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EFFECT OF LIQUIDITY MANAGEMENT ON THE PERFORMANCE OF BANKS IN NIGERIA

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ABSTRACT

This study investigated the effects of liquidity management on performance of banks in Nigeria from 2001 - 2023. Specific objectives of the study are to examine the effect of liquidity ratio on return on equity, to investigate the impact of cash reserves ratio on return on equity, and to analyze the effect of liquid assets to deposit ratio on return on equity (ROE) of banks in Nigeria. ARDL Bound co-integration test and error correction model are used as estimation technique. The findings showed that cash reserve ratio have a harmful effect on the performance of banks in Nigeria, indicating that a growth in cash reserve ratio leads to a decline in the performance of banks in Nigeria. Additionally, the findings revealed that liquidity ratio has a good effect on performance of banks in Nigeria, indicating that an increase in liquidity ratio leads to a growth in the performance of banks in Nigeria. Thus, the study concludes that in the long run both liquidity

ratio and liquid assets to deposit ratio has a beneficial influence on the performance of banks in Nigeria while in the short run cash reserve ratio exerted a positive effect on the performance of banks in Nigeria.

Keyword: Liquidity Management, bank Performance, Cash Reserve Requirement, Return on Equity, ARDL Cointegration

1 INTRODUCTION

The performance of banks is their capacity to manage risks and turn a profit for their shareholders while conducting business successfully and efficiently in a demanding regulatory and economic environment. Oloyede and Aluko (2018) state that a variety of measures, such as profitability, credit quality, capital sufficiency, operational efficiency, and liquidity, are commonly used to assess bank performance. The capacity of banks to make money from their activities is reflected in their profitability, which is a crucial component of their success. According to Bolaji and Olusegun (2020), banks in Nigeria depend on profitability to survive and flourish, and those that can sustain high levels of profitability have a higher chance of succeeding. Since credit quality indicates a bank's capacity to control credit risk and uphold a portfolio of high-quality loans, it is also a critical component of banks' success in Nigeria. According to Mohammed and Bawa (2019), banks in Nigeria are very concerned about credit risk, and those who can successfully manage credit risk would probably have more success in the long term. Another crucial component of banks' success in Nigeria is capital adequacy, which measures their capacity to withstand setbacks and continue to be solvent in challenging economic circumstances. In Nigeria, banks' ability to maintain adequate capital is crucial to their operations, and well-capitalized banks are more resilient to shocks such as economic downturns (Olasupo & Ajilore, 2021).

Another crucial component of banks' success in Nigeria is liquidity, which indicates their capacity to fulfill short-term commitments and continue operating even in the face of market disruptions. Positive effects of effective liquidity management may be seen in banks' general stability, profitability, and reputation. However, inadequate management of liquidity can result in liquidity crises, which can impair the stability and performance of banks. According to (Adekunle & Adeyele, 2020), managing liquidity is a significant difficulty for Nigerian banks, and those who are able to keep sufficient levels of liquidity are better positioned to weather market shocks.

Effective liquidity management is essential to banks' capacity to maintain their financial stability and promote economic growth, claim Fernando and Fishe (2018). It is contended that the efficacy of banks' liquidity management is contingent upon their capacity to predict their cash flows, oversee their financing sources, and uphold sufficient quantities of liquid assets. Adekunle and Adeyele (2020) discovered that banks tend to perform better when it comes to profitability and asset quality when they have good liquidity management procedures in place. They contend that banks can fulfill their responsibilities, reduce liquidity risk, and seize lucrative investment opportunities more easily when they retain sufficient quantities of liquid assets. Nonetheless, the stability and performance of banks may suffer from inadequate liquidity management. According to Onegena and Smith (2018), banks have a significant risk of liquidity. In the event that they are unable to successfully manage their liquidity, they may experience financing shortages, higher funding costs, and harm to their brand. They contend that banks may be compelled to sell their assets at fire sale prices in order to raise capital, which might lead to large losses and reduce the bank's capital adequacy.

The success of banks in Nigeria is heavily influenced by their ability to manage liquidity as it determines their capacity to pay short-term debts and continue operating even in the face of market disruptions. For banks to be profitable, stable, and to operate well overall, effective liquidity management is so crucial. On the one hand, ineffective liquidity management can negatively affect a bank's performance and stability, whereas Olabisi and Alabi (2021) contended that banks with good liquidity management are better positioned to achieve sustainable growth and profitability. Banks who are unable to efficiently manage their liquidity may experience financing shortages, higher funding costs, and harm to their image, according to Olasupo and Ajilore (2021). They contend that banks may be compelled to sell their assets at fire sale prices in order to alleviate liquidity issues, which might lead to large losses and reduce the sufficiency of their capital.

