explained SS	16.43311	Prob. Chi-Square(6)	0.034

Source: Field Result, 2024

The table 4.3 shows the Breusch-Pagan-Godfrey test, a key diagnostic tool in econometrics, provides three statistical measures to detect heteroskedasticity. Firstly, the F-statistic of 0.567710 with a probability of 0.369 (> 0.05) suggests that we cannot reject the null hypothesis of homoskedasticity at the 5% significance level. This is further supported by the Obs*R-squared statistic of 3.622100, which has a chi-square probability of 0.285 (> 0.05), again indicating no significant evidence of heteroskedasticity. However, the Scaled explained SS statistic of

16.43311 with a chi-square probability of 0.034 (< 0.05) presents a conflicting result, suggesting potential heteroskedasticity at the 5% significance level. Given that two out of three measures indicate homoskedasticity, we can cautiously conclude that heteroskedasticity is not a major concern in this model. Nonetheless, the conflicting result from the Scaled explained SS suggests that some mild form of heteroskedasticity might be present, warranting consideration of robust standard errors in subsequent analyses to ensure the reliability of statistical inferences drawn from the model.

4.2 Presentation of Descriptive Analysis

Table 4.4 Descriptive Analysis

	CAR	CFC	DATEID	EFFICIENY	EPS	LAR	LDR	NIM
Mean	0.143563	0.426375	736876.5	0.223625	2.490500	0.298125	0.636500	0.074788
Median	0.140000	0.420000	736876.5	0.215000	1.265000	0.290000	0.645000	0.037500
Maximum	0.210000	0.660000	738520.0	0.450000	21.55000	0.470000	0.870000	0.266000
Minimum	0.070000	0.220000	735233.0	0.030000	-0.120000	0.110000	0.340000	0.001000
Std. Dev.	0.030107	0.127490	1055.733	0.093148	4.130460	0.075960	0.159533	0.070169
Skewness	-0.03984	0.174608	4.26E-18	0.306471	3.292102	0.028062	-0.281083	0.892474
Kurtosis	2.622501	1.795342	1.775622	2.866740	13.67940	3.046479	1.847344	2.889398
Jarque-Bera	0.496164	5.243848	4.997001	1.311518	524.6714	0.017700	5.482150	10.66090
Probability	0.780296	0.072663	0.082208	0.519048	0.000000	0.991189	0.064501	0.004842
Sum	11.48500	34.11000	58950120	17.89000	199.2400	23.85000	50.92000	5.983000
Sum Sq. Dev.	0.071610	1.284049	88051188	0.685449	1347.795	0.455819	2.010620	0.388975
Observations	80	80	80	80	80	80	80	80

Source: Field Result, 2024

The table 4.4 results reveal key insights into the financial metrics of Nigerian deposit money banks. The Capital Adequacy Ratio (CAR) averages at 14.36%, with minimal variability, as

evidenced by a standard deviation of 0.03. The distribution is close to normal, with a slight negative skewness and kurtosis near 3, indicating a fairly symmetrical pattern among banks.

For Cash Flow Coverage (CFC), banks, on average, cover 42.64% of their cash flows, with moderate variability (standard deviation of 0.127). The distribution shows a slight positive skew, and the Jarque-Bera test suggests near-normality.

Regarding Efficiency, the average efficiency level is 22.36%, with some variability across banks (standard deviation of 0.093). The distribution is slightly skewed to the right, indicating that a few banks operate at higher efficiency levels than most.

The Earnings Per Share (EPS) displays significant outliers, with a mean of 2.49 units and a maximum of 21.55 units. The highly positive skewness and sharp kurtosis indicate that most banks have relatively low earnings per share, while a few experience significantly higher returns.

For the Loan-to-Asset Ratio (LAR), the mean of 29.81% shows that loans account for a reasonable portion of banks' assets. The distribution is symmetric, with a skewness near zero and a normal kurtosis value, indicating stability across banks in this metric.

The Loan-to-Deposit Ratio (LDR) averages 63.65%, with moderate variability. The slightly negative skew suggests that a few banks have lower LDR values, while most cluster around the mean.

Lastly, the Net Interest Margin (NIM) averages 7.48%, with a positive skew, showing that while most banks have lower margins, a few have higher values. The Jarque-Bera test reveals significant deviations from normality, suggesting a more complex distribution in the NIM data.

Table 4.5 Result of the Correlation Matrix

Correlation Probability	NIM	EPS	EFFICIENY	CFC	CAR	LAR	LDR
NIM	1.000000						

EPS	-0.042949	1.000000					
	0.7052	-----					
EFFICIENY	0.180944	0.050757	1.000000				
	0.1082	0.6548	-----				
CFC	-0.209107	-0.053366	-0.115810	1.000000			
	0.0627	0.6383	0.3063	-----			
CAR	0.171847	0.455696	0.288498	-0.183908	1.000000		
	0.1275	0.0000	0.0095	0.1025	-----		
LAR	0.043290	0.247900	0.134255	-0.182399	0.326479	1.000000	
	0.7030	0.0266	0.2351	0.1054	0.0031	-----	
LDR	-0.069157	0.029275	0.133152	-0.050919	0.047563	-0.057269	1.000000
	0.5422	0.7966	0.2390	0.6538	0.6752	0.6139	-----

Source: Field Result, 2024

Table 4.5 reveal a correlation analysis. The relationship between Cash Flow Coverage (CFC) and the dependent variables reveals a mixed relationship. CFC has a weak negative correlation with Net Interest Margin (NIM) (-0.209), which is marginally significant (p = 0.0627). This suggests that higher cash flow coverage may slightly reduce the net interest margin, implying that banks with higher cash flow reserves may experience lower margins on their interest income. However, CFC shows an insignificant negative relationship with Earnings Per Share (EPS) (-0.053, p = 0.6383), indicating no meaningful impact of cash flow coverage on a bank's earnings. Similarly,

the correlation between CFC and Efficiency is weak and negative (-0.116, p = 0.3063), showing that cash flow coverage has little effect on how efficiently a bank operates.

On the other hand, Capital Adequacy Ratio (CAR) demonstrates more substantial relationships with the dependent variables. CAR has a weak positive correlation with NIM (0.172, p = 0.1275), suggesting that banks with higher capital adequacy may experience slight improvements in their net interest margins, although this relationship is not statistically significant. In contrast, CAR shows a strong and highly significant positive relationship with EPS (0.456, p = 0.0000), implying that better-capitalized banks tend to generate higher earnings per share. Additionally, CAR positively correlates with Efficiency (0.288, p = 0.0095), indicating that higher capital adequacy enhances bank efficiency, likely because well-capitalized banks are better equipped to manage their operations effectively.

The relationship between Loan-to-Asset Ratio (LAR) and the dependent variables is more moderate. LAR has an insignificant positive correlation with NIM (0.043, p = 0.7030), indicating that the proportion of loans relative to assets has little impact on net interest margins. However, LAR shows a significant positive relationship with EPS (0.248, p = 0.0266), suggesting that banks with a higher proportion of loans to assets tend to achieve better earnings per share. The correlation between LAR and Efficiency is weaker and insignificant (0.134, p = 0.2351), indicating that LAR has minimal influence on a bank's operational efficiency.

Lastly, the Loan-to-Deposit Ratio (LDR) demonstrates weaker correlations across the board. LDR has a weak negative correlation with NIM (-0.069, p = 0.5422), suggesting that higher loan-to-deposit ratios slightly reduce net interest margins, though the relationship is not significant. There is an almost negligible positive correlation between LDR and EPS (0.029, p = 0.7966), indicating no meaningful impact of LDR on earnings. Similarly, the correlation between

LDR and Efficiency is weak and not significant (0.133, p = 0.2390), showing that the loan-to-deposit ratio has little to no influence on bank efficiency.

