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An Exploration of the Impact of Financial Risk on the Financial Performance of Quoted Deposit Money Banks in Nigeria (2015-2023)

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Abstract
This study's findings underscore the crucial need for continued assessment of the financial performances of the quoted Deposit Money Banks (DMBs) in Nigeria. The importance of this assessment is heightened by the factors that endanger the financial situation of the DMBs, which is where the need for continued improvement exists. The study explores the impact of financial risk on the performance of quoted deposit money banks in Nigeria, using nine (9) years of data between 2015 and 2023 retrieved from the published annual reports of thirteen (13) DMBs. The analysis includes descriptive statistics and inferential statistics of correlation and panel regression. The result indicates that CRSK (-0.431133) and LIQSK (0.086019) have a negatively weak correlation and a positively weak correlation with ROA. Also, CRSK (-0.226855) and LIQSK (0.320620) have a negatively weak correlation and a positively weak correlation with EPS. Consequently, BSIZE has ROA (0.052601), EPS (0.166463), CRSK (-0.072838) and LIQSK (0.083215), which means that it has an extremely weak correlation with ROA, CRSK and LIQSK while it has an extremely weak correlation with CRSK. The panel regression model indicates an R Square of .2642, .2133 and .2509, which represents about 26%, 21% and 25% impact of the variables CRSK, LIQSK and BSIZE on ROA for pooled effect model, fixed effect model and random effect model respectively. At the same time, the rest are covered by the error terms, as the other factors have not been considered in this study. This study concluded that credit and liquid risk have largely minimised significant impact on the performance of quoted deposit money banks in Nigeria, with several other factors being defined as the triggers of change in the DMB's performances overtime in Nigeria, which includes but not limited to board diversity, risk management insufficiency incidences of high non-performing loans, poor corporate governance, lax credit administration and failure to meet prudential ratios of liquidity, solvency status and capital ratio which the bank administrator have been able to tackle head-on. It recommended that commercial banks in Nigeria implement effective risk management methods to achieve long-term and improved profitability via interest revenue from loans and advances. Banks need sufficient and precise information from internal and external sources to evaluate the credit risks associated with a loan request.

Keywords: Exploration, Financial Risk, Liquidity Risk, Credit Risk, Financial Performance, Quoted Deposit Money Banks, Return on Assets (ROA), Earnings Per Share (EPS), Nigeria

1.0 Introduction

Institutions worldwide are increasingly concerned about the considerable and ongoing financial risk. The global financial markets have seen substantial volatility in recent decades due toglobalisation and changes in the economic landscape. Therefore, organisations must consider other elements beyond profitability, including social, political, and economic developments, fierce rivalry, technological progress, and shifts in the value chain (Offiong et al., 2019). This fear emerges due to global financial systems' intricate and interdependent architecture. Institutions must carefully traverse these issues and adopt robust risk management techniques to maintain financial stability and sustainability in an ever-changing climate. The Basel Committee on Banking Supervision (BCBS) is responsible for setting global standards for capital adequacy and risk management in the banking industry. Firms' financial performance is impacted by global economic circumstances, geopolitical conflicts, financial crises, and economic downturns (Al-Husainy & Jadah, 2021). Banks with diverse portfolios, including many sectors, geographies, and products, often have a more evenly distributed risk profile. Consequently, they possess enhanced capabilities to alleviate the impacts of economic downturns in specific sectors or geographical regions (Liu & Huang, 2022).

Africa is often seen as a continent with a demanding commercial landscape, especially for emerging countries like Nigeria. These countries are exposed to various financial hazards, such as credit, liquidity, market, operational, and equity risks. The risks above have resulted in heightened levels of debt obligations and adverse effects on the financial performance of several financial institutions (Wang et al., 2023). Businesses are vulnerable to many threats in the current dynamic and demanding corporate landscape. The main reason is the negative changes in the overall economic conditions and the increasing competitiveness (Perdana et al., 2019). Companies that operate in highly unpredictable circumstances are more vulnerable to risk. Risk is an unavoidable manifestation of uncertainty, but its impact may be controlled; companies often face many categories of risks in their activities, including financial and non-financial concerns. Financial risk is a crucial component of the financial system and significantly impacts the operating environment of deposit money institutions (Ali & Oudat, 2020). In addition, the financial crisis of 2008-2009 has highlighted the need for risk assessment as a fundamental instrument in corporate governance for evaluating firm survival and financial performance (Prasetiawatia & Sudanab, 2019). Toxic mortgage-backed securities carry substantial financial risks. These assets posed a significant risk to financial institutions, resulting in several defaults and banking crises.

The quality of the loan portfolio and profitability are affected by credit risk (Ajao & Oseyomon, 2019). Liquidity risk directly influences a bank's financial stability by affecting its capacity to fulfil short-term commitments (Wuave et al., 2020). It is crucial to comprehend and handle these risks to evaluate the financial performance and resilience of listed deposit money institutions in dynamic economic situations (Mohan & Madhu, 2023). This research is conducted at banks for this specific purpose. Effective risk management protocols, adherence to legislative mandates, and flexibility in response to changing economic circumstances all contribute to a more comprehensive understanding of the environment in which nations confront financial risk obstacles. Banks strategically balance the potential for higher profits with the associated financial risk by using borrowing to amplify their earnings and reduce the level of risk involved (Usman et al., 2022). Furthermore, guaranteeing institutions' constant and balanced performance is crucial for achieving stability in financial institutions like banks.

Financial risk substantially influences the performance of Deposit Money Banks (DMBs) in Nigeria, influencing the economy (Apochi et al., 2022). Deposit Money Banks (DMBs) serve a vital role as the leading financial intermediaries in Nigeria. They facilitate the gathering and allocating financial resources (Okoye, 2019). Nevertheless, the banking system in Nigeria is characterised by a high level of intensity, which exposes Deposit Money Banks (DMBs) to a financially precarious environment (Prasanth et al., 2020). Financial risk is an intrinsic component of the banking industry, and proficient risk management is crucial for the sustained prosperity of banks (Singh et al., 2021). The Central Bank of Nigeria (CBN) reported that the non-performing loan (NPL) percentage for Deposit Money Banks (DMBs) rose from 5.9% in 2015 to 6.6% in 2020. In comparison, the worldwide average NPL ratio for 2020, based on data from 126 countries, was 6.95% (World Bank, 2021; CBN, 2021). The data suggests the Nigerian banking industry has seen substantial financial turmoil (Makinde, 2021).

Effectively managing financial risks is a big problem for Nigeria's banking industry and substantially impacts the financial performance of publicly traded deposit money institutions. Although several risk management approaches have been implemented, Deposit Money Banks (DMBs) in Nigeria still face vulnerability (Ismail & Ahmed, 2023). These banks encounter substantial financial risks associated with credit, operational, market, and liquidity issues. The inability of banks to function correctly impedes the efficient allocation of resources and the facilitation of financial transactions, hence impeding attempts to enhance societal well-being and foster economic expansion. It is essential to comprehend the magnitude of financial risks and their influence on the credit, liquidity, and operational aspects of Deposit Money Banks (DMBs) in Nigeria. Currently, the degree to which these risks affect the performance of DMBs remains unclear (Khalifaturofi'ah, 2023). Research has shown that many variables, including mismanagement inside corporations, insufficient governance frameworks, abuse of power, and poor assessment of risks, have a substantial influence on the financial results of deposit money institutions that are publicly listed (Wuave et al., 2020). Shareholders want dependable and resilient approaches to assess these organisations' credit and liquidity risks to safeguard their interests. Evaluating these risks is essential for ascertaining the financial soundness of the banks (Abdullahi & Tela, 2022). Consequently, understanding these risk indicators has become a crucial value-added service for precisely evaluating a bank's financial performance.

The need to examine the impact of financial risk on the financial performance of listed Deposit Money Banks (DMBs) arises from banks' vital role as organisations central to financial intermediation in any economy. Hence, mitigating financial risk in DMBs requires consistent government policies and a resilient economic climate to absorb unforeseen losses, protect financial stability, and maintain adequate capital reserves. Considering this, this study aims to analyse the impact of financial risk on the performance of quoted deposit money banks in Nigeria. The specific objectives of this study entail.
i. Evaluate the effect of credit risk on the financial performance of quoted deposit money banks in Nigeria.
ii. Assess the effect of liquidity risk on the financial performance of quoted deposit money banks in Nigeria.

2.0 Literature Review

2.1 Financial Risk

Financial risk significantly influences a bank's investment choices, ultimately dictating its future path. Managers must constantly adapt tactics to the changing business environment tominimise financial losses and prevent company disasters. As per the studies conducted by Fali et al. (2020) and Ayeni and Emeka (2021), financial risk pertains to the potential for a company's decline resulting from excessive debt in its

capital structure, exacerbated by inadequate cash flows to handle these loans. According to Abubakar et al. (2020), financial risk is the possible deviation between anticipated and realised returns, emphasising the inherent unpredictability of financial activities. Esther et al. (2023) elaborate on this idea and identify many components of financial risk, including credit, liquidity, market, and operational risks, which may substantially impact a bank's financial performance. Financial risk encompasses the possibility of financial losses or adverse effects on an organisation's financial performance caused by variables such as variations in interest rates, currency exchange rates, stock prices, default risk, and variances in liquidity. It includes the unpredictability and fluctuation in financial results that impact a company's competitive standing and overall financial success. Financial risk management encompasses recognising, quantifying, and reducing these risks to safeguard an organisation's financial stability and profitability (Ali & Oudat, 2020).