According to Ahmad (2018) and Edem (2019), there is a correlation between banks' performance and effective liquidity management. In the current business environment, the importance of bank performance for company sustainability cannot be emphasized. The degree to which a business achieves its financial objectives is referred to as its financial performance. It evaluates the financial results of a company's operations. To gain a competitive edge over their rivals, financial

institutions develop and execute the best non-financial and financial ideas. An institution's ability to meet short-term obligations like payments and long-term obligations like creating wealth for its shareholders is what propels its financial success. Any firm's poor financial performance hurts its reputation and, thus, its attractiveness to investors, which can cause the company to become insolvent and ultimately fail (Amalendu & Sri, 2019). Bank managers are concerned about their ability to manage the trade-off between performance and liquidity management. For instance, banks make demand deposits that let depositors take money whenever they want and loans that are difficult to sell quickly and at a premium. A bank's liquidity status is impacted when several depositors withdraw at once, causing a liquidity mismatch—a scenario in which the bank's liabilities are less liquid than its assets. Despite investing in high-yielding illiquid assets, many banks are burdened by debt. Some banks, even with substantial asset holdings, experience significant losses when they take out emergency loans because of sudden withdrawals and insufficient liquid capital. This, along with a lack of ability to turn a profit, was mentioned as one of the main causes of bank failures and nationalization in 2008 (Barrel & Davis, 2008). Although there are indicators that banks are becoming more concerned about these issues, many steps to prevent bank runs and other initiatives to improve liquidity are usually disregarded when economic conditions are good, yet the problem still persists. Banks may be at risk from attempts by bank managers to boost returns because doing so can result in a reduction in creditworthiness, loss of customer loyalty, and forced asset liquidations, among other things. On the other hand, banks may need to retain excess liquidity to meet customer demands.

The effect of liquidity management on bank performance has been empirically studied by Almakura et al. (2024), Tasie et al. (2024), Oke et al. (2022), Alhassan and Islam (2021), Ajayi and Lawal (2021), and Sathyamoorth et al. (2020). The results have been inconsistent and mixed, allowing for more research. Furthermore, a large number of previous studies on the subject have not examined or analyzed data until 2021, which is why it is crucial that this study examine data through 2022. Furthermore, the current study concentrated on all active deposit money banks that hold licenses from the Central Bank of Nigeria and are registered with the Nigerian Exchange Group, whereas previous research has concentrated on banks 1 through 5. These are a few of the unique features that set this research apart from others that have come before it. Therefore, from

2001 to 2022, this study examined how cash reserve ratios, liquid asset to deposit ratios, and bank liquidity ratios might affect return on equity in order to examine the impact of liquidity management on bank performance in Nigeria.

2 LITERATURE REVIEW

Conceptually, bank performance is the capacity of a bank to generate long-term profitability. A bank's ability to successfully operate depends on managers' ability to properly balance the complex trade-offs between growth, return, and risk (Bassey et al, 2017). Traditional, economic, and market-based performance indicators are the three categories that banks employ. The Economic Value Added (EVA) model was developed by Stern and Stewart to assess whether a company generates an economic rate of return higher than the cost of invested capital in order to increase the market value of the company. The model takes into account the opportunity cost for stockholders to hold equity in a bank (Raza, et al, 2018).

There have been a lot of empirical studies on bank performance done across the world, particularly in commercial banks, but not many of them have been done in Nigeria. Based on the corpus of current knowledge, researchers have employed a variety of surrogates as metric assessments of banks' financial performance. Buba (2017) lists benchmarking, financial ratio analysis, and performance evaluation against budget as some of these indicators. These include return on equity, return on assets, net interest margin, and a host of other metrics. According to the European Central Bank (ECB, 2010), a thorough performance evaluation system should, however, take into account more aspects of performance than only profitability as shown by strictly market-oriented indicators and should be less vulnerable to market manipulation.