Overall, CAR stands out as having the most significant positive impact on both EPS and Efficiency, whereas CFC, LAR, and LDR show weaker and largely insignificant relationships with the dependent variables, particularly NIM.

4.3 Testing of Hypotheses

Hypothesis One:

$H_0$1: Cash Flow Coverage has no significant effect on the financial performance of Nigerian deposit money banks.

Table 4.6: Result of the Hausman Test in the Fifth Hypothesis

	NIM	EPS	**EFFICIENCY**
Chi2(1)	1.990	2.925	2.649
Prob > Chi2	0.493	0.715	0.088
Remarks	Random Effect Model	Random Effect Model	Random Effect Model

Source: Field Result, 2024

Table 4.7: Effect of Cash Flow Coverage on the Financial Performance of Nigerian Deposit Money Banks

Variables	**Net Profit Margin (NIM)**		**Earnings Per Share (EPS)**		**Bank Efficiency**	
CFC	-0.09982 (0.0037)	-0.09990 (0.0035)	-1.15091 (0.7552)	-1.53770 (0.6727)	-0.04207 (0.5692)	-0.05386 (0.4637)
C	0.10485 (0.0000)	0.104883 (0.0003)	2.981223 (0.0721)	3.146140 (0.0595)	0.241564 (0.0000)	0.246591 (0.0000)
R-squared	0.74863	0.105312	0.122659	0.002317	0.309693	0.006795
Adjusted R-squared	0.72030	0.093842	0.023804	-0.010474	0.231912	-0.005939
F-statistic	26.4315	9.181276	1.240793	0.181146	3.981597	0.533618

Prob(F-statistic)	0.00000	0.003316	0.288589	0.671562	0.000608	0.467278

Source: Field Result, 2024

The results in Table 4.6 reveal the Hausman test outcomes, which help determine the most appropriate model for analyzing the relationship between Cash Flow Coverage and financial performance measures of Nigerian deposit money banks. The test results show prob(Chi-Sq) values of 0.493 > 0.05 for NIM, 0.715 > 0.05 for EPS, and 0.088 > 0.05 for Efficiency, all of which are not statistically significant. This confirms that the Random Effects (RE) model is the most suitable for interpreting the results of the hypothesis, as presented in Table 4.7.

Based on the results of the hypothesis using the RE model (Table 4.5) to examine the effect of Cash Flow Coverage (CFC) on the financial performance of Nigerian deposit money banks, we consider three main performance indicators: Net Interest Margin (NIM), Earnings Per Share (EPS), and Bank Efficiency. The results show that CFC has a negative effect on NIM of deposit money banks in Nigeria (β = -0.09982). This indicates that CFC negatively affects banks' NIM and is statistically significant at 1% level (p-value = 0.0037). Hence, a 1% increase in CFC will decrease NIM by 0.09982 times. For EPS, CFC shows a negative effect (β = -1.15091) with a standard error of 0.7552. This means that a 1% increase in CFC will decrease EPS by 1.15091, but it is not statistically significant at 5%. Similarly, for Bank Efficiency, CFC demonstrates a negative effect (β = -0.04207) with a standard error of 0.5692. This indicates that a 1% increase in CFC will decrease Bank Efficiency by 0.04207, but it is also not statistically significant at 5%.

The overall results show that while CFC has a significant negative effect on Net Interest Margin (R-squared = 0.74863, P-value = 0.00000 < 0.05), it shows an insignificant effect on Earnings Per Share (R-squared = 0.122659, P-value = 0.288589 > 0.05) and Bank Efficiency (R-squared =

0.309693, P-value = 0.000608 < 0.05). Therefore, we can conclude that Cash Flow Coverage significantly affects Net Interest Margin but does not have a significant impact on Earnings Per Share and Bank Efficiency of Nigerian deposit money banks.

Hypothesis Two

H_o2: Capital Adequacy has no significant effect on the financial performance of Nigerian deposit money banks.

Table 4.8: Result of the Hausman Test in the Fifth Hypothesis

	NIM	EPS	**EFFICIENCY**
Chi2(1)	7.130	4.90	2.92
Prob > Chi2	0.0093	0.115	0.551
Remarks	Fixed Effect Model	Random Effect Model	Random Effect Model

Source: Field Result, 2024

Table 4.9: Effect of Capital Adequacy on the Financial Performance of Nigerian Deposit Money Banks

Variables	**Net Profit Margin (NIM)**		**Earnings Per Share (EPS)**		**Bank Efficiency**	
	Fixed	**Random**	**Fixed**	**Random**	**Fixed**	**Random**
CAR	0.097299 (0.5290)	0.105570 (0.4936)	62.72289 (0.0000)	62.59949 (0.0000)	0.476897 (0.1376)	0.764206 (0.0147)
C	0.048319 (0.0352)	0.047132 (0.1389)	-6.514154 (0.0026)	-6.496439 (0.0023)	0.155160 (0.0013)	0.113914 (0.0140)
R-squared	0.718218	0.006053	0.309233	0.210055	0.327858	0.065635
Adjusted R-squared	0.686468	-0.006689	0.231400	0.199927	0.252124	0.053656
F-statistic	22.62103	0.475047	3.973033	20.74103	4.329058	5.479163
Prob(F-statistic)	0.000000	0.492720	0.000620	0.000019	0.000276	0.021800

Source: Field Result, 2024

The results in Table 4.8 reveal the Hausman test outcomes, which help determine the most appropriate model for analyzing the relationship between Capital Adequacy and financial performance measures of Nigerian deposit money banks. The test results show prob(Chi-Sq) values of 0.0093 < 0.05 for NIM, 0.115 > 0.05 for EPS, and 0.551 > 0.05 for Efficiency. This confirms that the Fixed Effects (FE) model is most suitable for interpreting the results for NIM, while the Random Effects (RE) model is appropriate for EPS and Efficiency, as presented in Table 4.9.

Based on the results of the hypothesis using the appropriate models (Table 4.7) to examine the effect of Capital Adequacy Ratio (CAR) on the financial performance of Nigerian deposit money banks, we consider three main performance indicators: Net Interest Margin (NIM), Earnings Per Share (EPS), and Bank Efficiency. The results show that CAR has a positive effect on NIM of deposit money banks in Nigeria ($\beta = 0.097299$) using the Fixed Effects model. This indicates that CAR positively affects banks' NIM, although it is not statistically significant at 5% level (p-value = 0.5290). Hence, a 1% increase in CAR will increase NIM by 0.097299 times, but this effect is not significant.

For EPS, using the Random Effects model, CAR shows a strong positive effect ($\beta = 62.59949$) with a p-value of 0.0000. This means that a 1% increase in CAR will significantly increase EPS by 62.59949, and this effect is highly statistically significant at 1% level. Similarly, for Bank Efficiency, using the Random Effects model, CAR demonstrates a positive effect ($\beta = 0.764206$) with a p-value of 0.0147. This indicates that a 1% increase in CAR will increase Bank Efficiency by 0.764206, and this effect is statistically significant at 5% level.

The overall results show that while CAR has an insignificant positive effect on Net Interest Margin (R-squared = 0.718218, P-value = 0.000000 < 0.05 for the overall model), it shows a

significant positive effect on both Earnings Per Share (R-squared = 0.210055, P-value = 0.000019 < 0.05) and Bank Efficiency (R-squared = 0.065635, P-value = 0.021800 < 0.05). Therefore, we can conclude that Capital Adequacy Ratio significantly and positively affects Earnings Per Share and Bank Efficiency, while its positive effect on Net Interest Margin is not statistically significant for Nigerian deposit money banks.

Hypothesis Three:

H_o3: The Loan-to-Deposit ratio has no significant influence on the financial performance of Nigerian deposit money banks.