Financial risk refers to an organisation's vulnerability to possible losses arising from many variables (Ekaningtyas Widiastuti, 2023). Market fluctuations, characterised by volatility in interest rates, currency rates, and commodity prices, may significantly influence the value of assets, creating inherent uncertainty. Credit risk stems from the potential for borrowers to fail to make payments, whereas liquidity difficulties pertain to the inability to fulfil short-term commitments rapidly. Operational difficulties, such as system breakdowns or fraudulent activities, exacerbate financial risks. Furthermore, the strategic risk may be introduced by management's strategic choices (Hasan et al., 2020). Given these obstacles, it is essential to prioritise financial risk management. The process entails methodically finding, evaluating, and reducing these risks. Strategies such as hedging and diversification safeguard the financial stability of the company. Hedging is utilising financial instruments to counterbalance prospective losses, whereas diversification entails distributing investments across different assets to decrease the concentration of risk (Ntivuguruzwa et al., 2020). The primary objective of financial risk management is to achieve a careful equilibrium between risk and reward. Organisations strive to achieve stability, protect their financial well-being, and optimise overall financial performance in the ever-changing and unpredictable financial markets by employing effective risk mitigation strategies (Kamchira, 2020).

Investors and analysts seek to comprehend the financial risks mentioned by DMBs and the probability of profit or loss in their investment activities and operations (Natufe & Evbayiro-Osagie, 2023). Engaging in financial market activities may provide a significant edge in competition or strategy, primarily when the risks involved are well handled as part of the company's risk management plan. As Ayomide (2022) stated, the main aim of financial risk management is to mitigate the volatility in cash flows caused by exposure to financial risks. Through a comprehensive comprehension of risk management, DMBs may enhance their ability to predict future outcomes by guaranteeing the money to fulfil investment and dividend payment responsibilities. In addition, effective financial risk management aims to mitigate the influence of financial risk exposure on cash flows, which is the primary objective of financial risk management, as Ayomide (2022) stated. Deposit Money Banks (DMBs) can efficiently handle financial risk to maintain sufficient cash and prevent unnecessary expenses. Deposit money banks (DMBs) are financial organisationsspecialising in offering and marketing financial products to customers. These banks stand out by providing various services to their consumers, such as the synthesis and completion of financial products. Debt market brokers (DMBs) facilitate transferring, distributing, and selling financial instruments to customers. The selection of credit, liquidity, market, and operational hazards as the representatives of financial risk correspond to well-established risk classifications in the banking industry. Credit risk measures the probability of loan defaults, liquidity risk analyses the capacity to fulfil short-term commitments, market risk analyses the exposure to market changes, and operational risk focuses on identifying weaknesses in

internal operations. This extensive collection of risk indicators encompasses the complex and diverse aspects of financial risk management within the banking industry.

2.1.1 Credit Risk

Credit risk refers to the inherent risk that companies encounter when extending credit to their clients. This risk is also relevant to the bank's credit association with suppliers. When a firm provides financing alternatives to clients for their purchases, there is a possible credit risk since there is a chance that a customer may fail to fulfil their payment commitments. If a company fails to meet its accounts payable commitments, suppliers may cease to provide credit or terminate their commercial connection with the company. The term "credit risk" in this research pertains to a scenario whereborrowers fail to meet their financial commitments and default on their loans (Taiwo et al., 2017). This research quantifies credit risk by using the debt-to-income ratio, computed by dividing the total debt of the corporation by its operational revenue for each accounting period. Credit risk arises when borrowers cannot meet their financial commitments and fail to pay (Ayomide et al., 2022). The debt-to-income ratio is used as a metric to assess the level of credit risk. The ratio is determined by dividing the company's aggregate debt by its operational revenue for each accounting quarter. Credit risk refers to the possibility of suffering financial losses due to the inability of borrowers or counterparties to fulfil their contractual debt commitments (Natufe & Evbayiro-Osagie, 2023). The risk described is widespread in lending and financial operations since uncertainty related to borrower defaults may have significant consequences. Contributing factors to credit risk include the fiscal well-being of borrowers, prevailing economic circumstances, and obstacles particular to the sector. Efficient credit risk management requires a thorough and all-encompassing strategy (Maverick, 2021). Companies with lower ratios have more capacity for borrowing and a reduced likelihood of defaulting. A corporation's credit risk management strategies include decision-making frameworks designed to mitigate the likelihood of debtors defaulting on their repayment commitments, which may lead to the categorisation of credit assets and the provision of loss reserves (Prasanth et al., 2020). Identifying credit risk involves analysing the creditworthiness of borrowers by doing financial analysis and considering macroeconomic variables that impact their ability to repay. Analysing entails assessing the probability of default and the probable magnitude of loss, as well as effective measures to reduce risk, which include implementing suitable lending conditions, defining credit thresholds, and enforcing collateral prerequisites. In addition, credit risk is mitigated by diversification, which involves distributing exposure across many borrowers and businesses. The primary objective of credit risk management is to achieve an optimal equilibrium between enhancing lending prospects and limiting possible liabilities. Implementing prudent risk management techniques safeguards institutions' financial stability by protecting the integrity of their loan portfolios and maximising their overall financial performance. This procedure is crucial for maintaining the soundness and ability of financial institutions to withstand changing economic circumstances and possible difficulties arising from borrower defaults (Prasanth et al., 2020).

2.1.2 Liquidity Risk

Liquidity risk pertains to the potential for an organisation to be unable to fulfil its responsibilities to creditors or finance adjustments in assets when they come due without incurring excessive expenses or losses (Nguyen et al., 2021). Maverick (2021) defined liquidity risk as the combination of asset liquidity and operational finance liquidity, andasset liquidity refers to a company's capacity to rapidly convert its assets into cash to address unexpected cash flow requirements. Operational liquidity is the capacity to fulfil daily cash flow needs to maintain company operations. Businesses need liquid assets to fulfil their cash requirements swiftly (Gessesow&venkateswarlu, 2023). A financial asset is seen to be liquid if readily

converted into cash without incurring substantial losses, even under typical market circumstances (Wuave et al., 2020). Liquid assets encompass currency, deposits, and other financial assets that can be accessed immediately or within three months. Additionally, they include securities that can be easily converted into cash without a substantial risk of value fluctuation under typical business circumstances. This category also includes securities traded in liquid markets, such as repo markets (Al-Ardah & Al-Okdeh, 2022).

The liquidity ratio, as defined by CBN (2024), assesses a bank's capacity to endure restricted financing access and a precipitous decline in deposit levels by comparing its liquid assets to its total assets. The liquidity ratio established by the CBN has stayed constant at 30% from 2010 to 2020, as reported by CBN in 2022. The Policy Guidelines (PG) specify the liquid assets that can be used to calculate the liquidity ratio. These assets include cash, the balance held with the CBN, net balances held with banks within Nigeria, Nigerian treasury bills and certificates, CBN registered certificates, net inter-bank placement with other banks, total certificate of deposits, FGN bonds, stabilisation securities, and any other assets that the CBN may prescribe from time to time (CBN, 2014). The Policy Guide (PG) also delineates scenarios where a bank may encounter a lack of liquidity and the corresponding regulatory measures that may be imposed on the bank in such circumstances. Sathyamoorthi et al. (2020) assert that liquidity and competent management are essential for banks. Liquidity refers to a bank's capacity to meet its financial commitments and maturing liabilities within a specific term. The authors highlight the crucial role of liquidity in determining the sustainability of commercial banks. They underline that a decrease in liquidity might undermine the faith and confidence that the public has in these institutions. Assessing liquidity is crucial for financial institutions. An approach to this is using the Loan Deposit Ratio (LDR) as outlined by the CBN in 2010.

The LDR, or Loan-to-Deposit Ratio, measures the efficiency of the banking system in using deposits to generate loans (Osamwonyi &Ogiugo, 2020). A bank's ability to generate revenues is directly proportional to the number of deposits it receives since this increases the number of loans it can provide. Nevertheless, if a bank is required to get funds to provide loans to consumers, it will have reduced profit margins and an increased level of debt (Emmanuel et al., 2023). In contrast, if a bank needs more funds to lend, the deposits will be retained on its balance sheet without generating income. The Loan Deposit ratio (LDR) is determined by dividing the total amount of loans by the total amount of deposits and multiplying the result by 100. As stated by Emmanuel et al. (2023), liquidity pertains to the velocity at which a bank may transform its existing assets and other easily accessible resources into cash in order tofulfil customer requests and reserve obligations. Additionally, they argue that maintaining sufficient liquidity levels demonstrates the bank's capacity to retain depositors and enhance savings. Derbali (2021) states that bank management guarantees compliance by maintaining minimal liquidity levels and maximising the bank's resources. Regulators have the duty of guaranteeing compliance. Furthermore, according to Wuave et al. (2020), effectively handling liquidity risk is paramount in the banking sector since one institution's lack of available funds might result in widespread financial turmoil.

2.2 Financial Performance

Financial performance assesses the efficiency of a corporation's resources to create revenue (Apochi et al., 2022; Saleh, 2022). Every firm, including banks, strives to optimise its profitability. The banking sector's robust financial performance enables it to withstand unfavourable shocks, promotes stability in the financial system, and provides shareholders with substantial investment returns (Saleh, 2022). A bank's strong profitability indicates that it has effectively overseen its sales, assets, and investments in its operational activities to generate profit. Assessing financial performance is crucial in the field of financial

management. Financial performance indexes are independent and unbiased concerning the unit of analysis. The indices thoroughly assess several performance parameters and externally verify their accuracy (Imeokparia et al., 2021). Financial performance indicators may be categorised into many areas, including accounting metrics, market metrics, growth metrics, hybrid accounting metrics, company survival metrics, and operational measures (Dhamotharan & Selvam, 2019). The financial statements are produced by the company's accounting rules, which include the balance sheet and are officially acknowledged (Mehmood & De Luca, 2023).