With this warning in mind, return on equity (ROE), a crucial financial metric that evaluates a bank's effectiveness and profitability from the perspective of its shareholders, was used in this research. It is an essential indicator of a business's ability to turn a profit on the capital that its owners have invested. Nigeria's economy is dynamic and diverse, making it vital for investors, financial analysts, and businesses to understand and evaluate return on equity (ROE). Understanding the ROE concept in Nigeria requires a thorough examination of pertinent literature and research studies. In one notable

study, Iheanacho (2018) examined the ROE performance of the Nigerian banking sector. The study examined the factors that influence return on equity (ROE) in Nigerian banks, such as operational efficacy, capital adequacy, and asset quality. Iheanacho's analysis emphasized the significance of ROE as a performance metric and its primary drivers in the Nigerian banking industry. Furthermore, studying the viewpoints of Nigerian experts and authors on ROE provides valuable insights. The well-known Nigerian financial expert Adebayo (2019) asserts that ROE should be used to gauge the performance of Nigerian businesses. He emphasizes how investors may make informed investment decisions by using ROE to assess a company's profitability and efficiency.

On the other hand, liquidity is the ability of firms to convert assets into cash without experiencing a loss in value. Thus, managing liquidity also entails managing liquidity. Durrah et al. (2017) define liquidity management as a company's ability to repay short-term loans using its current assets and liquidity. The scope of liquidity management is broader as it requires companies to generate enough cash flow to cover all kinds of operating costs and to purchase fixed assets. Some organizations face financial difficulty as a result of inadequate liquidity management, which pushes them into borrowing and eventually increases their debt and bankruptcy risk. A company's financial situation is likely getting worse if its liquidity ratios; quick, current, and liquidity ratios, among others are abnormally low (Sinha, 2018).

One important measure of a bank's ability to manage liquidity risk and meet short-term obligations is the liquidity ratio. Minimum liquidity ratio requirements are enforced by the Central Bank of Nigeria (CBN) for banks operating in the country. As of 2021, the norm for commercial banks is set at 30%, while for microfinance banks it is 20%. One method that the liquidity ratio may impact the performance of Nigerian banks is through lending capacity. A high liquidity ratio indicates that a bank has excess cash that it is not lending out, which can negatively impact the bank's profitability and return to shareholders. Conversely, a low liquidity ratio may indicate that a bank lacks the liquid assets necessary to meet its short-term liabilities, which might lead to problems with liquidity and perhaps even regulatory action. Oladejo et al.'s (2019) research suggests that higher liquidity ratios could actually enhance banks' ability to lend money and turn a profit. They found that the liquidity ratio had a favorable effect on bank lending in Nigeria.

A bank with a high liquidity ratio may be more attractive to investors since it indicates a lower risk of default and a greater ability to meet its commitments. Because of this possible reduction in its cost of capital, the bank may be able to get money at a cheaper cost and maybe increase its profitability. Better liquidity ratios may be associated with reduced borrowing costs and higher profitability, per a study by Akinlo et al. (2020). They found that the cost of capital for Nigerian banks was significantly influenced favorably by the liquidity ratio.

Another way the liquidity ratio may affect the profitability of Nigerian banks is through its effect on the cost of funding for those banks. Higher amounts of liquid assets may help a bank be less reliant on short-term borrowing, which might eventually lower funding costs. However, a bank's profitability may suffer by holding a large amount of liquid assets since they may not earn as much as other, riskier investments. Greater liquidity ratios may be associated with worse profitability, as per a study by Oke et al. (2021), since they significantly lowered Nigerian banks' return on equity (ROE). Moreover, banks with effective liquidity risk management may be better able to endure financial shocks and maintain stability over time. A bank's comprehensive risk management plan must include liquidity risk management. Onodugo et al.'s research (2020) suggests that higher liquidity ratios may strengthen banks' ability to withstand financial shocks and maintain stability over time. They found that the liquidity ratio significantly improved the financial stability of Nigerian banks.

It is essential to acknowledge that the relationship between the liquidity ratio and the performance of banks in Nigeria may be influenced by a range of external variables, such as regulatory frameworks, market structure, and macroeconomic conditions. For example, Idris et al. (2021) discovered that the liquidity ratio significantly increased the profitability of Nigerian banks in periods of economic stability but decreased it in periods of instability. These findings suggest that the relationship between the liquidity ratio and banks' performance may be complex and dynamic.

In the subject of corporate finance, several academics have put out several ideas related to liquidity management. Theories like these attempts to explain how businesses figure out how much liquidity is ideal in order to maximize profits. The trade-off theory of profitability and liquidity and the liquidity preference hypothesis are a couple of them. Simply put, there is an inverse relationship between liquidity and profitability, according to the trade-off theory of liquidity and profitability,

which was adapted from the 1973 trade-off theory of capital structure by Kraus and Litzenberger. Accordingly, businesses must function with low levels of liquidity if they want to attain high levels of profitability, and vice versa. The management of a firm should focus on finding the optimal and beneficial level of profitability by balancing the benefits and drawbacks of cash holdings. In an ideal world, businesses would be able to generate decent returns on their investments while maintaining a sufficient level of liquidity that will not jeopardize their ability to continue as a going concern.