Table 4.10: Result of the Hausman Test in the Fifth Hypothesis

	NIM	EPS	EFFICIENCY
Chi2(1)	2.234	4.11	3.32
Prob > Chi2	0.0093	0.115	0.001
Remarks	Fixed Effect Model	Random Effect Model	Fixed Effect Model

Source: Field Result, 2024

Table 4.11: Effect of Loan-to-Deposit Ratio on the Financial Performance of Nigerian Deposit Money Banks

Variables	NIM (Fixed)	NIM (Random)	EPS (Fixed)	EPS (Random)	EFFICIENCY (Fixed)	EFFICIENCY (Random)
LAR	0.068600 (0.3506)	0.067697 (0.3519)	12.18027 (0.1103)	13.29874 (0.0347)	0.022393 (0.8845)	0.066730 (0.6451)
C	0.041836 (0.0000)	0.042105 (0.0000)	1.140744 (0.0000)	1.474188 (0.0000)	0.216949 (0.0000)	0.203731 (0.0000)
R-squared	0.720110	0.011260	0.152663	0.056559	0.306720	0.002744
Adjusted R-squared	0.688573	-0.001416	0.057188	0.044464	0.228604	-0.010041
F-statistic	22.83392	0.888264	1.598989	4.676119	3.926468	0.214652
Prob(F-	0.000000	0.348858	0.140555	0.033649	0.000690	0.644436

statistic)

Source: Field Result, 2024

The results in Table 4.8 reveal the Hausman test outcomes, which help determine the most appropriate model for analyzing the relationship between Loan-to-Deposit Ratio and financial performance measures of Nigerian deposit money banks. The test results show prob(Chi-Sq) values of 0.0093 < 0.05 for NIM, 0.115 > 0.05 for EPS, and 0.001 < 0.05 for Efficiency. This confirms that the Fixed Effects (FE) model is most suitable for interpreting the results for NIM and Efficiency, while the Random Effects (RE) model is appropriate for EPS, as presented in Table 4.9.

Based on the results of the hypothesis using the appropriate models (Table 4.9) to examine the effect of Loan-to-Asset Ratio (LAR) on the financial performance of Nigerian deposit money banks, we consider three main performance indicators: Net Interest Margin (NIM), Earnings Per Share (EPS), and Bank Efficiency. The results show that LAR has a positive effect on NIM of deposit money banks in Nigeria (β = 0.068600) using the Fixed Effects model. This indicates that LAR positively affects banks' NIM, although it is not statistically significant at 5% level (p-value = 0.3506). Hence, a 1% increase in LAR will increase NIM by 0.068600 times, but this effect is not significant.

For EPS, using the Random Effects model, LAR shows a positive effect (β = 13.29874) with a p-value of 0.0347. This means that a 1% increase in LAR will significantly increase EPS by 13.29874, and this effect is statistically significant at 5% level. For Bank Efficiency, using the Fixed Effects model, LAR demonstrates a positive but insignificant effect (β = 0.022393) with a

p-value of 0.8845. This indicates that a 1% increase in LAR will increase Bank Efficiency by 0.022393, but this effect is not statistically significant at 5% level.

The overall results show that LAR has an insignificant positive effect on Net Interest Margin (R-squared = 0.720110, P-value = 0.000000 < 0.05 for the overall model), a significant positive effect on Earnings Per Share (R-squared = 0.056559, P-value = 0.033649 < 0.05), and an insignificant positive effect on Bank Efficiency (R-squared = 0.306720, P-value = 0.000690 < 0.05 for the overall model). Therefore, we can conclude that Loan-to-Asset Ratio significantly and positively affects Earnings Per Share, while its positive effects on Net Interest Margin and Bank Efficiency are not statistically significant for Nigerian deposit money banks.

Hypothesis Four:

H_o4: Liquid Assets have no significant influence on the financial performance of Nigerian deposit money banks.

Table 4.12: Result of the Hausman Test in the Fifth Hypothesis

	NIM	EPS	**EFFICIENCY**
Chi2(1)	5.531	2.110	2.52
Prob > Chi2	0.0093	0.115	0.0441
Remarks	Fixed Effect Model	Random Effect Model	Fixed Effect Model

Source: Field Result, 2024

Table 4.13: Effect of Liquid Assets on the Financial Performance of Nigerian Deposit Money Banks

Variables	**NIM (Fixed)**	**NIM (Random)**	**EPS (Fixed)**	**EPS (Random)**	**EFFICIENCY (Fixed)**	**EFFICIENCY (Random)**
LDR	-0.005940 (0.8325)	-0.007293 (0.7950)	0.024537 (0.9933)	0.609727 (0.8334)	0.114941 (0.0473)	0.103860 (0.0708)
C	0.066068 (0.0006)	0.066930 (0.0172)	2.474882 (0.2005)	2.102409 (0.2741)	0.150465 (0.0001)	0.157518 (0.0002)

R-squared	0.716810	0.000862	0.121450	0.000565	0.344147	0.039587
Adjusted R-squared	0.684901	-0.011947	0.022458	-0.012248	0.270248	0.027274
F-statistic	22.46436	0.067300	1.226869	0.044133	4.656993	3.215092
Prob(F-statistic)	0.000000	0.795993	0.296275	0.834154	0.000132	0.076839

Source: Field Result, 2024

The results in Table 4.12 reveal the Hausman test outcomes, which help determine the most appropriate model for analyzing the relationship between Liquid Assets and financial performance measures of Nigerian deposit money banks. The test results show prob(Chi-Sq) values of 0.0093 < 0.05 for NIM, 0.115 > 0.05 for EPS, and 0.0441 < 0.05 for Efficiency. This confirms that the Fixed Effects (FE) model is most suitable for interpreting the results for NIM and Efficiency, while the Random Effects (RE) model is appropriate for EPS, as presented in Table 4.13.

Based on the results of the hypothesis using the appropriate models (Table 4.11) to examine the effect of Loan-to-Deposit Ratio (LDR) on the financial performance of Nigerian deposit money banks, we consider three main performance indicators: Net Interest Margin (NIM), Earnings Per Share (EPS), and Bank Efficiency. The results show that LDR has a negative effect on NIM of deposit money banks in Nigeria (β = -0.005940) using the Fixed Effects model. This indicates that LDR negatively affects banks' NIM, although it is not statistically significant at 5% level (p-value = 0.8325). Hence, a 1% increase in LDR will decrease NIM by 0.005940 times, but this effect is not significant.

For EPS, using the Random Effects model, LDR shows a positive but insignificant effect (β = 0.609727) with a p-value of 0.8334. This means that a 1% increase in LDR will increase EPS by

0.609727, but this effect is not statistically significant at 5% level. For Bank Efficiency, using the Fixed Effects model, LDR demonstrates a positive and significant effect ($\beta = 0.114941$) with a p-value of 0.0473. This indicates that a 1% increase in LDR will increase Bank Efficiency by 0.114941, and this effect is statistically significant at 5% level.

The overall results show that LDR has an insignificant negative effect on Net Interest Margin (R-squared = 0.716810, P-value = 0.000000 < 0.05 for the overall model), an insignificant positive effect on Earnings Per Share (R-squared = 0.000565, P-value = 0.834154 > 0.05), and a significant positive effect on Bank Efficiency (R-squared = 0.344147, P-value = 0.000132 < 0.05 for the overall model). Therefore, we can conclude that Loan-to-Deposit Ratio significantly and positively affects Bank Efficiency, while its effects on Net Interest Margin (negative) and Earnings Per Share (positive) are not statistically significant for Nigerian deposit money banks.

4.4 Discussion of Findings

The findings of this study from objective one reveal that Cash Flow Coverage (CFC) has a significant negative effect on Net Interest Margin (NIM), while its effect on Earnings Per Share (EPS) and Bank Efficiency was negative but statistically insignificant. These results provide valuable insights into the influence of cash flow management on the financial performance of commercial banks, particularly in terms of their interest margin, profitability, and operational efficiency.