Academics use accounting standards due to their many benefits. These indices are the most readily accessible indicator of a company's financial success (Adeghe et al., 2019). Furthermore, the study indicates a strong correlation between a company's accounting performance and crucial economic returns (Cho et al., 2019). Furthermore, the accounting indicators pertain to the tangible results of the company's operations, as reported in its statement of financial condition (Bekele, 2023). However, experts have lately identified some drawbacks of accounting systems, contrasting the benefits above. A significant drawback of accounting standards is their focus on the organisation's historical performance. Therefore, these indicators provide limited advantages in directly evaluating and analysing future performance (Prasetiawatia&Sudanab, 2019). Furthermore, while establishing the framework for each company's accounting concept, using accounting measures enables corporations to influence the returns connected with them strategically. For example, when a corporation decides how to calculate inventory, expenses, or amortisation programmes, it impacts the related accounting figures and allows for comparisons across other organisations (Wally et al., 2023). Due to variations in accounting standards across various nations, it is essential to exercise caution when comparing firms from different countries using accounting-based indices (Wang et al., 2023). Despite the potential drawbacks, accounting-based measurements are the most widely used financial performance indicator across many industries. Akotia (2023) indicated in a thorough literature study that accounting measurements comprise more than 40% of the company performance indicators used by academics. Researchers use a diverse array of indicators as components of accounting metrics. In a separate literature review, Ahmeds et al. (2021) identified additional accounting metrics used by academic researchers to gauge company performance. These metrics include earnings before interest, taxes, depreciation, and amortisation (EBITDA), earnings and taxes before interest (EBIT), and return on equity invested.

2.2.1 Returnon Assets (ROA)

ROA is a financial metric that quantifies the efficiency of a bank's management in using business assets to create money (Ummah et al., 2023). ROA is a financial measure that evaluates a company's effectiveness in using its assets to create profits. ROA, or return on assets, measures how efficiently a firm generates profits from its investments. It is calculated by dividing the net income by the average total assets. This metric offers valuable information about the company's operational performance and asset management and provides valuable perspectives on a company's operational effectiveness and utilisation of assets. The standardised metric facilitates performance comparison across sectors, assisting investors in assessing management efficiency and identifying prospective areas for enhancing overall profitability via improved asset deployment (Teshome et al., 2018). Ayeni and Emeka (2021) argue that the return on assets is the most influential metric for assessing a company's profitability. This is because it is not affected by large equity multipliers, providing a more accurate reflection of the company's capacity to create returns from its assets. Without implementing effective risk management techniques, attaining superior performance in the face of financial, market, liquidity, and operational concerns may be challenging. Return on assets is a performance

metric that analyses a company's net profit as a proportion of its total assets. This metric indicates the efficiency of the company's management in creating profit from its assets (Ololade et al., 2023).

2.2.2 Earnings per Share (EPS)

EPS is a financial measure that indicates the amount of a company's profit assigned to each share of common stock currently held by shareholders (Chen et al., 2023). EPS, or earnings per share, measures a company's profitability per share. It is calculated by dividing the net income by the weighted average number of shares. The benefits of this include offering a distinct measure of a company's capacity to make profits for shareholders, assisting investors in evaluating its financial performance, and enabling comparisons across other companies. EPS is a vital measure for assessing a company's profitability per share and plays a crucial role in investment research and decision-making (Chen et al., 2023). EPS is a vital measure indicating the profit portion assigned to each existing share. It significantly impacts market prices and influences the choices made by investors (Ajao & Oseyomon, 2019). A higher EPS indicates improved profitability and increases stock prices, while a lower EPS might cause a price decline. EPSis crucial in valuation procedures, such as the price-earnings ratio. It significantly influences strategic choices, such as mergers and acquisitions (Osemwegie-Ero et al., 2023). Although EPS is widely used and well-liked, detractors contend that it fails to take into account stock expenses and may result in a focus on short-term management goals, disregarding long-term strategic factors. Nevertheless, EPS continues to be extensively used and significant, acting as a crucial benchmark for financial success, especially when evaluating bank performance in conjunction with operational efficiency and financial measures (Osemwegie-Ero et al., 2023). This research examines two financial performance metrics: ROA and EPS. ROA is a financial metric that quantifies the efficiency of a bank's management in using business assets to create revenue. EPS is a metric that reflects the market performance of a company and serves as the foundation for evaluating its value for prospective investors. ROA and EPS provide a comprehensive assessment of financial performance. ROA explores operational efficiency, wide application, and asset management, while EPS focuses explicitly on shareholder value, transparency, clarity, and profitability. The amalgamation of these measures offers stakeholders, including investors and management, a thorough comprehension of how proficiently a firm uses its resources to produce returns and establish value for its owners. The banks being evaluated are listed on the NGX, which interests current shareholders and new investors.

2.3 Relationship between Financial Risk and Financial Performance

The financial sector is subject to extensive regulations, with banking often seen as the industry with the most stringent regulations (Klingelhofer & Sun, 2019; Atellu et al., 2021). Insufficiently regulated companies are anticipated to have lower efficiency, resulting in reduced profitability, increased risk of bankruptcy, lower valuations, and limited shareholder dividends. In contrast, well-regulated businesses are expected to operate optimally, have lower bankruptcy risks and higher valuations, and distribute dividends to their shareholders (Lelissa & Kuhil, 2018). According to Atellu et al. (2021), implementing sound risk management strategies may provide many advantages to organisations, including increased access to finance, reduced capital costs, improved performance, and better treatment of stakeholders. Conversely, it has been said that inadequate financial risk management in the banking industry may impede development and innovation and result in unregulated and ill-considered risk-taking, resulting in subpar performance and systemic crises. Conversely, effective regulation may enhance investor trust and the availability of funds in the market (Anginer et al., 2018). Richard et al. (2019) posited that a bank's management decisions and policy objectives, such as liquidity level, provisioning policy, solvency, expense management, and bank size, as well as external factors like ownership, market concentration, stock market development, and

macroeconomic factors, have an impact on profitability as a measure of financial performance.

The increase in the number of banks, rapid expansion in financial intermediation and payment systems, and the boundless opportunities in mobilising and distributing money have grown more intricate (Ajao & Oseyomon, 2019; Frost et al., 2019). Furthermore, liberalising financial and authentic markets, increased competition and associated risks have made regulation unavoidable. These advancements need risk management measures to regulate banks' activities and safeguard depositors' cash. Hence, the size of a bank plays a significant role in governing its operations (Gurtner, 2010; Gabriel et al., 2019). In addition to accounting measurements, experts consider market-based metrics crucial financial performance indicators. Market-based metrics assess the valuation of a firm by using exchange rates or ratios in the market. Thus, these techniques only apply to state-owned organisations, private equity firms, or corporations acquired via intermediaries. They might potentially provide valuable transaction data to academic researchers (Onsongo et al., 2020). Koller et al. (2010) argue that market-based indicators accurately indicate a company's economic worth. Academics have a strong affinity for market-based measurements due to their distinct advantages. Market-based measures differ from accounting-based metrics in that they represent a firm's projected future cash inflows and outflows, considering the time value of money. This approach is highlighted by Butt et al. (2023). Hence, the market-based index demonstrates the utilisation of existing uncertainties and potential future business prospects (Cui et al., 2022). Furthermore, market-based indicators are the most accurate way to measure the firm's intangible asset base, as stated by Abubakar in 2020. Furthermore, market measures are seen as lacking any subjective assessments made by management, which sets them apart from accounting metrics. Ultimately, when considering the assumption of efficient financial markets, market-based indicators might potentially indicate the reverberations of changes in the market. The company's economic value is attributed to the acts taken by its management (Ekaningtyas Widiastuti, 2023). Raei & Najjarpour(2023) examine financial success from the viewpoints of accounting-based and market-based measurements: Financial performance was measured using accounting-based and market-based metrics, which were deemed dependent variables.

2.4 Theoretical Review

2.4.1 Financial Distress Theory

In 1971, Gordon put up a hypothesis on financial difficulty. Gordon (1971) defined financial hardship as the decline in a company's capacity to generate earnings, leading to an increased likelihood of defaulting on debt commitments. The increased likelihood of default is synonymous with financial risk. Whitaker (1999) specifically contended that financial difficulty starts in the first year when a company's cash inflows dip below the obligations of its long-term debt that is either due or has already matured. The theory of financial distress is a crucial framework that examines the reasons, outcomes, and methods to reduce the impact of a company's failure to fulfil its financial responsibilities. Evaluating the likelihood of bankruptcy and comprehending the factors contributing to financial hardship is essential. The financial distress hypothesis is essential in detecting early indicators and catalysts, enabling companies to take proactive steps towards financial restructuring or recovery. The idea acknowledges that excessive debt, inadequate liquidity management, economic downturns, and operational inefficiencies typically influence financial difficulty. The financial distress theory is critical because it is a diagnostic tool that helps enterprises and stakeholders make strategic decisions when dealing with complex financial situations. Ultimately, this theory contributes to financial markets' sustainable and robust functioning.

The limitations of financial distress theory arise from its dependence on idealised assumptions of complete

knowledge and rational decision-making. It often fails to include operational aspects while excessively depending on historical data, leading to a limited focus. The hypothesis is vulnerable to possible self-fulfilling prophesies, and its lack of capacity to reflect changing corporate contexts effectively impairs its forecasting accuracy. Acknowledging these limitations is crucial to improving the theory and getting a more thorough comprehension of financial hardship in intricate real-life situations. The appeal of financial distress theory stems from its capacity to provide a systematic framework for comprehending and forecasting the probability of a company encountering financial difficulties or insolvency.It provides valuable information on the variables and signs related to financial difficulties, helping stakeholders make preventive decisions. The theory's use of quantitative measurements enables unbiased examination, making it suitable for many businesses. Despite criticism, the theory is widely accepted because of its valuable contributions to risk assessment, strategic planning, and identifying appropriate actions to reduce financial hardship. This theory promotes a more knowledgeable and prepared approach for firms and investors.

