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Effects of Credit Risk and Liquidity Position on the Financial Performance of Deposit Money Banks in Nigeria

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Abstract

This study investigates the effects of credit risk and liquidity position on the financial performance of Deposit Money Banks (DMBs) in Nigeria, focusing on Return on Equity (ROE) as the primary performance indicator. Rising Non-Performing Loans (NPLs) and recurring liquidity pressures continue to challenge the stability and profitability of Nigerian banks despite ongoing regulatory reforms. Using a quantitative research design, secondary data were collected from the annual reports of 14 listed DMBs covering 2017–2023. Credit risk (proxied by NPLs) and liquidity ratios served as the independent variables, while ROE measured financial performance. Correlation and multiple regression analyses were employed to determine the relationships among the variables. The findings reveal that NPLs exert a negative but statistically insignificant effect on ROE, indicating that deteriorating asset quality reduces profitability even though its short-term impact may be moderated by capital buffers or risk-management strategies. Liquidity, however, shows a significant negative influence on ROE, suggesting that excessive liquidity holdings constrain banks' ability to deploy funds into higher-yielding assets, thereby weakening shareholder returns. Jointly, credit risk and liquidity significantly explain variations in bank performance, underscoring the importance of integrated risk-management practices. The study concludes that the financial performance of Nigerian DMBs is strongly linked to how effectively they balance credit quality with optimal liquidity levels. It recommends strengthening credit risk controls, enhancing liquidity optimization strategies, and improving asset allocation to boost profitability and ensure long-term financial stability.

Keywords: Credit Risk, Liquidity Position, Financial Performance, Deposit Money Banks, Nigeria

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1.0 Introduction

The banking sector serves as a cornerstone of economic development, functioning as a critical intermediary in mobilizing savings, allocating capital, and facilitating financial intermediation (Mishkin & Eakins, 2023). In Nigeria, Deposit Money Banks (DMBs) play a pivotal role in supporting investment, promoting economic activity, and sustaining financial stability. Despite their centrality, Nigerian banks continue to face significant challenges, particularly rising levels of non-performing loans (NPLs) and recurring liquidity pressures, which have the potential to undermine profitability and long-term sustainability (Adebayo & Olawale, 2020; Adeola & Soyinka, 2021).

Non-performing loans, defined as credit facilities for which borrowers fail to meet repayment obligations for 90 days or more, pose a direct threat to banks' earnings and capital adequacy. High NPL ratios force banks to increase provisions for potential losses, eroding profitability and weakening key performance indicators such as return on equity (ROE) (Adamu, 2019; Musa &Umeh, 2022). Liquidity, the capacity of a bank to meet short-term financial obligations, is equally crucial. Inadequate liquidity can impede lending activities, increase funding costs, and reduce operational efficiency, whereas excessive liquidity may constrain banks from deploying funds into higher-yielding assets (Fashola & Akinyemi, 2020; Onyeka& Daniels, 2021). Regulatory interventions by the Central Bank of Nigeria (CBN), including capital adequacy guidelines and liquidity requirements, have sought to address these challenges (CBN, 2021). Nonetheless, the persistence of credit and liquidity risks underscores the need for empirical evaluation of their effects on financial performance.

This study specifically focuses on 14 DMBs listed on the Nigerian Stock Exchange (NSE) over the period 2017–2023, capturing institutions with standardized reporting practices that allow for robust quantitative analysis. It examines the impact of credit risk, proxied by NPLs, and liquidity positions on financial performance, measured using ROE. Beyond assessing the individual effects of NPLs and liquidity on profitability, the study also considers the interactive role of liquidity in moderating the relationship between credit risk and financial performance.

The relevance of this research is both practical and academic. While previous studies have examined credit risk and liquidity separately, there is limited empirical evidence on how liquidity moderates the effect of NPLs on bank performance in the Nigerian context (Alshatti, 2015; Bordeleau & Graham, 2010). Practically, understanding this dynamic can guide bank management, policymakers, and regulators in developing strategies that enhance profitability while maintaining stability. Insights from this study can inform optimal liquidity management, strengthen credit risk controls, and improve asset allocation, ultimately contributing to sustainable financial performance and long-term resilience in Nigerian DMBs.