The significant negative relationship between CFC and NIM suggests that higher cash flow coverage reduces a bank's ability to generate a robust net interest margin. This outcome aligns with the findings of that banks that prioritize liquidity over interest-generating activities often experience a reduction in NIM[1]. In such cases, banks may adopt conservative cash management strategies to ensure liquidity, but this comes at the cost of lower returns from interest-based

activities. Further support this by showing that maintaining excess liquidity can reduce overall financial performance, as banks may shy away from riskier, higher-return lending opportunities that could enhance their margins[2].

On the other hand, the effect of CFC on EPS, though negative, was not significant. This indicates that while increased cash flow coverage may create downward pressure on profitability per share, the impact is not strong enough to be conclusive. A similar phenomenon, suggesting that the presence of significant cash reserves does not always translate into immediate improvements in shareholder returns[4]. Instead, banks often prioritize liquidity to mitigate risk, which can result in more stable but not necessarily higher earnings per share. Also pointed out that conservative cash management is primarily designed to safeguard against financial volatility rather than directly boost shareholder profits[5].

Furthermore, the negative but insignificant impact of CFC on bank efficiency suggests that holding higher cash reserves may reduce operational efficiency, as excess liquidity may not be actively deployed in productive investments. However, this effect was not statistically significant in the present study. Focusing on liquidity preservation often do so at the expense of operational optimization, as resources are diverted away from efficiency-enhancing activities[1]. Nonetheless, the trade-off between liquidity and efficiency is not always straightforward, as market conditions and the bank's risk profile play a critical role in determining whether liquidity management will lead to efficiency gains or losses[5].

Effective cash flow management is essential for maintaining liquidity and financial stability, an overly cautious approach can dampen key performance indicators such as NIM and EPS. The negative but insignificant effects on bank efficiency and EPS highlight the need for a balanced approach, where banks manage liquidity without compromising profitability and operational

performance. The findings underscore the delicate balance commercial banks must strike between liquidity and performance[2,3]. Future research could explore strategies to optimize cash flow coverage, ensuring liquidity is maintained while enhancing profitability and efficiency.

The findings from objective two related to the Capital Adequacy Ratio (CAR) reveal that it had an insignificant positive effect on Net Interest Margin (NIM) but a significant positive effect on both Earnings Per Share (EPS) and Bank Efficiency. These results underscore the role of capital adequacy in strengthening the financial stability of banks, while also highlighting that its direct impact on interest margin is limited. The insignificant positive effect of CAR on NIM suggests that while a higher capital adequacy ratio may slightly improve the ability of banks to generate interest margins, this effect is not substantial. A similar trend in Vietnam's banking sector, where CAR did not significantly enhance NIM but provided stability in terms of risk management and financial resilience[6]. This could be due to the fact that CAR is more focused on regulatory compliance and risk mitigation rather than directly influencing interest-generating activities. Similarly, while CAR provides a buffer against risk, its impact on profitability metrics such as NIM is often marginal, as banks may prioritize maintaining capital reserves over expanding interest-related operations[7].

In contrast, the significant positive effect of CAR on EPS indicates that a higher capital adequacy ratio enhances shareholder returns. This is likely because banks with higher CAR are seen as more stable and less risky, which can boost investor confidence and lead to higher profitability per share. Similar results in the Ghanaian banking sector, where CAR played a crucial role in enhancing profitability by providing a strong financial foundation and reducing the likelihood of financial distress[8]. Moreover, under the Basel II framework, higher CAR levels contributed to

increased bank profitability in Vietnam, as banks with more capital reserves could absorb shocks and operate more efficiently, translating into higher earnings for shareholders[8].

CAR's significant positive effect on bank efficiency suggests that well-capitalized banks tend to operate more efficiently. This could be because banks with stronger capital positions are better equipped to invest in technology, human capital, and other efficiency-enhancing initiatives. Higher capital adequacy not only improves financial stability but also enhances operational efficiency by reducing the cost of capital and enabling better resource allocation[9]. Further support this by showing that banks with robust capital positions can manage their operating expenses more effectively, leading to improved overall performance[10]. The findings highlight that while the Capital Adequacy Ratio (CAR) may have a limited direct effect on Net Interest Margin (NIM), it significantly enhances Earnings Per Share (EPS) and Bank Efficiency. This underscores the importance of maintaining adequate capital reserves to improve financial performance and stability[8,10]. The ability of well-capitalized banks to attract investors, operate efficiently, and withstand financial shocks plays a crucial role in their overall performance, making CAR a critical determinant of both profitability and operational efficiency.

The findings from objective three on the Loan-to-Asset Ratio (LAR) demonstrated a mixed effect across different performance metrics, showing a positive but insignificant effect on Net Interest Margin (NIM), a significant positive effect on Earnings Per Share (EPS), and an insignificant positive effect on Bank Efficiency. The positive but insignificant effect of LAR on NIM suggests that while higher loan-to-asset ratios might contribute to increasing net interest margins, the relationship is not strong enough to yield a statistically significant outcome. This aligns with a similar pattern in Indonesian banks, where the LAR showed positive but marginal effects on NIM, possibly due to other mitigating factors like loan quality and credit risk[11]. This

could indicate that although banks may allocate a higher proportion of their assets to loans, external factors such as interest rate fluctuations and the quality of loan portfolios may dilute the expected increase in NIM.

The significant positive effect of LAR on EPS, however, underscores the profitability-enhancing role of a higher loan-to-asset ratio. When banks increase their loan portfolios relative to assets, they can generate higher interest income, which directly contributes to enhanced profitability per share. This finding is consistent with a study that observed that effective liquidity management, which includes optimizing the loan-to-asset ratio, positively impacts banks' profitability, particularly through interest income[12]. The Western Balkans, banks that maintained a healthy loan-to-asset ratio were better positioned to enhance shareholder returns due to increased lending activity and corresponding interest earnings[13]. These studies highlight that LAR can be a key lever for improving profitability when loans are well-managed and aligned with market demand.

Regarding bank efficiency, the insignificant positive effect of LAR suggests that while higher loan-to-asset ratios might contribute to improved efficiency, the relationship is not strong enough to be conclusive[14]. This is likely due to the fact that an increase in loans does not automatically translate into improved operational efficiency, especially if loan management processes are not optimized. Liquidity management, including LAR, can support bank operations, it does not always result in significant gains in efficiency without corresponding improvements in operational controls and risk management.

The Loan-to-Asset Ratio (LAR) has a complex effect on bank performance. Its insignificant impact on Net Interest Margin (NIM) suggests that external factors may weaken its role in driving interest-related revenue, while its significant positive impact on Earnings Per Share (EPS) reflects its potential to enhance profitability through lending activities. The insignificant effect

on Bank Efficiency points to the importance of managing loan portfolios effectively to see gains in operational efficiency. These findings are supported by the other works that all of which emphasize the nuanced role of LAR in shaping different aspects of bank performance.

The findings from objective four on the Loan-to-Deposit Ratio (LDR) revealed a nuanced relationship between LDR and various financial performance indicators. The Net Interest Margin (NIM) experienced an insignificant negative effect, indicating that increasing LDR did not meaningfully reduce interest margins. This aligns with the findings of a study that observed similar patterns in the Indonesian banking sector[15]. They noted that while LDR reflects the bank's lending activity relative to its deposits, this ratio alone may not significantly affect NIM, as other factors like interest rates and loan quality play a more critical role in determining margins.

On Earnings Per Share (EPS), the insignificant positive effect suggests that while higher LDR might indicate increased lending activity and potentially higher revenues, the relationship with profitability per share is not statistically strong. This outcome aligns with another study found that while LDR contributes to a bank's liquidity management and potentially improves earnings, the effect on profitability is moderated by other financial and operational variables[15]. It indicates that while a bank's ability to convert deposits into loans can improve earnings, this does not always translate into direct improvements in EPS unless other factors, such as loan performance and cost management, are optimized.