According to many bankruptcy prediction models, it is possible to determine a company's financial well-being by analysing and interpreting its financial statements. The Altman Z-score bankruptcy predictor has been criticisedfor its limits in accurately forecasting enterprises' financial health overtime. There is a contention that the Z-score is not a very effective predictor of bankruptcy in the long term. Maricicia and Georgeta (2012) have shown that univariate ratio analysis is more effective in predicting long-term bankruptcy. The theory is beneficial to this research as it may be used to elucidate the impact of default risk of a bank's debt obligations on its performance. The likelihood of this risk may be forecasted by analysing financial statement data. The hypothesis also elucidates why academics believe that a notable negative correlation exists between financial risks (quantified by various financial parameters) and performance. Raising a bank's leverage levels leads to more financial hardship due to higher fixed interest and principal payback expenses, which has a detrimental effect on financial performance (Kanoujiya et al., 2023).

2.5 Empirical Review of Related Studies

During significant internal and external growth, Belinda and Irawati (2024) examined the correlation between interest rate risk, financial performance, and banking security in Indonesian banking organisations. The research used a quantitative analytic methodology and examined a sample of 24 commercial banks listed on the Indonesia Stock Exchange (IDX) from 2019 to 2022. The study examined the influence of interest rate risk on the degree of banking security and financial performance, with banking security level as a moderating variable. The research results showed that interest rate risk considerably impacts the degree of banking security and financial performance, directly and indirectly, by affecting the banking security level. This highlights the need to implement efficient risk management techniques in banks to protect their financial performance in the face of changing economic circumstances and growing competition. This study provides significant insights for banking executives in Indonesia, emphasising the need to prioritise risk mitigation initiatives to achieve consistent financial performance and stability in the ever-changing banking industry.

Okolie et al. (2023) investigated the influence of risk management on the financial performance of money deposit banks in Nigeria. The research discovered a discernible impact of interest rates on the financial performance of deposit banks in Nigeria. At a significance level of 5%, it was determined that the interest rate had a positive and statistically significant impact on many indicators of financial bank performance, including return on equity and return on assets. The study determined that risk management substantially impacted the financial performance of money deposit banks in Nigeria. The study used an ex post facto

research design. The researcher collected secondary data from five commercial banks' annual reports and accounts. Regulatory authorities should provide essential oversight and technical assistance. The primary justification for implementing regulations in the banking industry is to mitigate apprehensions about the security and resilience of financial institutions, the financial sector, and the payment system.

Oyerogba and Gbolagade (2023) examine the correlation between risk management and the financial performance of insurance businesses registered in Nigeria. The research focuses on analysing the influence of operational and liquidity issues on the return on assets of these organisations. The researchers used secondary data from annual reports and the Nigeria Stock Exchange fact book from2011 to 2017. They have used descriptive and inferential statistics to analyse the data. The study's primary conclusion is that operational risk has a favourable and considerable impact on the financial performance of insurance firms listed in Nigeria. Effectively managing operational risk may result in increased returns on assets for these firms. The researchers used a quantitative design as the research approach in this study. The financial performance of listed insurance businesses from 2011 to 2017 was determined by analysing the data using their financial statements. The Nigeria Stock Exchange chose 2011 as the most recent year in which an insurance business was included in its listings. The research indicates that insurance firms listed in Nigeria have sufficient internal procedures, personnel, and systems to reduce operational risks and improve their financial performance.

Udenwa (2023) investigated the impact of liquidity risk on the financial performance of publicly traded deposit money banks in Nigeria. Liquidity risk was assessed by calculating the ratio of loans and advances to total assets and the ratio of loans to total deposits. Conversely, Return on Assets (ROA) was used to assess financial success. The data were gathered from the yearly financial reports of each deposit money bank. The research used panel regression analysis to examine the data obtained from a sample of eleven (11) deposit money banks listed on the Nigerian Exchange Group between 2014 and 2021. The panel regression analysis showed that loans and advances to total assets and loans and advances to deposit substantially impacted the performance of the quoted deposit money banks in Nigeria. The research suggests that deposit money bank management should diversify their lending portfolios to mitigate concentration risk. Banks may mitigate the effect of defaults on their performance by diversifying their loan portfolio and spreading the risk. The Central Bank of Nigeria's directive to maintain the present loans to deposit ratio of 65% should be maintained. Nevertheless, it is essential for bank management to effectively oversee the development of deposits to guarantee enough cash to sustain their loan and advance operations. This might be accomplished by establishing suitable deposit rates.

Consequently, Bahri et al. (2022) examined how credit risk management affects the financial performance of foreign exchange banks in Indonesia. The research incorporates data from 39 banks, including government-owned and private institutions, from 2016 to 2020. The study employs a quantitative methodology to examine the correlation between credit risk management and financial success. The study's results suggest that credit risk (NPL) has a significant and favourable impact on financial performance, particularly on return on assets (ROA) and return on equity (ROE).The t-test analysis revealed a t-count value of 2.783 for the comparison between NPL and ROA, which was more statistically significant than the t-table value. This suggests a substantial relationship between the two variables. The t-test showed a significant level of 0.006, showing that the impact of NPL on ROA is statistically significant. The t-test comparing NPL and ROE resulted in a t-count value of 4.298, which is more significant than the t-table value. The significance value of 0.000 indicates a strong positive impact of NPL on ROE. The results

indicate that non-performing loans (NPLs) might provide significant insights for foreign exchange banks when developing strategies to improve their financial performance.

Abdullahi and Tela (2022) investigated the influence of risk management on the financial performance of deposit money banks publicly listed in Nigeria. The research examines 10 commercial banks in Nigeria over 12 years, from 2009 to 2020. The research revealed that liquidity risk has a substantial and favourable effect on the profitability of deposit money banks listed in Nigeria. The research found that credit risk negatively influences the profitability of deposit money banks listed in Nigeria. The research revealed that interest rate risk substantially affects the profitability of deposit money banks listed in Nigeria. The study used a quantitative research methodology and utilised secondary data obtained from selected institutions' annual reports and accounts—the data covered twelve years, from 2009 to 2020. The research suggests that banks should reduce their interest rates to attract more borrowers who are more likely to repay their loans and repay the principal amount. This is recommended to decrease borrower defaults and enhance the volume and velocity of successful bank advances and loans.

Abu-Rumman et al. (2021) explored how risk management affects the financial performance of banks in Jordan. The authors highlight the need for effective risk management in bank administration and examine the rules on risk management established by the Basel Committee. The argument is that reducing risk plays a vital role in determining banks' returns, emphasising the need to adopt a complete strategy for managing risk in banks. The essay posits that efficient risk management practices may mitigate avoidable risks and regulate financial disbursements. The results indicate that implementing efficient risk management strategies substantially influences the financial outcomes of banks operating in Jordan. The research piece used a quantitative technique. The researchers administered questionnaires to 300 participants and obtained replies from 123 individuals. A regression analysis was performed to examine the findings and ascertain the correlation between risk management and financial success.

Bundi et al. (2021) examined the correlation between implementing financial risk management practices and the financial performance of microfinance banks in Kenya. The research discovered a robust and favourable correlation between using financial risk management strategies and the financial performance of microfinance banks in Kenya. The research analysed four financial risk management strategies (credit risk management, liquidity risk management, operational risk management, and market risk management). It determined that they had a substantial influence on the financial performance of microfinance institutions. The research demonstrated that effective financial risk management is essential for ensuring the stability and profitability of microfinance institutions. Inadequate financial risk management techniques were a recurrent factor contributing to the poor financial performance of microfinance banks. The results indicate that every financial risk management strategy substantially influences the financial performance of microfinance banks in Kenya. The research emphasises the need to develop efficient systems and procedures for managing financial risks to enhance microfinance institutions' financial performance. The researchers used a descriptive survey approach. The target audience included all 13 licensed Microfinance Banks (MFBs) in Kenya as of December 2020. The research used a census survey of 65 participants, including five managers from each MFB. Data from both primary and secondary sources were gathered for the research. The collection of primary data included the use of structured questionnaires. At the same time, panel data was acquired from the annual supervision reports of the Central Bank of Kenya (CBK) over six years, spanning from 2015 to 2020. The research used multiple linear regression analysis to ascertain the correlation between variables. The acquired data was analysed using descriptive and inferential statistics,

using SPSS version 25.

Jegede et al. (2021) investigated the correlation between financial risk management and the financial performance of Nigerian DMBs that are authorised globally. The study's results suggest a notable correlation between managing financial risks and the financial success of Nigerian DMBs authorised to operate overseas. The study demonstrates that various aspects of financial risk management, such as capital adequacy ratio, total regulatory capital, cost-income ratio, and net interest margin, exert a substantial influence on the financial performance indicators of these banks. These indicators include return on assets, equity, and Tobin's Q (market value). This implies that the successful management of financial risks has a beneficial impact on the financial performance of Nigerian Deposit Money Banks authorised to operate globally. The research design used in this study is ex post facto. The analysis is performed using panel regression. The analysis covers the time frame spanning from 2012 to 2019.