According to John Maynard Keynes' 1936 liquidity preference hypothesis, investors should seek a higher interest rate or premium because they prefer cash or other highly liquid investments over assets with longer maturities and higher risk. According to him, the most liquid asset is cash, and an asset is more liquid if it can be quickly turned into cash. The idea states that the need for liquidity is driven by the three incentives of transaction, prudence, and speculation. The notion that individuals seek to uphold a robust liquidity position to fulfill daily commitments or costs is referred to as the "transactionary motive." Money is needed as a precaution since one must plan for unforeseen expenses and occurrences. Conversely, the desire to benefit from future fluctuations in bond prices or interest rates is known as speculative demand. This aims to explain the reasons for enterprises' need for liquidity, which makes it extremely essential to businesses.

Empirically, the impact of liquidity management on the financial performance of Nigerian oil and gas companies was examined by Almakura et al. in 2024. Using an ex-post facto research strategy, the Current Ratio (CUR), Quick Ratio (QUR), Cash Ratio (CAR), and Return on Capital Employed (ROCE) were investigated as proxy variables for financial performance and liquidity management, respectively. These numbers were gathered from the annual financial reports of five oil and gas companies in Nigeria, covering the period from 2012 to 2021. Regression analysis and descriptive statistics were used to analyze the data. The analysis's conclusions showed that although the current ratio has a negative substantial influence on return on capital employed, the quick and cash ratios have a positive but minor impact. The effect of liquidity management on the performance of Nigerian banks was examined by Tasie et al. in 2024. To represent the whole banking sector in Nigeria, three institutions were chosen at random. While earnings after taxes served as a stand-in for performance, loans and advances, bank balances kept with the CBN, and

treasury notes and certificates served as proxies for liquidity management. The study's findings demonstrated that Nigerian banks' performance is significantly impacted by liquidity management. Using time series data spanning from 2011 to 2020, Idolor and Adelegan (2023) conducted an empirical investigation on the effect of liquidity management on the financial performance of deposit money banks in Nigeria. The best estimator from pool OLS, fixed effect, and random effect estimators based on Breusch and Pagan LM test, F-test, and Hausman test were tested, and the data were then analyzed using the E-view statistical package for descriptive and correlation analysis and STATA 11. The association between the deposit to asset ratio and the asset returns of DMBs in Nigeria is negligible but negative. The cash reserve ratio and the returns on equity of Nigerian DMBs are positively correlated, but not significantly. In Nigeria, the loan deposit ratio and the net interest margin of deposit banks have a negative but negligible connection.

Over a 35-year period, from 1986 to 2020, Oke et al. (2022) assessed the short- and long-term impacts of liquidity management on bank performance in Nigeria. The Autoregressive distributed lag model was one of the inferential statistics employed in the study. Evidence of a long-term relationship between liquidity management and bank performance was found by the study. The study also found that bank performance in Nigeria is positively and significantly impacted by the cash reserve ratio, liquidity ratio, and loan to deposit ratio. Therefore, liquidity management has the ability to enhance bank performance in Nigeria as determined by the cash reserve ratio, liquidity ratio, and loan to deposit ratio. The study's conclusions indicate that liquidity management significantly and favorably affects bank performance in Nigeria. Bawuro et al. (2022) examined the impact of liquidity management on the financial performance of Nigerian listed deposit money banks using secondary data covering the years 2011 to 2019. The loan-to-deposit ratio and the liquidity ratio had a greater impact on the financial performance of listed DMBs in Nigeria, according to the results of multiple regression analysis.

Alhassan and Islam (2021) used ordinary least squares (OLS) to examine the relationship between liquidity and profitability as well as the effect of liquidity on profitability between 2011 and 2020. The findings demonstrated the significant negative impact that debt has on a business's profitability. In Nigeria, from 2012 to 2019, Bencharles and Abubakar (2020) looked into how liquidity management affected the profitability of conventional and Islamic banks. While liquidity

was the independent variable, the liquid asset to total asset ratio (LATA), current ratio, and cash ratio served as proxies for profitability. It was found that the response of Islamic banks' profitability to changes in the amount of liquidity was more pronounced than that of conventional banks. Auto Regressive Distributed Lag (ARDL) was used by Ajayi and Lawal (2021) to illustrate the relationship between bank performance and liquidity management using secondary data from 2009 to 2018. Thus, the study discovered that while the liquid ratio had a small impact on bank performance, the loan to deposit and loan to asset ratios had a substantial impact. The study came to the conclusion that liquidity management and bank profitability in Nigeria are significantly and favorably correlated.