However, the significant positive effect on Bank Efficiency suggests that higher LDR enhances the bank's ability to manage its resources efficiently. When banks convert a larger proportion of their deposits into loans, they can maximize their earning assets, thereby improving operational efficiency. A significant positive effect of LDR on bank efficiency in Indonesia, highlighting that

effective loan management enables banks to streamline operations, reduce overhead costs, and enhance overall efficiency[16]. Similarly, while LDR impacts operational performance, its real value lies in the bank's ability to balance liquidity with profitability, which in turn drives efficiency gains[17].

However, the Loan-to-Deposit Ratio (LDR) has an insignificant negative impact on Net Interest Margin (NIM), reflecting its limited role in shaping interest margins. Its insignificant positive impact on Earnings Per Share (EPS) indicates a weak but positive relationship with profitability, suggesting that effective deposit-to-loan conversion can enhance earnings. The significant positive effect on Bank Efficiency underscores the importance of managing LDR to optimize operational performance, a view supported by the studies which collectively highlight the critical role of LDR in driving bank efficiency[18,19,20].

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Chapter Five

Conclusion

5.1 Summary of the Findings

The findings indicate that while CFC significantly negatively impacts Net Interest Margin, with a R-squared value of 0.74863 and a P-value of 0.00000 (< 0.05), it has insignificant influence on Earnings Per Share, with an R-squared value of 0.122659 and a P-value of 0.288589 (> 0.05), and Bank Efficiency, with an R-squared value of 0.309693 and a P-value of 0.000608 (< 0.05). Thus, from the analysis, it can be concluded that Cash Flow Coverage significantly influences Net Interest Margin, but in respect to Earnings Per Share and Bank Efficiency of Nigerian deposit money banks, its impact is not that strong.

From the findings, though CAR has an insignificant positive effect on Net Interest Margin with an R-square of 0.718218 and a P-value of 0.000000 (< 0.05) for the overall model, it has a significant positive effect on both Earnings Per Share and Bank Efficiency with an R-square of

0.210055 and a P-value of 0.000019 (< 0.05) and 0.065635 and 0.021800 (< 0.05), respectively. We therefore conclude that Capital Adequacy Ratio significantly and positively influences Earnings Per Share and Bank Efficiency, but its positive effect on Net Interest Margin is not statistically significant for Nigerian deposit money banks.

Generally, from the findings, LAR exerts an insignificant positive effect on the Net Interest Margin, as reflected by the R-squared of 0.720110 and P-value of 0.000000 (< 0.05 for the overall model); a positive significant effect on Earnings Per Share, with an R-squared of 0.056559 and P-value of 0.033649 (< 0.05); and an insignificant positive effect on Bank Efficiency, with an R-squared of 0.306720 and P-value of 0.000690 (< 0.05 for the overall model). Conclusion The foregoing infers that Loan-to-Asset Ratio significantly positively influences the Earnings Per Share while such an influence on Net Interest Margin and Bank Efficiency is not statistically significant for the Nigerian deposit money banks.

findings indicate that, on average, LDR has insignificant adverse impact on Net Interest Margin (R squared = 0.716810 and P Value = 0.000000 < 0.05); an insignificant positive impact on Earnings Per Share, having R squared = 0.000565 and a P Value of 0.834154 (> 0.05); and has a positive significant impact on Bank Efficiency, having R squared = 0.344147 and a P Value of 0.000132 (< 0.05 with respect to overall model significance). Therefore, we can conclude that Loan-to-Deposit Ratio significantly and positively affects Bank Efficiency, while its effects on Net Interest Margin (negative) and Earnings Per Share (positive) are not statistically significant for Nigerian deposit money banks.

5.2 Conclusion

The findings of this study concluded that liquidity management significantly influences the financial performance of Deposit Money Banks in Nigeria. Specifically, among the liquidity management indicators, Cash Flow Coverage was found to have a negative impact on banks' Net Interest Margin. This indicates that an increase in cash flow coverage correlates with a decrease in profitability from interest income. Capital Adequacy Ratio positively influences Earnings Per Share and Bank Efficiency, and thus well-capitalized banks are likely to perform better financially and operationally. Results indicate that Loan-to-Asset Ratio has a positive effect on Earnings Per Share-the higher the loan portfolio with regard to the assets of banks, the better the return for shareholders. Loan-to-Deposit Ratio has a positive influence on Bank Efficiency, which means that those banks utilizing more deposits in lending operate more effectively.

5.3 Recommendations

Improve Cash Flow Coverage without Compromising Profitability: It is quite a tight rope that the DMBs in Nigeria have to walk between cash flow coverage and profitability. While liquidity is essential in meeting short-term obligations, too much cash flow coverage will lead to diminishing returns on their assets. A strategic approach is needed where banks avoid hoarding liquid assets at the expense of profitability. In practical terms, DMBs should employ advanced liquidity management tools to monitor real-time liquidity needs, ensuring optimal coverage that supports both solvency and profitability goals. Regulatory oversight and internal controls should be strengthened to maintain this balance, as excessive liquidity negatively impacts the Net Interest Margin (NIM), thus reducing shareholder value over time.

The regulatory bodies, like the Central Bank of Nigeria, should ensure that such policies are introduced that will compel the DMBs to implement higher Capital Adequacy Ratios. From a theoretical perspective, a higher capital adequacy ratio means good financial buffers that can

absorb shocks and protect the banks against possible financial stress. With high capital levels, DMBs can expand their lending capacity while still meeting risk-based capital requirements.

Additionally, frequent stress testing and risk-based capital through regulatory bodies will make banks resilient against economic cycles. In fact, the performance of such actions will improve not only in financial terms but will instill public confidence in banking institutions.

Maximizing loan portfolios with responsible risk management Banks should strategically optimize their loan portfolios in relation to total assets to maximize returns for shareholders. However, this growth should be underpinned by stringent risk management practices. By refining credit assessment procedures and leveraging data-driven decision-making, banks can better evaluate borrower creditworthiness and minimize exposure to non-performing loans.

The banks should also diversify their loan portfolio, blending low-risk high-return ventures such as investment in SMEs, corporate financing, and retail lending. A prudent approach to loan disbursement will ensure sustained growth sans exposure of the institution to undue credit risk that would result in a disastrous impact on profitability. Optimal operational Loan-to-Deposit Ratio EN The optimal LDR is crucial for banks to balance their liquidity and lending operations. A too-conservative LDR would imply underutilization of resources, whereas an overly high LDR may indicate potential liquidity risks. The DMBs should utilize advanced analytics to dynamically adjust their LDR with considerations of both short-term liquidity needs and long-term growth objectives. Moreover, banks need to develop further deposit mobilization initiatives, both for retail and corporate clients, which will ensure constant fundraising. Through better deposit management and optimization with their lending practices, DMBs can push toward operational efficiency and sustained profitability. Continuous monitoring of LDR, in line with

market conditions and regulatory requirements, will protect against liquidity crises and further optimize capital utilization.

5.4 Contributions to Knowledge

This study makes significant contributions to the field of banking and finance, particularly in the context of emerging markets. It provides empirical evidence on the impact of key financial ratios on the performance of Nigerian deposit money banks, addressing a critical gap in the literature. The research demonstrates the multifaceted effects of financial ratios on various performance metrics, highlighting the complexity of bank performance evaluation and the need for a holistic approach.

The study contributes to the issues of liquidity-profitability-efficiency trade-offs in developing economies, offering insights into how these factors interplay in the volatile economic environment of Nigeria. By incorporating multiple financial ratios and performance indicators, it presents a comprehensive framework for assessing bank performance, which can be adapted for future research in other markets or financial sectors.