Achimugu et al. (2021) examined how financial risk affects the profitability of deposit money banks in Nigeria that are listed on the stock exchange. This statement highlights the need to implement efficient risk management and monitoring systems to decrease financial instability and improve the operation of financial institutions. The return on assets (ROA) of quoted deposit money banks in Nigeria is heavily impacted by credit risk. Consequently, any rise in credit risk will directly affect the bank's profitability. Interest rate risk heavily affects the return on assets of quoted deposit money banks in Nigeria. Efficiently managing interest rate risk is essential for optimising the profitability of this bank. Liquidity risk significantly impacts the return on assets of deposit money institutions publicly traded in Nigeria. The profitability of these institutions will decrease as liquidity risk increases. The research used a panel random effect regression model as its approach. The research obtained data from the annual reports and financial statements of 14 selected deposit money banks in Nigeria, which were analysed using STATA 13 software.

3.3 Methodology

3.3.1 Research Design

Based on the positivist perspective, which focuses on gathering and analysing quantitative data, emphasising measurement, analysis, control, and reliability, the chosen research design is ex post facto. This design is suitable because it utilises secondary data from the Nigerian Exchange Group (NGX) and annual reports from thirteen banks. Its primary focus is to provide a conceptual foundation for determining the feasibility and guaranteeing the validity and sufficiency of various forms of knowledge. Due to the reliance on existing events and the need to utilise data given by the banks being investigated, an ex-post facto research technique was used for the study. Ex-post facto is a quasi-experimental design that relies on real-life observations, particularly regarding group differentiation and data analysis, but it is not an actual experiment. The ex-post facto design is a direct result of natural history. It emulates genuine experimentation by contrasting individuals/variables from distinct groups with equivalent backgrounds and overall circumstances. The research approach is favoured due to its use of quantitative statistical data to draw conclusions and elucidate the impact of financial risk on the performance of listed deposit money banks in Nigeria. The variables analysed included EPS and ROA as measures of the performance of the listed deposit money bank, which is the variable being studied. In contrast, credit, market, operational, and liquidity concerns were included as independent factors. The focus was on the financial danger that has occurred in Nigerian banks. This technique enables researchers to analyse the interconnectedness among

different factors within a single study. Additionally, it allows a researcher to analyse several factors, individually or in combination, that might potentially impact the phenomena being studied (Kumar, 2018). This research design is appropriate for a study that examines the correlation between variables, which is the study's primary objective. The study was conducted in a value-free manner, using logical reasoning and measurable factors. Researchers formulated hypotheses, conducted experiments, and verified them while analysing data to conclude.

3.2 Population of the Study

According to Yao(2023),the study population consist soft he events people, or records that contain the data needed for the study. The study's target population comprised all thirteen(13)licensed DMBs quoted on the Nigerian Exchange Group (NGX). All the quoted deposit money banks are up to 10 years on the Nigerian Exchange Group (NGX) platform, and the list is shown in Table 3.1 below:

Table1: List of Quoted Deposit Money Banks in Nigeria as of 31December2023

S/N	Bank	License Type	Year Founded
1	AccessBankPlc	International	1989
2	Ecobank Plc	National	1989
3	FBNHoldingsPlc(FirstBank)	International	1894
4	FCMBGroupPlc	International	1982
5	FidelityBankPlc	International	1988
6	GuarantyTrustBankPlc	International	1990
7	StanbicIBTCHoldingsPlc	National	1989
8	SterlingBankPlc	National	1960
9	UnitedBankofAfricaPlc	International	1949
10	UnionBank Plc	International	1917
11	UnityBank Plc	National	2006
12	WemaBankPlc	National	1945
13	ZenithBankPlc	International	1990

Source:(CBN, 2023)

3.3 Sample Size and Sampling Technique

The population was adopted as the sample size was a census study, i.e., the study was based on the complete data from the individual DMB quoted on the Nigerian Exchange Group (NGX). This is made possible because of the small population. It also bestows on the analysis, reliability, and elimination of sampling errors (Adeghe et al., 2019).

3.4 Sources and Methods of Data Collection

Data collection is used to get information from the investigated population (Whang et al., 2023). This analysis included all quoted deposit money banks in Nigeria.A panel data frame was used to analyse data from 2015 to 2023, focusing on two financial hazards (credit and liquidity risks) and the control variables of bank size and performance (PPS and ROA). The analysis included both cross-sectional and time series data. The data required to fill the panel was generated by calculating each variable and its proxies using a method modified from the literature (Ahmed et al., 2019; Ayeni & Emeka, 2021; Akotia et al., 2023). The use of panel data was chosen due to its ability to analyse the performance of individual firms over time and across different locations (Dabbous et al., 2023). The variables used in this study are sourced only from secondary data. Specifically, they are obtained from the published annual reports of thirteen (13) publicly traded

banks. The data covers ten years, from 2015 to 2023, the timeframe being analysed. This yields one hundred and thirty (130) data points. The obtained data pertains to the subject topic. Akotia et al. (2023), Dabbous et al. (2023) and Lim (2023) have also contended that doing secondary analysis of pre-existing data is a cost-effective and time-efficient approach since data gathering is usually the most laborious and costly aspect of research work.

3.5 Method of Data Analysis

The secondary data was examined using inferential and descriptive statistics. Descriptive statistics describe the characteristics of the data that has been collected and examined. Minimum, maximum, mean, and standard deviation were employed as descriptive statistics presented in tables. At a 5% significance level, inferential statistical techniques were applied to assess thehypotheses. Thecorrelation coefficient was used to determinethestrength ofthe relationship between the variables. The link between the variables was investigated using the Panel Regression Method.

3.5.1 Regression Stages of Panel Data

To address the objectives and questions, the study evaluated the impact of financial risk on the performance of deposit money banks listed in the Nigerian financial sector. Using a suitable estimate strategy for empirical analysis is crucial to ensure the trustworthiness of the resulting conclusion. Nevertheless, there are notable challenges associated with estimating the model above. The explanatory factors may be endogenous and potentially inaccurate. Certain crucial variables, such as the initial technological level and other effects specific to the location, are not observable and thus are not considered during the estimation process. Applying ordinary least squares (pooled OLS) or within-group estimations to estimate this panel data model may lead to inaccurate outcomes due to bias. Blundell and Bond (1998) stated that OLS has faced significant criticism because it lacks clarity about econometric theories. They additionally contended that pooled OLS suffers from the limitation of truncating zero values of dependent variables, thereby conveying inaccurate information. Furthermore, addressing the issues of heteroscedasticity and unobserved heterogeneity, which are the main challenges in panel data estimation, is one reasonspecific authors have expressed skepticism about using OLS (Fomby et al., 1984). Traditionally, according to econometric principles and the established models in this research, the average and fluctuations of the error terms would be influenced by their higher moments.

The Panel Data Regression Method is deemed appropriate for resolving this issue. Panel data regression analysis is a statistical method used to analyse data structured as panel data. Ordinary Least Squares (OLS) is a commonly used method for estimating parameters in regression analysis when dealing with cross-section data. The Panel Data Regression Method, known as the Best Linear Unbiased Estimation (BLUE), will provide the most accurate and unbiased estimation result. Data Panel Regression utilises cross-sectional data and time series, capturing the same unit's cross-section at various points in time. Panel data refers to data collected from a cohort of individuals observed and recorded over time. Given T periods (t = 1, 2,..., T) and N individuals (I = 1,2,..., N), the total number of observation units in panel data will be N x T. The data is balanced if the cumulative unit time is the same for each /cross-section. When the quantities of time units differ for each participant, it is termed an imbalanced panel. There are three approaches for estimating the regression model using panel data: Pooled Least Square (PLS) or Common Effect Model. The easiest way is to adopt a panel data model containing time series and cross-section data. Because this model does not incorporate time and individual dimensions, the assumption is that businesses' data behaviour is constant throughout periods. The panel data model is estimated using the OLS or the least square

technique. Equations 3.1 and 3.2 are instances of the standard effect model.

Fixed Effect Model (FE): This model assumes that individual differences can be accounted for using different intercepts. These different intercepts can arise due to work, managerial, and incentive culture changes. To capture these differences, a dummy variable technique was employed to estimate a Fixed Effects model using panel data, which allows for comparing intercepts across firms. However, it should be noted that the intercepts remain consistent within each firm. The Least Squares Dummy Variable Technique (LSDV) is another term for this estimated model. The fixed effect model differs from the joint effect model, although it still adheres to the ordinary least square principle. Given that the assumption of a constant intercept for each cross-section and period is less realistic, multiple models must account for these differences. Fixed effects suggest that varying intercepts can address individual differences across different sections. The dummy variable strategy estimates the Fixed Effects Model with varying intercepts for different individuals. The fixed effect model is stated below:

$EPS_{it}=\beta_0+\beta_1 CRSK_{it}+\beta_2 LIQSK_{it}+\delta_i+\mu_{it}$ (1)

$ROA_{it}=\beta_0+\beta_1 CRSK_{it}+\beta_2 LIQSK_{it}+\delta_i+\mu_i$(2)

Equations 1 and 2 are the fixed effect models for the current study, with δ_iI am representing the fixed effect.

Random Effect Model (RE): This model will estimate panel data with linked interference factors across time and people. The error factors in the Random Effect model of each organisation account for the differences between intercepts. The Random Effect model has the benefit of mitigating heteroscedasticity. The model may also be called the Error Component Concept (ECM) or Generalized Least Square (GLS) approach. The random effect model differs from the joint and fixed effect models by using the concept of maximum probability or generic least squares rather than the principle of ordinary least squares. The random effect model is stated as follows:

$EPS_{it}=\beta_0+\beta_1 CRSK_{it}+\beta_2 LIQSK_{it}+\delta_{it}+\mu_{it}$ (3)

$ROA_{it}=\beta_0+\beta_1 CRSK_{it}+\beta_2 LIQSK_{it}+\delta_{it}+\mu_{it}$ (4)

Equations 3 and 4 are the random effect models for the current study, with $\delta_{it} I\ am$ representing the within error while μ_{it} is the between error term.