2.0 Problem Statement

Nigerian DMBs continue to grapple with the dual challenges of elevated NPL ratios and recurring liquidity pressures. Rising NPLs weaken banks' earning capacity through increased provisioning expenses, ultimately reducing ROE and diminishing investor confidence. Liquidity shortages similarly erode financial stability and limit banks' ability to meet customer withdrawals and support lending activities.

Despite several regulatory interventions by the CBN, concerns persist about the resilience of banks in managing these risks effectively. This study therefore examines the extent to which credit risk and liquidity conditions jointly and independently influence the financial performance of Nigerian DMBs.

3.0 Research Questions

i. How do Non-Performing Loans affect the financial performance (ROE) of Nigerian Deposit Money Banks?

ii. What influence does liquidity have on the ROE of Nigerian Deposit Money Banks?

iii. What combined effect do NPLs and liquidity exert on the ROE of Nigerian Deposit Money Banks?

4.0 Literature Review

4.1 Conceptual Review

4.1.1 Non-Performing Loans (NPLs)

Non-Performing Loans (NPLs) are generally defined as credit facilities for which borrowers have failed to meet their contractual repayment obligations for at least 90 days. In banking regulation, NPLs represent a deterioration in loan quality and serve as a key indicator of credit risk exposure within a financial institution's loan portfolio (Ojo, 2020). A high NPL ratio signals inefficiencies in credit appraisal, monitoring, and recovery processes, and it often reflects broader macroeconomic instabilities such as inflationary pressures, exchange rate volatility, and sectoral shocks that undermine borrowers' repayment capacity.

From a financial performance perspective, elevated NPLs impose substantial costs on banks. Institutions must create loan-loss provisions to cushion expected losses, thereby increasing operational expenses and reducing net earnings available to shareholders. This erosion of profitability directly influences Return on Equity (ROE), given that retained earnings form a significant portion of shareholders' funds (Musa & Umeh, 2022). High NPLs also constrain new lending activities because banks adopt more conservative lending practices to avoid additional credit deterioration. This contraction in credit supply may impede economic activity and weaken the bank's long-term growth prospects.

Furthermore, persistent growth in NPLs undermines investor confidence, prompting concerns over the bank's solvency and risk management capacity. In capital markets, banks with elevated NPL ratios typically experience lower valuation multiples due to perceived financial fragility and potential distress. In the Nigerian context, fluctuations in oil prices, exchange rate volatility, and structural weaknesses in key sectors contribute heavily to the buildup of NPLs, thereby reinforcing the importance of effective credit risk management practices across Deposit Money Banks (Adamu, 2019). Overall, NPLs remain a critical determinant of banking stability and a central focus of regulatory oversight.

4.1.2 Liquidity

Liquidity refers to the ability of a financial institution to meet its short-term financial obligations without incurring unacceptable losses. It is a measure of the ease with which a bank can convert assets into cash while preserving their value. Adequate liquidity enables a bank to honor depositor withdrawals, finance ongoing operations, service maturing obligations, and exploit profitable lending and investment opportunities (Fashola & Akinyemi, 2020).In the banking sector, liquidity is crucial because banks operate on a maturity mismatch—short-term deposits finance long-term loans. Effective liquidity management therefore requires maintaining a delicate balance between holding sufficient liquid assets and investing in higher-yield, less liquid earning assets. Banks with strong liquidity positions are more resilient to unexpected financial shocks, such as bank runs or sudden increases in withdrawal demands.

However, liquidity carries an inherent trade-off. Holding excessive liquid assets often leads to suboptimal profitability because such assets typically generate lower returns compared to long-term loans or investments. This situation may weaken key performance metrics such as ROE, especially when banks prioritize liquidity buffers at the expense of profit-maximizing activities (Onyeka& Daniels, 2021). Conversely, inadequate liquidity may force banks to engage in distress borrowing or sell assets at discounted prices, which erodes earnings and may trigger solvency concerns.