Furthermore, the research provides practical acumens for policymakers and bank managers, informing regulatory decisions and strategic management practices. It offers evidence-based strategies to enhance financial performance while maintaining operational stability in a challenging economic context.

The study also makes a notable theoretical contribution by applying the Trade-off Theory of Liquidity and the Pecking Order Theory of Liquidity to the Nigerian banking sector. It empirically validates these theories, demonstrating how banks navigate liquidity-profitability trade-offs and prioritize funding strategies based on cost-efficiency and risk aversion. This

application expands the theoretical framework for assessing liquidity decisions in emerging markets, offering a more nuanced understanding of liquidity management practices in developing economies.

5.5 Suggestion for Further Studies

1. The Role of Corporate Governance in Enhancing Capital Adequacy and Risk Management in Nigerian Banks
2. The Effect of Regulatory Policies on Profitability and Operational Efficiency in Nigerian Deposit Money Banks (DMBs)
3. A Comparative Study of Liquidity Management Strategies between Commercial and Microfinance Banks.

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Appendices

Appendix I – Raw from Eview Output

	EFFICIE							
	CAR	**CFC**	**DATEID**	**NY**	**EPS**	**LAR**	**LDR**	**NIM**
Mean	0.143563	0.426375	736876.5	0.223625	2.490500	0.298125	0.636500	0.074788
Median	0.140000	0.420000	736876.5	0.215000	1.265000	0.290000	0.645000	0.037500
Maximum	0.210000	0.660000	738520.0	0.450000	21.55000	0.470000	0.870000	0.266000
Minimum	0.070000	0.220000	735233.0	0.030000	-0.120000	0.110000	0.340000	0.001000

Std. Dev.	0.030107	0.127490	1055.733	0.093148	4.130460	0.075960	0.159533	0.070169
Skewness	-0.039824	-0.174608	4.26E-18	-0.306471	-3.292102	-0.028062	-0.281083	-0.892474
Kurtosis	2.622501	1.795342	1.775622	2.866740	13.67940	3.046479	1.847344	2.889398
Jarque-Bera	0.496164	5.243848	4.997001	1.311518	524.6714	0.017700	5.482150	10.66090
Probability	0.780296	0.072663	0.082208	0.519048	0.000000	0.991189	0.064501	0.004842
Sum	11.48500	34.11000	58950120	17.89000	199.2400	23.85000	50.92000	5.983000
Sum Sq. Dev.	0.071610	1.284049	88051188	0.685449	1347.795	0.455819	2.010620	0.388975
Observations	80	80	80	80	80	80	80	80

Covariance Analysis: Ordinary
Date: 09/20/24 Time: 19:47
Sample: 2014 2023
Included observations: 80

Correlation

Probability	NIM	EPS	EFFICIENY	CFC	CAR	LAR	LDR
NIM	1.000000						

EPS	-0.042949	1.000000					
	0.7052	-----					
EFFICIENY	0.180944	0.050757	1.000000				
	0.1082	0.6548	-----				
CFC	-0.209107	-0.053366	-0.115810	1.000000			
	0.0627	0.6383	0.3063	-----			
CAR	0.171847	0.455696	0.288498	-0.183908	1.000000		
	0.1275	0.0000	0.0095	0.1025	-----		
LAR	0.043290	0.247900	0.134255	-0.182399	0.326479	1.000000	
	0.7030	0.0266	0.2351	0.1054	0.0031	-----	
LDR	-0.069157	0.029275	0.133152	-0.050919	0.047563	-0.057269	1.000000
	0.5422	0.7966	0.2390	0.6538	0.6752	0.6139	-----

Dependent Variable: NIM

Method: Panel Least Squares

Date: 09/16/24 Time: 17:25

Sample: 2014 2023

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CFC	-0.099823	0.033204	-3.006395	0.0037
C	0.104850	0.014744	7.111181	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.748630	Mean dependent var	0.062288
Adjusted R-squared	0.720307	S.D. dependent var	0.069669
S.E. of regression	0.036845	Akaike info criterion	-3.658524
Sum squared resid	0.096388	Schwarz criterion	-3.390546
Log likelihood	155.3409	Hannan-Quinn criter.	-3.551083
F-statistic	26.43151	Durbin-Watson stat	1.872314
Prob(F-statistic)	0.000000		

Dependent Variable: NIM

Method: Panel EGLS (Cross-section random effects)

Date: 09/16/24 Time: 17:35

Sample: 2014 2023

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CFC	-0.099901	0.033182	-3.010661	0.0035
C	0.104883	0.027745	3.780192	0.0003
	Effects Specification			
			S.D.	Rho
Cross-section random			0.066493	0.7651
Idiosyncratic random			0.036845	0.2349
	Weighted Statistics			
R-squared	0.105312	Mean dependent var		0.010751
Adjusted R-squared	0.093842	S.D. dependent var		0.038458
S.E. of regression	0.036609	Sum squared resid		0.104539
F-statistic	9.181276	Durbin-Watson stat		1.726384
Prob(F-statistic)	0.003316			
	Unweighted Statistics			
R-squared	0.035051	Mean dependent var		0.062288
Sum squared resid	0.370010	Durbin-Watson stat		0.487757

Dependent Variable: EPS

Method: Panel Least Squares

Date: 09/16/24 Time: 17:36

Sample: 2014 2023

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CFC	-1.150919	3.677640	-0.312950	0.7552
C	2.981223	1.633087	1.825513	0.0721

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.122659	Mean dependent var	2.490500
Adjusted R-squared	0.023804	S.D. dependent var	4.130460
S.E. of regression	4.081004	Akaike info criterion	5.756216
Sum squared resid	1182.476	Schwarz criterion	6.024194
Log likelihood	-221.2486	Hannan-Quinn criter.	5.863656
F-statistic	1.240793	Durbin-Watson stat	0.748858
Prob(F-statistic)	0.288589		

Dependent Variable: EPS

Method: Panel EGLS (Cross-section random effects)

Date: 09/16/24 Time: 17:37

Sample: 2014 2023

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.

CFC	-1.537707	3.626828	-0.423981	0.6727
C	3.146140	1.645247	1.912260	0.0595

Effects Specification		
	S.D.	Rho
Cross-section random	0.926650	0.0490
Idiosyncratic random	4.081004	0.9510

Weighted Statistics			
R-squared	0.002317	Mean dependent var	2.023004
Adjusted R-squared	-0.010474	S.D. dependent var	4.044234
S.E. of regression	4.065358	Sum squared resid	1289.117
F-statistic	0.181146	Durbin-Watson stat	0.688095
Prob(F-statistic)	0.671562		

Unweighted Statistics			
R-squared	0.002813	Mean dependent var	2.490500
Sum squared resid	1344.004	Durbin-Watson stat	0.659994

Dependent Variable: EFFICIENY

Method: Panel Least Squares

Date: 09/16/24 Time: 17:38

Sample: 2014 2023

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.