Nyamador (2021) conducted an additional empirical study in Ghana on the financial performance of listed banks and their techniques for managing liquidity. Five years' worth of secondary data, from 2014 to 2018, were used. According to the least square regression model, a bank's financial performance is negatively impacted by keeping a larger percentage of its deposits and assets in liquid form and by managing liquidity cautiously. Additionally, banks' attempts to reduce their liabilities through the accumulation of more loans and deposits, their investment in long-term assets, or their liquid storage, negatively impacted their short-term profitability. Hacini et al. (2021) examined the impact of liquidity risk management on the financial performance of a few Saudi Arabian conventional banks using data from 2002 to 2019. The panel result showed that Saudi Arabian Bank's evaluated financial performance is considerably lowered by liquidity risk. The impact of cash and cash equivalents on total assets and return on equity between 2011 and 2019 was assessed by Sathyamoorth et al. (2020). Descriptive statistics, regression analysis, and correlation were all used in the study. According to the study, commercial banks can enhance their performance by optimizing liquidity characteristics.

3 METHODOLOGY

3.1 Research Design, Source and Method Data Collection

Considering the research aims, questions, and hypotheses tested, an ex post facto research design is the most appropriate kind for this study. All 23 of Nigeria's deposit money banks that are properly registered with the Nigeria Exchange Group (NXG) in 2023 were included in the

research. The majority of the data came from secondary sources, which included World Bank statistics, global financial indicators for the years 2000–2023, and publications from the Central Bank of Nigeria (CBN), such as the CBN Statistical Bulletin,

3.2 Method of Data Analysis and Model Specification

3.5.1 Test for Stationarity

Augmented Dickey–Fuller (ADF) unit root test was performed to ensure that data possess the time series property of stationarity. This is examined based on the following model:

$$\Delta Y_t = \alpha_1 + \alpha_2 Y_{t-1} + \sum_{i=1}^{m} \beta_i \Delta Y_{t-i} + \varepsilon_t \quad \text{(with intercept) - - - - - - - - - - (3.5)}$$

$$\Delta Y_t = \alpha_1 + \alpha_2 t + \alpha_3 Y_{t-1} + \sum_{i=1}^{m} \beta_i \Delta Y_{t-i} + \varepsilon_t \quad \text{(with trend and intercept) - - (3.5)}$$

Where Y_t represents the values of each variable in the two equations. The Augmented DickeyFuller (ADF) test of the null hypothesis of no unit root tests would be carried out as follows: If the trend is of interest, that is, H_0: $\beta = \alpha = 0$, then the use of F-test, and if the trend is not of interest, that is, H_0: $\alpha = 0$, then the use of T-test. F-test will be used to test simultaneously β and αwhile T-test will be used to test for the individual parameters.

If the null hypothesis is accepted, the investigation assumes the presence of a unit root and proceeds to difference the data before further estimate. If the null hypothesis is rejected, it indicates that the data is steady and may be used without the need for differencing.

3.5.2 Cointegration Test

In this research, if the variables have the same level of integration, the Johansen cointegration approach will be used to identify the existence of a long-term link among the variables.

Additionally, an error correcting model will be utilised. If the variables have various orders of integration that are not more than order I(1), the Autoregressive Distributed Lag model (ADRL) will be used, and a bound test will be employed to detect the existence of cointegration. Nevertheless, there is a possibility of multi-cointegration among the variables.