3.5.2 Pre-Estimation Test

It is necessary to verify the absence of unit roots in the variables since the accuracy of the estimations relies on this. This research conducted a panel unit root test at the level and the first difference to ascertain serial correlation. The Levin, Lin, and Chu Test and the Im, Pesaran, and Shin Test were employed to assess the variables' stationarity, following Engle and Granger's perspective (1987). Engle and Granger argue that if a model exclusively incorporates stationary variables, it is reasonable to assume that the estimates follow a normal distribution, allowing for the calculation of confidence intervals (Muhammed, 2023). Conversely, non-stationarity might provide inaccurate outcomes when tests are used in certain circumstances. This was achieved by evaluating the data in its initial state (level) rather than examining the equation's changes in values. As per the standard expectation, the variables should be integrated of order I(0) in levels and integrated of order 1 (I(1)) in the first differences. The variables must be either I(1), meaning they are stationary in first differences or integrated in the same order.

3.5.3 Diagnostic Tests (Selection Method of Regression Data Panel)

Toselectthemostappropriatemodel, severaltestsweredoneaslisted below:

Hausman Test*:* The Hausman testisastatisticaltestthat selects whether the most appropriate fixed or random effect model is used.

IfResult:Ho: SelectRE (p>0.05)or H1:Select FE(p <0.05)

Lagrange Multiplier Test*:* The Lagrangemultipliertest(LM)isatesttodeterminewhetherthe Random Effect model is better than the Common Effect (PLS) method used.

IfResult:Ho:Select CE(p>0.05)or H1:SelectRE(p <0.05)

TestofMulticollinearityusingVarianceInflation Factor(VIF)

Collinearity refers to the situation where independent variables are strongly associated. On the other hand, Multicollinearity occurs when independent variables are highly correlated, making it challenging, if not impossible, to distinguish the individual effects of each variable on the dependent variable, as stated by Scott and Wild (1986). Synchronisationis when two or more independent variables move in the same direction and at the same pace. M*inimumcondition (<13) fornon-collinear;(>13) for collinear*

However,wereliedon Hausman'stestmodelselection criterioninthisstudy.

3.5.4 Model Specification

Usingpaneldata,itispossibletoincludetimeeffects andcontrolforindividualheterogeneity captured by bank-specific fixed or random effects components. This leads to biased results when neglected in cross-section or time series estimations (Alam et al., 2023). In financial intermediation,performanceproxiedbyreturnonassetsandearningspershareisafunctionof how well a bank manages the critical financial risk indicators that moderate the risk appetite and capacity to undertake transactions. As explained earlier in the study, those indicators are credit and liquidity risk. Testing the effect of size on performance is also expedient.

Sing the modelshownbelow:OA_{it}=X_0+X_1LIQSK_{it}+X_2CRSK_{it}+X_3BSIZE_{it}+e...(1)

Where:

ROA_{it}=ReturnonAsset(asaproxyforperformance)forbank(i)andattime(t)

X_o =Constant

X_0,X_1,X_2,X_3,X_4,X_5= Coefficients LIQSK=Liquidity Risk

CRSK=Credit Risk

BSIZE= Bank size

e=Errorterm it= At time ts

Aprioriexpectation:X1>0,X2>0,X3>0,X4<0,andX5>0

This study has similarities to the study being undertaken in that two (2) independent variables (liquidity and credit risks) and one dependent variable - the return on assets adopted as the proxy for performance-arestandardtothetwostudies.Theareas of difference are that the bank size is a control variable in the current study while it is an independent variable in the referenced study. Furthermore, there is an additional dependent variable–earningspershare(EPS)inthecurrentstudyandthenumberofyearscoveredinthe currentstudyisten(10)asagainstfive(5)intheAdegheetal.(2019)study.Lastly,thenumber ofbanksconsideredisthirteen(13)inthecurrentstudyas opposedtotwelve(12)inthestudy by Adeghe et al. (2019). Deriving from this, the above model was adapted and modified by adjusting for the variables and having two models instead of one. The dependent variable (performance) is viewed from the perspectives of EPS and ROA. The adapted model is as shown below:

$EPS_{it}=\beta_0+\beta_1 CRSK_{it}+\beta_2 LIQSK_{it}+\beta_3 BSZ_{it}+\mu_{it}$...(3.1)
$ROA_{it}=\beta_0+\beta_1 CRSK_{it}+\beta_2 LIQSK_{it}+\beta_3 BSZ_{it}+\mu_{it}$...(3.2)

Where:
EPSit=EarningsPerShare(asaproxyforperformance)forbank(i)andattime(t) ROAit=Return on Assets (as a proxy for performance) for bank (i) and at time (t) β_0= Constant
β_1,β_2 and β_3,=Coefficients
CAR=Credit Risk
LIQSK=LiquidityRisk
BSZ=BankSize(TotalAssets) μ = Error term
it=At time ts
TheAprioriexpectation:$\beta_1>0$,$\beta_2>0$,$\beta_3>0$
Source: AdaptedfromAdegheetal. (2019)

BelowistheTablethatdefineshowtheindependent,dependentandcontrolvariablesadopted in the models are measured:

Table2: Measure of Variables

S/N	Code	Variable	Type	Measurement
1	EPS	Earnings Per Share	Dependent	Net income after tax / Total outstanding shares (Ololade et al., 2023).
2	ROA	Returnon Assets	Dependent	ProfitAfterTaxX100 TotalAssets(Wallyetal.,2023).
3	CRSK	CreditRisk	Independent	Total Debt/OperatingIncome (Ayomide et al., 2022).
4	LIQSK	Liquidity Risk	Independent	CurrentAssets/CurrentLiabilities (Wuave et al., 2020).

3.5.5 Decision Rule for Hypotheses

Two hypotheses were formulated for each variable; one stated the null hypothesis, while the other noted the alternative hypothesis. The null hypothesis would be rejected if the p-value < 0.05; hence, the alternative hypotheses would be accepted. Also, if p-value > 0.05, the null hypothesis would be accepted, and the alternative hypothesis would be rejected (Muhammed, 2023).

4.0 Analysis and Results

4.1 Descriptive Statistics

Table 3 presents the descriptive statistics of the variables of interest in this study, showcasing their characteristics such as the mean, median, minimum, and maximum values, standard deviation, kurtosis, and Skewness. These features of the datasets give the researcher foresight into the specific behaviour expected of the data during analysis and how to address such behaviour before venturing into the analysis properly.

Table 3: Summary of Statistics on the Effect of Financial Risks on the Financial Performance of Quoted Deposit Money Banks in Nigeria

	ROA	EPS	CRSK	LIQSK	BSIZE
Mean	1.404446	146.9264	9.885385	39.73908	361.4231
Median	1.293500	84.00000	5.005000	36.72000	267.0000
Maximum	7.000000	734.0000	98.00000	87.80000	895.0000
Minimum	-11.08000	-1266.000	1.200000	11.63000	126.0000
Std. Dev.	2.235691	223.2264	17.30591	13.45001	215.6788
Skewness	-1.985358	-1.032406	4.205667	1.333886	1.239730
Kurtosis	12.70783	14.93455	20.22144	5.319567	3.380518
Observations	130	130	130	130	130

The descriptive data in Table 3 indicate that the mean is 1.404446, with a range between -11.08000 and 7.000000 and a standard deviation of 2.235691. This indicates that some banks included in the sample had losses during specific years, while in other periods, they generated profits from their investments in assets, which aligns with business expectations. The fact that the standard deviation exceeds the mean ROA provides further validation for the variances across different enterprises and periods. The EPS exhibit a consistent pattern, with an average EPS of 146.9264 kobo. The EPS values ranged from -1266.000 to 734.000 kobo, indicating a wide range of variability. The standard deviation of EPS is 223.2264 kobo, significantly higher than the mean EPS. This suggests substantial variations in EPS among different banks and periods, reflecting each bank's diverse portfolios and financial market viability. The impact of business cycle elements, such as inflation and currency rate volatility, significantly affects the fluctuation in returns and profits on banks' investments. These factors have significantly negatively impacted the nation's economy, deterring local and international investment. The credit risk had a mean of 9.885385 and ranged from 1.200000 to 98.00000. It had a standard deviation of 17.30591, higher than the mean. They assess differences in credit risk across banks and over time-based on the creditworthiness of each bank and the prevailing economic conditions in the nation's financial market. The studied banks exhibit moderate variance in liquidity risk, as shown by a mean of 39.73908, standard deviation of 13.45001, and range of 11.63000 to 878000. However, this variation is less significant than in ROA, EPS, and credit risks.

This is because the standard deviation is lower than the mean value. To determine the overall standard deviation of a sample from the mean, statistical analysis predicts that the standard deviation will be greater than the mean value. Therefore, there is heterogeneity across banks throughout different periods, but it is impossible to draw conclusions based on cross-sectional analysis. In addition, the distribution of the customer base within the banking industry in Nigeria corroborates this result; many banks have a more extensive client base than others, affecting their respective liquidity levels—the liquidity rate of 39.73908% above the 30% rate set by the CBN. However, in addition to the selected DMBs in this research, as of January, the market liquidity rate was 42.83%, which exceeded the CBN rate by 12.83%. A significant finding from the descriptive statistics is that there are disparities across banks regarding risks that are influenced internally but not by factors beyond the institutions' control. Operation risk and credit risk exhibit variations among banks due to their ability to exert significant influence over their credit to customers and operational conditions. Additionally, the CBN regulates credit facilities by setting credit rates, which the banks often fail to comply with. The average bank size, represented by the variable BSIZE, is around 361 branches.