CFC	-0.042074	0.073567	-0.571921	0.5692
C	0.241564	0.032668	7.394540	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.309693	Mean dependent var	0.223625
Adjusted R-squared	0.231912	S.D. dependent var	0.093148
S.E. of regression	0.081636	Akaike info criterion	-2.067450
Sum squared resid	0.473170	Schwarz criterion	-1.799472
Log likelihood	91.69799	Hannan-Quinn criter.	-1.960010
F-statistic	3.981597	Durbin-Watson stat	2.005832
Prob(F-statistic)	0.000608		

Dependent Variable: EFFICIENY

Method: Panel EGLS (Cross-section random effects)

Date: 09/16/24 Time: 17:38

Sample: 2014 2023

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CFC	-0.053863	0.073148	-0.736366	0.4637
C	0.246591	0.035813	6.885436	0.0000

Effects Specification		
	S.D.	Rho
Cross-section random	0.042576	0.2138
Idiosyncratic random	0.081636	0.7862

Weighted Statistics			
R-squared	0.006795	Mean dependent var	0.115944
Adjusted R-squared	-0.005939	S.D. dependent var	0.082049
S.E. of regression	0.082292	Sum squared resid	0.528215
F-statistic	0.533618	Durbin-Watson stat	1.787881
Prob(F-statistic)	0.467278		

Unweighted Statistics			
R-squared	0.011641	Mean dependent var	0.223625
Sum squared resid	0.677470	Durbin-Watson stat	1.393988

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.004340	1	0.9475

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
CFC	-0.099823	-0.099901	0.000001	0.9475

Dependent Variable: NIM

Method: Panel Least Squares

Date: 09/16/24 Time: 17:54

Sample: 2014 2023

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LDR	-0.005940	0.027987	-0.212235	0.8325
C	0.066068	0.018343	3.601878	0.0006

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.716810	Mean dependent var	0.062288
Adjusted R-squared	0.684901	S.D. dependent var	0.069669
S.E. of regression	0.039108	Akaike info criterion	-3.539331

Sum squared resid	0.108589	Schwarz criterion	-3.271353
Log likelihood	150.5732	Hannan-Quinn criter.	-3.431891
F-statistic	22.46436	Durbin-Watson stat	1.805173
Prob(F-statistic)	0.000000		

Dependent Variable: NIM

Method: Panel EGLS (Cross-section random effects)

Date: 09/16/24 Time: 17:54

Sample: 2014 2023

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LDR	-0.007293	0.027969	-0.260760	0.7950
C	0.066930	0.027489	2.434816	0.0172

Effects Specification		
	S.D.	Rho
Cross-section random	0.057936	0.6870
Idiosyncratic random	0.039108	0.3130

Weighted Statistics

R-squared	0.000862	Mean dependent var	0.013003
Adjusted R-squared	-0.011947	S.D. dependent var	0.039077
S.E. of regression	0.039310	Sum squared resid	0.120529
F-statistic	0.067300	Durbin-Watson stat	1.628117

Prob(F-statistic)	0.795993

Unweighted Statistics			
R-squared	0.002485	Mean dependent var	0.062288
Sum squared resid	0.382497	Durbin-Watson stat	0.513039

Dependent Variable: EPS

Method: Panel Least Squares

Date: 09/16/24 Time: 17:55

Sample: 2014 2023

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LDR	0.024537	2.922563	0.008396	0.9933
C	2.474882	1.915426	1.292079	0.2005

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.121450	Mean dependent var	2.490500
Adjusted R-squared	0.022458	S.D. dependent var	4.130460
S.E. of regression	4.083815	Akaike info criterion	5.757594
Sum squared resid	1184.106	Schwarz criterion	6.025572
Log likelihood	-221.3037	Hannan-Quinn criter.	5.865034
F-statistic	1.226869	Durbin-Watson stat	0.747312
Prob(F-statistic)	0.296275		

Dependent Variable: EPS

Method: Panel EGLS (Cross-section random effects)

Date: 09/16/24 Time: 17:55

Sample: 2014 2023

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LDR	0.609727	2.888698	0.211073	0.8334
C	2.102409	1.908795	1.101433	0.2741

	Effects Specification	
	S.D.	Rho
Cross-section random	0.659526	0.0254
Idiosyncratic random	4.083815	0.9746

Weighted Statistics			
R-squared	0.000565	Mean dependent var	2.217997
Adjusted R-squared	-0.012248	S.D. dependent var	4.078245
S.E. of regression	4.103143	Sum squared resid	1313.191
F-statistic	0.044133	Durbin-Watson stat	0.672153
Prob(F-statistic)	0.834154		

Unweighted Statistics			
R-squared	0.000824	Mean dependent var	2.490500

Sum squared resid	1346.684	Durbin-Watson stat	0.655436

Dependent Variable: EFFICIENY

Method: Panel Least Squares

Date: 09/16/24 Time: 17:56

Sample: 2014 2023

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LDR	0.114941	0.056946	2.018446	0.0473
C	0.150465	0.037322	4.031569	0.0001

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.344147	Mean dependent var	0.223625
Adjusted R-squared	0.270248	S.D. dependent var	0.093148
S.E. of regression	0.079572	Akaike info criterion	-2.118650
Sum squared resid	0.449554	Schwarz criterion	-1.850672
Log likelihood	93.74598	Hannan-Quinn criter.	-2.011209
F-statistic	4.656993	Durbin-Watson stat	1.990733
Prob(F-statistic)	0.000132		

Dependent Variable: EFFICIENY

Method: Panel EGLS (Cross-section random effects)

Date: 09/16/24 Time: 17:56

Sample: 2014 2023

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LDR	0.103860	0.056700	1.831750	0.0708
C	0.157518	0.039670	3.970742	0.0002

Effects Specification		
	S.D.	Rho
Cross-section random	0.039200	0.1953
Idiosyncratic random	0.079572	0.8047

Weighted Statistics			
R-squared	0.039587	Mean dependent var	0.120802
Adjusted R-squared	0.027274	S.D. dependent var	0.082421
S.E. of regression	0.081289	Sum squared resid	0.515415
F-statistic	3.215092	Durbin-Watson stat	1.740445
Prob(F-statistic)	0.076839		

Unweighted Statistics			
R-squared	0.015729	Mean dependent var	0.223625
Sum squared resid	0.674667	Durbin-Watson stat	1.329619

Appendix II – Raw Data

Net Interest Margin (NIM)

YEAR	ACCESS	FIDELITY	FCMB	FBN	GTB	UNION	UBA	ZENITH
2014	0.030	0.020	0.070	0.010	0.040	0.070	0.010	0.010
2015	0.019	0.015	0.026	0.011	0.003	0.032	0.008	0.013
2016	0.003	0.020	0.066	0.014	0.025	0.019	0.008	0.025
2017	0.018	0.020	0.012	0.013	0.016	0.019	0.009	0.021
2018	0.016	0.024	0.012	0.012	0.020	0.064	0.001	0.027
2019	0.029	0.000	0.036	0.022	0.006	0.038	0.007	0.023
2020	0.018	0.028	0.057	0.028	0.013	0.063	0.001	0.023
2021	0.024	0.022	0.058	0.035	0.033	0.067	0.009	0.027
2022	0.005	0.019	0.010	0.036	0.029	0.019	0.006	0.029
2023	0.027	0.037	0.044	0.025	0.028	0.019	0.003	0.024

Earnings Per Share (EPS)

YEAR	ACCESS	FIDELITY	FCMB	FBN	GTB	UNION	UBA	ZENITH
2014	0.16	0.12	0.09	0.17	0.19	1.73	0.31	0.79
2015	1.33	0.11	0.11	0.19	0.99	1.77	0.44	0.92
2016	1.57	0.09	0.21	1.01	1.21	1.91	0.61	0.85
2017	2.01	0.16	0.21	1.14	1.91	1.89	0.69	0.88
2018	2.4	0.14	0.19	1.59	2.38	1.57	0.97	1.17

2019	2.32	0.19	0.22	1.93	2.22	2.38	1.04	1.98
2020	3.01	0.2	0.28	2.13	2.79	2.85	1.03	2.28
2021	4.58	-0.12	0.35	4.14	3.01	2.92	0.45	2.67
2022	4.29	0.41	0.41	3.71	5.59	2.97	4.84	7.14
2023	17.42	0.93	1.32	8.59	19.07	2.48	17.49	21.55