In Nigeria, liquidity management has gained heightened relevance due to regulatory measures such as the Cash Reserve Ratio (CRR) and Liquidity Ratio requirements mandated by the Central Bank of Nigeria (CBN). These policies aim to safeguard financial stability but may also limit banks' ability to deploy funds for profitable lending. Thus, liquidity remains a crucial dimension of operational soundness, profitability, and strategic resource allocation among Deposit Money Banks.

4.1.3 Return on Equity (ROE)

Return on Equity (ROE) is a widely used profitability metric that measures the extent to which a bank generates profit from shareholders' invested capital. It is calculated as the ratio of net income to shareholders' equity and serves as a critical indicator of managerial efficiency, operational performance, and value creation (Brigham & Ehrhardt, 2022). A high ROE reflects prudent financial management, effective risk-taking strategies, and the efficient allocation of resources.ROE is particularly relevant in banking due to the sector's leverage-dependent business model. Because banks rely heavily on deposit liabilities and borrowed funds, the ability to generate strong returns on comparatively smaller equity bases is a sign of competitive advantage and financial strength. Investors, regulators, and analysts rely on ROE to appraise bank performance, determine market valuation, and assess long-term sustainability (Ross et al., 2021).

A declining ROE may indicate several underlying issues, including rising credit risk, operational inefficiencies, poor cost management, or liquidity pressures. For instance, increases in NPLs lead to higher loan-loss provisions, thereby reducing net income and weakening ROE. Similarly, excessive liquidity holdings reduce interest income because a larger share of the bank's portfolio is tied up in low-yield assets. Consequently, both credit risk and liquidity risk are directly connected to ROE performance.Within the broader finance literature, ROE is also linked to theories of bank behavior and financial intermediation.

Diamond and Rajan (2001) posit that banks balance their liquid reserves and lending operations strategically to optimize returns while managing risks inherent in maturity transformation. Thus, ROE not only reflects internal performance dynamics but also embodies the outcome of complex interactions between risk management, regulatory compliance, market conditions, and strategic decision-making (Mishkin & Eakins, 2023).

4.2 Theoretical Review

4.2.1 Credit Risk Theory

Credit Risk Theory asserts that the profitability of financial institutions is directly influenced by their exposure to credit risk. Higher NPLs increase loan-loss provisions, reduce net income, and weaken performance indicators such as ROE (Mishkin & Eakins, 2023). The theory predicts a negative relationship between NPLs and bank profitability, especially when credit appraisal frameworks and monitoring practices are weak.

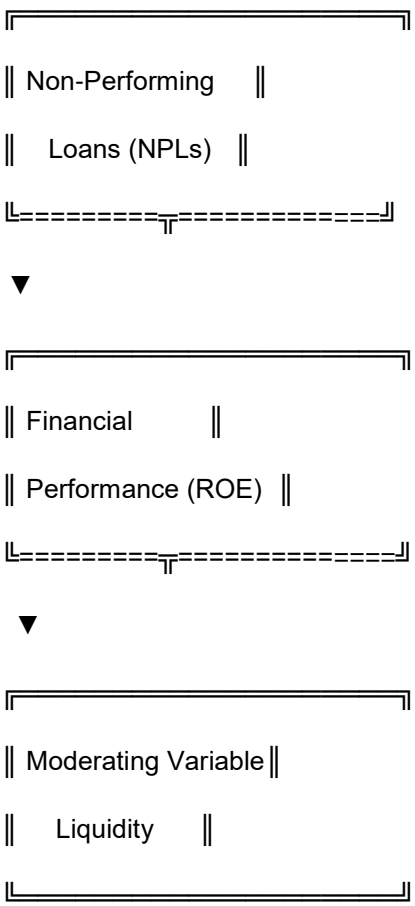
4.2.2 Liquidity Preference Theory

Keynes (1936) argues that agents prefer liquidity and will only surrender liquidity when compensated with returns. For banks, maintaining sufficient liquidity is essential to protect against unexpected shocks, but doing so may come at the expense of profitability. Thus, the theory suggests a non-linear relationship between liquidity and financial performance: insufficient liquidity threatens stability, whereas excessive liquidity reduces earnings.