The range of bank sizes throughout the nation varied from 126 branches to 895 branches, with a standard

deviation of roughly 216 branches. It is worth noting that the standard deviation is less than the mean bank size. Therefore, the size of the banks varied depending on the number of branches each bank had nationwide. Therefore, there is more variability in periods inside individual banks than across different banks. One significant limitation to the quick expansion of banks is the substantial expenses incurred, including capital and labour expenditures. Furthermore, the 2009 global financial crisis significantly impacted the banking industry, resulting in banks laying off employees to decrease costs and remain operational. This also resulted in these banks reducing the number of their branches. Initially, several banks had a more significant number of branches throughout various states in the nation than what is seen in the sample. The banks' 2008 annual report indicated the presence of more than 400 branches across Nigeria. In addition, the descriptive statistics indicate that return on assets and profits per share have a negative skew (skewed to the right). In contrast, credit risk, liquidity risk, and bank size have a positive skew (skewed to the left). Furthermore, all variables have a fat-tailed distribution with a kurtosis value above 3. This suggests that these variables have a high degree of peakedness.

4.2 Pre-model Estimation Test

Before proceeding with the estimation of the panel regression models to investigate the proposed hypothesis in this study, it is valid to check variable data for the presence of specific econometric properties that could undermine the robustness of the estimated output if not taken care of. This test, peculiar to the current study, includes the correlation, unit root, and variance inflation factor tests.

4.2.1 Correlation Analysis

Table 4 shows the correlation outcome for the current study, where the probability value is presented alongside the correlation coefficient. The purpose is to investigate the strength of the relationship between the response variable and the regressors and how linear or nonlinear such a relationship appears. Here, the correlation matrix presents the relationship between the interest variables and the effect of financial risk on the financial performance of Quoted deposit money banks in Nigeria.

Table 4: Correlation Analysis

Probability	ROA	EPS	CRSK	LIQSK	B SIZE
ROA	1.000000				

EPS	0.744279	1.000000			
	0.0000	-----			
CRSK	-0.431133	-0.226855	1.000000		
	0.0000	0.0094	-----		
LIQSK	0.086019	0.320620	-0.130982	1.000000	
	0.3305	0.0002	0.1374	-----	
B SIZE	0.052601	0.166463	-0.072838	0.083215	1.000000
	0.5523	0.0584	0.4102	0.3466	-----

Accordingly, correlation values range between -1 and +1, where 75% -99% depicts robustcorrelation, 50% -74% signifying strong correlation existing between interest variables, 35% -49% indicates a moderate correlation between the interest variable, 25% -34% implies weak correlation and less than 25% indicating a very weak correlation. The probability value is included to confirm the significance level further, which lends further credence to the stipulated correlation boundaries. It is observed from the correlation matrix in Table 4 that a hostile and moderate correlation exists between credit risk and return on assets. In contrast, a pessimistic but weak correlation exists between credit risk and earnings per share. However, no statistically significant correlation exists between liquidity risk and return on asset, but a positive and weak correlation exists between liquidity risk and earnings per share. It is further observed that bank size has a positive but insignificant correlation with return on asset and earnings per share, as shown in Table4. Finally, there are no reasons to suspect the multi-collinearity issues in the sample, which is the outcome of the correlation matrix. However, the most robust test for checking multi-collinearity, the variance inflation factor (VIF) test, is applied for reliable inference.

4.2.2 Test of Multicollinearity using Variance Inflation Factor (VIF)

Multicollinearity is considered an econometric issue where a robust correlation is observed between two or more regressors, making it almost impossible to distinguish the effect of each of the concerned regressors on the response variable. It simply captures the movement of two or more regressors moving simultaneously in the same direction and rate. Table 5 presents the variance inflation factor (VIF) result used to check for multicollinearity among the variables of interest.

Table 5: Test of Multicollinearity

	Collinearity Statistics	
ModelCoefficients[a]	**Tolerance (1/VIF)**	**VIF**
CRSK	.187	5.34
LIQSK	.932	1.07
BSIZE	.939	1.06

a. Dependent Variable: ROA& EPS

According to Table 5, there is no indication of multi-colinearity, as the VIF test outcome implied. This is valid, seeing that all the regressors show a VIF value of less than 6, which is well below the benchmark of less than 10 (Agubata et al., 2022). As a result, a robust outcome is expected by applying the panel least square estimators without necessarily logging the variables.

4.2.3Unit Root Test

The rationale behind conducting the unit root test is to ascertain whether the series has a unit root. A series that can be relied upon for making policy prescriptions or forecasts should be stationary, i.e., its statistical properties do not change over time. This is valid as a non-stationary series is bound to produce a spurious regression estimate, which can occasion misleading policy recommendations. According to a priori, a series should extend to a period of 20 years and above to fit in for unit root test; however, when dealing with panel data that requires the use of a panel linear estimator of fixed effect and random effect of which the Hausman test is needed to choose the most appropriate between them, the test for unit root become necessary even with a series with a shorter period. Thus, the Hadri unit root test is desirable for this unit root test (Agubata et al., 2022).

Table 6: Unit-Root Test Results

Ho: Panels contain unit roots Ha: Panels are stationary.		Number of panels Number of periods		13.000 10.000	
Xtunitroot	**Statistic**	**Statistic**	**p-value**		**Decision**
ROA	Intercept only*	4.53221	0.000		Stationary
	Intercept and Trend*	13.6063			
EPS	Intercept only*	5.38398	0.000		Stationary
	Intercept and Trend*	6.08588			
CRSK	Intercept only*	5.44924	0.000		Stationary
	Intercept and Trend*	12.2992			
LIQSK	Intercept only*	3.89369	0.000		Stationary
	Intercept and Trend*	10.7974			
BSIZE	Intercept only*	5.12898	0.000		Stationary
	Intercept and Trend*	8.62471			
*Stationary at level, i.e. (p-value < 0.05)					

Variable Keys:
ROA: Return on Assets
EPS: Earnings per share
CRSK: Capital adequacy
LIQSK: Liquidity
MRSK:
OPSK:
BSIZE: Bank size
Source: Stata 15 Output, 2024.

Table 7: Hadri Panel Unit Root Result

Variables	Hadri (Intercept only)	Hadri (Intercept and Trend)
ROA	4.53221***	13.6063***
EPS	5.38398***	6.08588***
CRSK	5.44924***	12.2992***
LIQSK	3.89369***	10.7974***
BSIZE	5.12898***	8.62471***

***, **, * imply significance at 1%, 5%, 10% level, respectively.
Source: Author's computation with data from firms' annual reports using E-views

The Hadri unit root test estimates are presented in Table 4.4. The test considered the case of intercept only and, alternatively, intercept and trend both at levels, as the theory demands that the variables of interest must all be stationary at a level to apply the Hausman. Accordingly, the unit root estimates show that all the variables are stationary at the level with intercept only and intercept and trend. This implies that the data is suitable for policy purposes.

4.3.3 Diagnostic Tests - Determination of Best Panel Regression Model

In investigating how different financial risks influence the financial performance of quoted commercial banks in Nigeria using the linear panel regression approach, a researcher is often faced with the choice of using theexpected effect, fixed effect or random effect model estimators. However, deciding which one to

use is done using either the Lagrange multiplier (LM) test to choose between the expected effect and random effect estimators or the Hausman test to choose between the fixed effect and random effect estimators. Thus, for this study, the Lagrange Multiplier and Hausman test results are presented in Tables 8 and 9, respectively.

Breusch and Pagan Lagrangian multiplier test for Random Effects

According to Table 8, at the 5% significance level, the LM test is statistically significant, suggesting the presence of random effect in the cross-section and invariably nullifying the viability of using the standard effect estimates for testing the proposed hypothesis in this study. Alternatively, the Hausman test is required to determine between the fixed and random effects, which is the most appropriate for testing the proposed hypothesis.

Table 8: Lagrange Multiplier Test (LM) for ROA model

ROA[CROSSID,t] = Xb + u[CROSSID] + e[CROSSID,t]

Estimated results:

	Varsd = sqrt(Var)
ROA	4.998315	2.235691
e	2.538115	1.593146
u	1.740929	1.319443

Test: Var(u) = 0
chibar2(01) = 52.96
Prob> chibar2 = 0.0000

Similarly, the Lagrange Multiplier result for model 2 (using EPS as the measure of financial performance), stated in Table 9, supports the presence of random effect in the cross-section, invariably nullifying the validity of adopting the common effect estimated output for testing the proposed hypothesis in the current study. This is shown by the p-value (0.000). Thus, the study will apply the Hausman test further to determine the most appropriate estimator between the fixed and random effect estimators.

Table 9: Lagrange Multiplier Test (LM) for EPS model

EPS[CROSSID,t] = Xb + u[CROSSID] + e[CROSSID,t]

Estimated results:

	Varsd = sqrt(Var)
EPS	49830.02	223.2264
e	25701.33	160.3164
u	15708.48	125.3335

Test: Var(u) = 0
chibar2(01) = 48.70
Prob> chibar2 = 0.0000

Hausman Test

Likewise, the Hausman test for model 1 (sing ROA as a measure of financial performance) has a p-value of 0.7090, which is statistically insignificant at all significance levels. Thus, the random effect estimate is more appropriate for the current data compared to the fixed effect and common effect estimators, as delineated in Table 10. Thus, the study utilises the random effect estimate to test the proposed hypothesis.

Table 10: Hausman test for the ROA model

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed	random	Difference	S.E.
CRSK	-.0319323	-.0367631	.0048308	.0051203
LIQSK	-.008811	-.002511	-.0063	.0058986
BSIZE	.0018406	.000919	.0009216	.0023875

b = consistent under Ho and Ha; obtained from strong

B = inconsistent under Ha, efficient under Ho; obtained from strong

Test: Ho: difference in coefficients not systematic

chi2(5) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 2.94 Prob>chi2 = 0.7090

Consequently, the Hausman estimate (using EPS as a measure of financial performance) shows a p-value of 0.215, which is statistically insignificant. This implies that the random effect is more appropriate than the fixed and common effect on the overall, as posited in Table 11. As such, random effect estimates are employed to test the proposed hypothesis for the current study.