Cash Flow Coverage

YEAR	ACCESS	FIDELITY	FCMB	FBN	GTB	UNION	UBA	ZENITH
2014	0.33	0.22	0.39	0.51	0.41	0.32	0.36	0.47
2015	0.35	0.28	0.43	0.39	0.42	0.57	0.53	0.27
2016	0.29	0.62	0.36	0.62	0.29	0.57	0.46	0.58
2017	0.60	0.33	0.55	0.64	0.29	0.58	0.62	0.65
2018	0.26	0.47	0.57	0.61	0.52	0.38	0.34	0.33
2019	0.39	0.50	0.51	0.56	0.42	0.26	0.32	0.31
2020	0.46	0.41	0.53	0.24	0.38	0.26	0.32	0.46
2021	0.33	0.59	0.22	0.39	0.44	0.25	0.30	0.42
2022	0.47	0.53	0.45	0.60	0.43	0.64	0.51	0.27
2023	0.66	0.27	0.28	0.29	0.47	0.61	0.24	0.34

Loan-to-Deposit Ratio (LDR)

YEAR	ACCESS	FIDELITY	FCMB	FBN	GTB	UNION	UBA	ZENITH
2014	0.34	0.36	0.65	0.87	0.82	0.80	0.73	0.73
2015	0.84	0.53	0.71	0.78	0.44	0.77	0.53	0.49

2016	0.84	0.55	0.35	0.42	0.79	0.86	0.80	0.82
2017	0.68	0.63	0.48	0.47	0.73	0.85	0.80	0.59
2018	0.59	0.55	0.72	0.45	0.47	0.54	0.63	0.67
2019	0.50	0.77	0.39	0.64	0.64	0.63	0.83	0.61
2020	0.83	0.84	0.80	0.72	0.53	0.47	0.36	0.82
2021	0.38	0.50	0.62	0.75	0.58	0.83	0.57	0.50
2022	0.55	0.37	0.69	0.66	0.59	0.37	0.38	0.86
2023	0.70	0.80	0.72	0.84	0.80	0.72	0.70	0.39

Liquid Assets Ratio (LAR)

YEAR	ACCESS	FIDELITY	FCMB	FBN	GTB	UNION	UBA	ZENITH
2014	0.47	0.45	0.28	0.43	0.32	0.37	0.35	0.38
2015	0.38	0.37	0.20	0.24	0.29	0.24	0.15	0.14
2016	0.31	0.25	0.11	0.36	0.26	0.21	0.25	0.20
2017	0.38	0.34	0.20	0.39	0.25	0.30	0.25	0.27
2018	0.46	0.26	0.25	0.28	0.29	0.37	0.33	0.26
2019	0.40	0.28	0.16	0.26	0.29	0.24	0.23	0.36
2020	0.26	0.28	0.24	0.33	0.29	0.35	0.32	0.34
2021	0.33	0.22	0.20	0.28	0.31	0.33	0.29	0.29
2022	0.47	0.29	0.14	0.24	0.29	0.29	0.32	0.32
2023	0.41	0.39	0.27	0.29	0.32	0.32	0.35	0.37

Capital Adequacy Ratio (CAR)

YEAR	ACCESS	FIDELITY	FCMB	FBN	GTB	UNION	UBA	ZENITH
2014	0.15	0.16	0.13	0.12	0.13	0.15	0.08	0.15
2015	0.16	0.13	0.11	0.13	0.07	0.13	0.09	0.13
2016	0.15	0.11	0.10	0.13	0.12	0.12	0.15	0.11
2017	0.14	0.14	0.13	0.17	0.12	0.10	0.14	0.13
2018	0.17	0.14	0.12	0.12	0.11	0.15	0.16	0.10
2019	0.15	0.13	0.18	0.11	0.14	0.08	0.17	0.14
2020	0.19	0.19	0.12	0.14	0.13	0.14	0.16	0.16
2021	0.18	0.15	0.13	0.17	0.15	0.19	0.15	0.19
2022	0.16	0.12	0.16	0.11	0.165	0.15	0.19	0. 21
2023	0.18	0.14	0.19	0.16	0.18	0.19	0.20	0.19

Bank Efficiency

YEAR	ACCESS	FIDELITY	FCMB	FBN	GTB	UNION	UBA	ZENITH
2014	0.42	0.25	0.19	0.20	0.22	0.22	0.28	0.24
2015	0.30	0.20	0.29	0.28	0.10	0.03	0.27	0.22
2016	0.34	0.13	0.14	0.17	0.21	0.21	0.45	0.21
2017	0.32	0.15	0.24	0.21	0.16	0.21	0.10	0.28
2018	0.31	0.22	0.16	0.05	0.19	0.16	0.21	0.20
2019	0.08	0.39	0.35	0.18	0.24	0.15	0.39	0.27
2020	0.28	0.39	0.26	0.15	0.22	0.16	0.14	0.25
2021	0.34	0.38	0.25	0.22	0.10	0.18	0.12	0.28
2022	0.40	0.21	0.23	0.12	0.03	0.08	0.20	0.29

2023	0.29	0.25	0.13	0.11	0.15	0.20	0.43	0.26

Bio-data

A. Personal Data

Full Name:	**Damilola Maryam AKINBIYI**
Address:	Phase 2,Kolapo Ishola Estate Akobo, Ibadan
E-mail Address:	**akinbiyidamilolamaryam@gmail.com**
Phone Number:	**08108164493**
Date	**29th of October 1995**
Place of Birth:	Lagos
Nationality:	Nigerian

Name of Next of Kin: Emmanuel Temidayo Akinbiyi

Address of Next of Kin Phase 2, Kolapo Ishola Estate Akobo Ibadan

B. Educational Background

Educational Institutions Attended with Dates and Qualification:

i. **Primary Education: Adesola nursery and primary school, Ibadan, Oyo State**

- Primary School Leaving Certificate 2005

ii. **Secondary Education: God's Blessing Comprehensive College, Yemetu, Ibadan**

- West African School Certificate 2011

iii. **Higher Education Institution**:

- Ekiti State University, Ado-Ekiti, Ekiti State
  Bsc(Ed) Accounting 2017
- Lead City University, Ibadan
  Master of Science (M.Sc) in Finance In view

C. Working Experience with Dates: Bovas & Company Limited, Ibadan

November 2020-2024

Xtreme Mindz Media Solutions Ltd June 2020-October 2020

Lafe's Building and Propeties Ltd 2018– May 2020

D. Awards and Fellowships (if any): No

E. Membership of Academic Professional Bodies:

- Institute of Chartered Accountant of Nigeria (ICAN)
- Chartered Institute of Customer Relationship Management (CICRM)
- Chartered Institute Bankers of Nigeria (CIBN)

F. Publication if Any

1. Thesis/Dissertation: Liquidity Management and Financial performance of Deposit Money Banks in Nigeria

(a) Published Journals/Articles

Seminal Papers Accepted For Publication: None

Seminal Papers Presented At Conference : None

Thesis/ Dissertation: None

Books/Monographs: None

Major Conference / Workshop Attended:

2024 Annual Accountant Conference. International Conference Centre & Sheraton, Abuja Hotel.

2023 Annual Accountant Conference. International Conference Centre & Sheraton, Abuja Hotel.

2022 Academic & Industry Edge, Department of Management and Accounting, Lead City University, Ibadan Oyo State.

G. Notable Scholarly or Professional Accomplishment:

- Associate Member of Institute of Chartered Accountant of Nigeria (ACA)
- Associate Member of The Chartered Institute of Customer Relationship Management(ACICRM)
- Associate Member Chartered Institute of Banker's of Nigeria

H. Referees

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- Mr Akinbiyi Emmanuel
  Principal Partner
  Dammark Global Resources

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Tel: 08101826720

Signature **Date**

The University Compliance Certification

This is to certify that this thesis was carried out by **Damilola Maryam AKINBIYI** with matric number **LCU/PG/002736** in the department of Management and Accounting, Faculty of Management & Social Sciences, Lead City University, Ibadan, is in Full compliance with the approved University format and style.

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Signature Date