4.2.3 Underpinning Theory

Credit Risk Theory is adopted as an underpinning theory, because of its direct link to the core variable (NPLs). Since this study specifically examines how credit risk, measured how Non-Performing Loans (NPLs)—affects bank profitability. Credit Risk Theory explicitly explains how rising NPLs erode earnings through higher provisioning, reduced interest income, and declining asset quality. This makes it a direct theoretical foundation for evaluating the effect of NPLs on ROE.

5.0 Conceptual Framework



The diagram conceptualizes that credit risk (NPLs) negatively influences financial performance (ROE)**,** but thelevel of liquidity moderates this relationship, either amplifying or mitigating its effect. This framework provides a structured way to analyze how banks can manage both credit quality and liquidity to optimize profitability.

6.0 Empirical Review

Empirical studies have consistently highlighted the importance of managing credit risk and liquidity in determining bank performance. Several researchers have documented the negative effect of NPLs on profitability. For example, Adams and Osei (2020) found that rising NPL ratios significantly reduce ROE among Ghanaian commercial banks due to elevated provisioning costs. Similarly, Chukwu and Uche (2018) reported that NPLs exert a substantial negative effect on Nigerian banks' profitability, linking the phenomenon to weak credit administration and exposure to volatile sectors.

Ezeani and Onyekwelu (2020) further demonstrated that NPL accumulation jeopardizes asset quality and constrains banks' capacity to expand credit. International studies such as Makri et al. (2014) and Espinoza and Prasad (2010) corroborate these findings, concluding that macroeconomic instability, credit concentration, and regulatory weaknesses contribute significantly to rising NPLs and deteriorating performance.

On the other hand, liquidity has shown mixed empirical effects. Akinlo and Akinlo (2019) found that adequate liquidity enhances profitability among Nigerian banks by supporting lending and reducing funding risk. Similarly, Babalola (2021) observed that liquidity positively correlates with profit efficiency when banks maintain optimal liquidity levels. However, other authors have reported negative relationships. Fagbemi and Alabi (2021) established that excess liquidity depresses profitability for Nigerian banks because surplus funds are often invested in low-yield assets. Mbah and Ugwuanyi (2021) also documented that conservative liquidity practices may limit credit creation and ultimately reduce ROE.

Studies examining the combined effects of NPLs and liquidity emphasize the importance of integrated risk management. Jiboku and Alabi (2019) stressed that banks with strong risk-management frameworks are better equipped to mitigate the adverse impacts of both liquidity pressures and credit risk, thereby enhancing overall performance. These empirical findings generally support the theoretical prediction that both excessive credit risk and improper liquidity management can erode financial performance over time.

7.0 Methodology

This study adopts a quantitative research approach using secondary data obtained from the annual reports of the 14 DMBs listed on the Nigerian Stock Exchange (NSE) covering 2017–2023. NPLs and liquidity ratios serve as independent variables, while ROE and stock market indicators measure financial performance.Correlation and regression analyses are employed to evaluate the influence of NPLs and liquidity on ROE. The regression model is expressed as:

$$ROE=\beta0+\beta1NPL+\beta2LIQ+\varepsilon$$

7.1 Data Analysis and Interpretation

Model Summary

The results reveal a moderate positive relationship ($R = 0.372$) between NPLs, liquidity, and ROE. The R^2 value of 0.138 indicates that 13.8% of the variations in ROE are explained by the independent variables. Although modest, the model is statistically significant ($F = 9.324$, $p < 0.01$).

ANOVA

The ANOVA findings confirm that NPLs and liquidity jointly exert a statistically significant influence on ROE ($p = 0.000$).