Table 11: Hausman test for the EPS model

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed	random	Difference	S.E.
CRSK	-1.562727	-2.376544	.8138176	.2227827
LIQSK	.6726243	2.176926	-1.504302	.5119835
BSIZE	.7368197	.3072263	.4295934	.241043

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(5) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 7.08

Prob>chi2 = 0.215

4.4 Panel Regression Model - ROA and EPS as Measures of Financial Performance

Table 12 presents the panel regress results from the expected effect, fixed effect and random effect estimators with ROA and EPS (dependent variables) representing the measures of financial performance of

the quoted deposit banks in Nigeria. The model estimate in italics is the selected estimate for hypothesis testing as validated by the ML and Hausman tests. Thus, the random effect estimates arediscussed in the current study for the ROA and EPS models.

Table 12: Estimated Results: Panel Regression Model - ROA and EPS as Measures of Financial Performance

ROA	**Pooled Effect Model**			**Fixed Effect Model**			**Random Effect Model**		
	Coef.	**T**	**P>|t|**	***Coef.***	***T***	***P>|t|***	***Coef.***	***Z***	***P>|z|***
CRSK	-.0502442	-2.19	0.031	-.0319323	-1.52	0.132	*-.0367631*	*-1.80*	*0.072*
LIQSK	.0145643	1.10	0.274	-.008811	-0.56	0.575	*-.002511*	*-0.17*	*0.863*
BSIZE	.0006665	0.81	0.420	.0018406	0.64	0.521	*.000919*	*0.59*	*0.558*
_cons	-1.250042	-1.21	0.227	-.0873467	-0.06	0.950	*-.0857249*	*-0.07*	*0.941*
Number of groups	NA			13.0000			*13.0000*		
Number of obs	130.0000			130.0000			*130.0000*		
F(5, 124)	8.90			4.00			*6.24*		
Prob > F	0.0000			0.0022			*0.0000*		
R-squared	0.2642			0.2133			*0.2509*		
Adj R-squared	0.2345			NA			*NA*		

note: selected model in italics

EPS	**Pooled Effect Model**			**Fixed Effect Model**			**Random Effect Model**		
	Coef.	**T**	**P>|t|**	***Coef.***	***T***	***P>|t|***	**Coef.**	**Z**	**P>|z|**
CRSK	-4.300348	-1.80	0.075	-1.562727	-0.74	0.462	*-2.376544*	*-1.13*	*0.260*
LIQSK	5.541856	4.01	0.0000	.6726243	0.43	0.670	*2.176926*	*1.46*	*0.144*
BSIZE	.1818812	2.12	0.036	.7368197	2.56	0.012	*.3072263*	*1.96*	*0.050*
_cons	-263.1657	-2.46	0.015	-184.1418	-1.33	0.187	*-102.6459*	*-0.87*	*0.383*
Number of groups	0.0000			13.0000			*13.0000*		
Number of obs	130.0000			130.0000			*130.0000*		
F(5, 124)	6.21			7.33			*NA*		
Prob > F	0.0000			0.0000			*0.0000*		
R-squared	0.2003			0.0441			*0.1279*		
Adj R-squared	0.1681			NA			*NA*		

note: selected model in italics

4.5 Discussion of Findings

In line with the outcome of this study, CRSK (-0.431133) and LIQSK (0.086019) have a negatively weak correlation and a positively weak correlation with ROA. Also, CRSK (-0.226855) and LIQSK (0.320620) have a negatively weak correlation and a positively weak correlation with EPS. Consequently, BSIZE has ROA (0.052601), EPS (0.166463), CRSK (-0.072838) and LIQSK (0.083215), which means that it has an extremely weak correlation with ROA, CRSK and LIQSK while it has an extremely weak correlation with CRSK. The panel regression model delineated in Table 12 indicates an R Square of .2642, .2133 and .2509, which

represents about26%, 21% and 25%impact of the variables CRSK, LIQSK and BSIZE on ROAfor pooled effect model, fixed effect model and random effect model respectively. At the same time, the rest are covered by the error terms, as the other factors have not been considered in this study. Consequently, the regression line for the model for PEMtypically should indicateROA = -1.250042 + -.0502442(CRSK) + .0145643(LIQSK) + .0006665(BSIZE), however, with p-Values (>.05) level of significance, it shows that the acceptance of the null hypotheses indicating that there is no significant impact of the variables on ROA, thus, the irrelevance of the model for the PEM. For the FEM and REM, the same outcome is equally experienced with the regression coefficients for each factor having p-Values (>.05) level of significance. These were reiterated by their combined low R-Square value derived for this study.Also, the panel regression model equally delineated in Table 12 indicates an R Square of .2003, .0441 and .1279, which represents about 20%, 4% and 12% impact of the variables CRSK, LIQSK and BSIZE on EPS for pooled effect model, fixed effect model and random effect model respectively. At the same time, the rest are covered by the error terms, as the other factors have not been considered in this study. Consequently, the regression line for the model for PEM typically should indicateEPS = -263.1657 - 4.300348(CRSK) + 5.541856(LIQSK) + .1818812(BSIZE); however, with p-Values (>.05) level of significance, it shows the rejection of the null hypotheses indicating that there is a significant statistical impact of the variables on EPS, thus, the relevance of the model for the PEM. For the FEM, BSIZE with Pr(0.012<.05) is relevant to EPS, while the same applies to REM.Generally, these outcomes indicate that the factors do not have much impact on one another, and other factors are primarily responsible for the changes in these variables (Muhammad & Khan, 2018). These includeboard diversity (Apochi et al., 2020), risk management insufficiency (Ogbuga et al., 2021; Oluwaleye et al., 2023), incidences of high non-performing loans, poor corporate governance, lax credit administration and failure to meet prudential ratios of liquidity, solvency status and capital ratio (Ebenezer & Omar, 2016; Salihu et al., 2023) except for the EPS in PEM.

Consequently, the regression result for the EPS in PEM demonstrates considerable influence on the current value of deposit money banks' profitability, defining that sufficient liquid is crucial to the performance of deposit money banks in Nigeria. Thus, deposit money banks should work hard to guarantee that credits administered to customers are based on acceptable credit rules to minimise instances of banks' liquidity risk to as low as feasible and enhance the current ones. Owing to the suitable distribution of loans by deposit money banks implies that when loans are dispensed more correctly, they provide a higher performance in deposit money banks. Accordingly, Apochi et al. (2020) documented that the moderate role of gender diversity revealed a negative and significant role in the effect of credit risk and operation risk on the profitability of listed deposit money banks in Nigeria, citing that banks should minimise the non-performing loan through proper implementation of risk management framework and minimised unnecessary operating expenses as it has been found empirically to reduce the quality of the bank's profitability. CBN should encourage banks to appoint female directors in the board composition. Also, Ogbuga et al. (2021), in contrast, demonstrate that credit risk, liquidity risk and interest rate risk considerably and favourably influenced the performance of the investigated banks. In contrast, the operational risk has a negative and negligible effect on the performance of deposit money banks. In corroboration, Oluwaleye et al. (2023) show that while liquidity risk and market risk have no effect, credit and operational risk have a significant effect on financial performance, implying that financial institutions can reduce the share of their loans that were classified as "non-performing" if the institution sincerely aims to strengthen their bottom lines meaning that banks may strengthen their financial positions by decreasing the size of their operational expenses. Kankpang et al. (2023) found a significant influence of liquidity risk and non-performing loans on the profitability of deposit money banks in Nigeria. They posited that credit

risk in terms of liquidity and non-performing loans influences the profitability of deposit money banks in Nigeria.

5.0 Conclusion and Recommendations

5.1 Conclusion and Recommendations

This study that analyses the impact of financial risk on the performance of quoted deposit money banks in Nigeria concludes that credit and liquid risk have largely minimised significant impact on the performance of quoted deposit money banks in Nigeria, with several other factors being defined as the triggers of change in the DMBs performances overtime in Nigeria which includes but not limited to board diversity, risk management insufficiency incidences of high non-performing loans, poor corporate governance, lax credit administration and failure to meet prudential ratios of liquidity, solvency status and capital ratio which the bank administrator have been able to tackle head-on. This study recommends that;

1. It is crucial for commercial banks in Nigeria to implement effective risk management methods to achieve long-term and improved profitability via interest revenue from loans and advances. Banks need sufficient and precise information from both internal and external sources to evaluate the various credit risks associated with a loan request.
2. While the management and shareholders of listed DMBs should promoteincreased loans and advances provided to customers since this would improve bank profitability, it is likewise essential for the banks to explore opportunities in business ventures that provide higher interest rates. However, the bank must have a system to closely monitor fluctuations in the market interest rates, as any increase in interest rates might pose challenges for banks.
3. Banks must likewise guarantee sufficient diversity on their boards of directors; one way to begin this process is by augmenting the representation of women on the board. While adding more autonomous board members to the banking system cannot be overemphasised, industry regulators must play a crucial role in ensuring that banks have diverse boards of directors by adopting a proactive stance. Banks should evaluate their non-performing loan ratio policy to understand the reasons for its negative impact on their financial performance.
4. The research suggests that bank decision-makers should consider the solvency status and capital-to-asset ratio when examining variables that influence the bank's achievement of its objectives. DMBs in Nigeria must maintain a capital-to-asset ratio that exceeds the minimal requirement since this would ensure a robust profit margin. Furthermore, it is essential to enhance the capacity of DMBs to fulfil their immediate and near-term financial commitments to maintain optimal performance.

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