Coefficients

- Liquidity ($\beta = -0.003$, $p = 0.001$) significantly and negatively affects ROE.
- NPLs ($\beta = -0.003$, $p = 0.084$) show a negative but statistically insignificant effect.

Subsequent Distribution

ROE exhibits significant negative correlations with both NPLs and liquidity, while liquidity and NPLs show a positive correlation.

8.0 Discussion of Findings

The findings of this study collectively demonstrate that both credit risk—proxied by Non-Performing Loans (NPLs)—and liquidity conditions exert downward pressure on the financial performance of Nigerian Deposit Money Banks, as measured by Return on Equity (ROE). Although the negative effect of NPLs on ROE is statistically insignificant, the direction of the relationship is consistent with established empirical evidence. Elevated NPL levels reduce banks' earning capacity by increasing loan-loss provisions, thereby weakening overall profitability (Espinoza & Prasad, 2010; Makri et al., 2014). This suggests that deterioration in asset quality continues to pose a threat to performance, even if some banks may temporarily mitigate its impact through strong capital buffers or prudent risk management practices, as suggested by Athanasoglou et al. (2008).

Liquidity also shows a negative relationship with ROE, but unlike NPLs, this effect is statistically significant, indicating that liquidity management has a more immediate and pronounced influence on profitability. The results imply that holding excess liquidity constrains banks' ability to invest in higher-yielding assets, thereby reducing returns to shareholders. This outcome aligns with Vodová (2013) and Bourke (1989), who argue that overly conservative liquidity positions suppress earnings by limiting the deployment of funds into profitable ventures. Nonetheless, the literature also suggests that liquidity can enhance financial stability under certain strategic conditions (Molyneux & Thornton, 1992), highlighting the delicate balance banks must maintain between stability and profitability.

Taken together, the findings reveal a common thread: both increased NPLs and excessive liquidity adversely affect ROE by tying up resources in non-performing or low-yield asset categories. While NPLs reflect credit deterioration that erodes income through provisioning requirements, excess liquidity reflects an opportunity cost problem, where capital that could generate higher returns remains idle in low-yield liquid instruments. The combined effects underscore that effective risk management—encompassing both credit and liquidity dimensions—is essential for improving the financial performance of Nigerian Deposit Money Banks. Banks that strike an optimal balance between asset quality and liquidity efficiency are more likely to enhance shareholder value and sustain long-term profitability.

9.0 Conclusion

This study examined the effects of credit risk and liquidity positions on the financial performance of Deposit Money Banks in Nigeria, using ROE as the performance indicator. The findings provide substantial evidence that both NPLs and liquidity influence the profitability of banks, although their magnitudes differ. NPLs exert a negative but statistically insignificant effect on ROE, suggesting that while problematic loans reduce profitability, their short-term impact may be mitigated by regulatory interventions, capital buffers, or internal risk management frameworks. Nonetheless, the negative direction of the relationship underscores the persistent threat that rising NPLs pose to asset quality and long-term sustainability.

Liquidity, on the other hand, has a significant negative effect on ROE, implying that maintaining excessively high liquidity levels can constrain banks' ability to earn adequate returns. This supports the argument that while prudent liquidity is essential for stability, very high liquidity ratios may reflect idle funds and missed investment opportunities. The

combined effect of NPLs and liquidity therefore highlights the need for an optimal balance between risk-taking and prudence in financial intermediation.

Overall, the study concludes that the financial performance of Nigerian DMBs is deeply intertwined with how effectively they manage credit risk and liquidity. Strengthening risk assessment practices, enhancing loan monitoring systems, and adopting efficient liquidity strategies are essential for improving profitability and sustaining long-term financial stability in the Nigerian banking sector

10 Recommendations

1. Optimize Liquidity Management:Banks should balance the need for liquidity with investment in profitable assets to improve ROE.
2. Strengthen Credit Risk Controls:Improved credit assessment, proactive monitoring, and robust recovery strategies are necessary to reduce NPL levels.
3. Improve Asset Allocation:Banks should invest excess liquidity in higher-yielding opportunities consistent with their risk appetite to enhance profitability.

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