Examining the effect of liquidity management on the performance of Nigerian banks, the present study adopted the model used by Oke et al. (2022) which is stated as:

$$ROE = f\ (LIQ_t, CRR_t, LADR_t) - 1$$

Applying the model in econometric form, it is expressed as

$$ROE = (\beta_0 + \beta_1 LIQ + \beta_2 CRR + \beta_3 LADR) + u_t - 2$$

Where,

ROE_t = Return on equity

LIQ_t = Liquidity ratio

CRR_t = Cash reserve ratio $LADR_t$ = Loan asset

to deposit ratio f = Functional notation, t =

Time series data

$\beta 0$ = Constant, $\beta 1 - \beta 3$ = coefficients of the independent variable, u_t = Error term

4 RESULTS AND DISUCSSION Table 4.1 Descriptive Statistics

	ROE	**CRR**	**LIQ**	**LADR**
Mean	14.42888	12.84091	52.01699	44.83610
Median	13.46651	10.70000	50.32500	38.67332
Maximum	34.09249	27.50000	104.2024	74.15931
Minimum	-2.539460	1.000000	26.39276	14.48069
Std. Dev.	7.280443	8.759466	17.10328	22.98138
Skewness	0.512966	0.266401	1.297676	0.129907

Kurtosis	4.652942	1.737417	5.338195	1.348841
JarqueBera	3.469358	1.721494	11.18610	2.561009
Probability	0.176457	0.422846	0.003724	0.277897

Source: Author's Computation from Eview 11, 2025.

ROE's mean of 14.42888 and standard deviation of 7.280443, as displayed in table 4.1, suggest that the variable is centered around the mean. Its greatest value is 34.09249, and its lowest value is -2.539460. With a skewness coefficient of 0.512966, it exhibits a positive skewness. On the other hand, its 4.652942 kurtosis coefficient, which is more than 3, indicates that it is leptokurtic. With a Jarque Bera Probability value of 0.176457, the Jarque-Bera probability indicates that ROE is regularly distributed. In addition, the table revealed that the CRR variable is clustered around the mean, with a mean of 12.84091 and a standard deviation of 8.759466. Its highest value is 27.50000, and its smallest value is 1.000000. With a skewness coefficient of 0.266401, it exhibits a positive skewness. However, its platykurtic kurtosis is 1.737417, which is less than 3. The Jarque-Bera probability, which has a value of 0.422846, indicates that the CRR is regularly distributed.

Additionally, the table revealed that the LIQ variable is clustered around the mean, with a mean of 52.01699 and a standard deviation of 17.10328. Its greatest value is 104.2024, and its minimum value is 26.39276. With a skewness value of 1.297676, it is positively skewed; nevertheless, its kurtosis, which is more than 3, indicates that it is leptokurtic. With a Jarque-Bera probability value of 0.003724, the data indicates that LIQ is not regularly distributed. Ultimately, the table revealed that the variable LADR is concentrated around the mean, with a mean of 44.83610 and a standard deviation of 22.98138. Its highest value is 74.15931, and its minimum value is 14.48069. The skewness coefficient of 0.129907 indicates a positive skewness, while the kurtosis of 1.348841, which is smaller than 3, indicates a platykurtic distribution. With a Jarque-Bera probability value of 0.277897, the LADR is regularly distributed, according to the Jarque-Bera probability.

Table 4.2 Correlation Matrix

	CRR	LIQ	LADR

CRR	1		
LIQ	0.37		
LADR	-0.40	0.30	1

Source: Author's Computation from Eview 11, 2025.

Table 4.2 displays the correlation, which is intended to look for any signs of multicollinearity in the regressors. With a maximum value of 0.40, the table demonstrated a positive correlation between all the variables, indicating their lack of multicollinearity and mutual independence.

Table 4.3 Unit Root Test

UNIT ROOT TEST RESULTS TABLE (ADF)						
Null Hypothesis: the variable has a unit root						
	At Level					
		ROE	CRR	LIQ	LADR	
With Constant	tStatistic	-2.6988	-0.2479	-2.7084	-1.5133	
	Prob.	***0.0908****	***0.9175 no***	***0.0893****	***0.5075***	
	At First Difference					
		d(ROE)	d(CRR)	d(LIQ)	d(LADR)	
With Constant	tStatistic	-6.7106	-4.5307	-5.4189	-3.7928	
	Prob.	***0.0000******	***0.0021******	***0.0003******	***0.0103*****	
Notes:						
a: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1% and (no) Not Significant						

b: Lag Length based on SIC				
c: Probability based on MacKinnon (1996) one-sided p-values.				

Source: Author's Computation from Eview 11, 2025.

Table 4.3 presents the results of the unit root test, which is used to assess the variables' degree of stationarity. According to the table, CRR and LADR are stationary at the first difference, while only ROE and LIQ are at levels. A significance level of 5% is used to define all crucial values.

The ARDL estimates are suitable for the model because of the mixture in integration order.

Table 4.4 Serial Correlation

Breusch-Godfrey Serial Correlation LM Test:

Null hypothesis: No serial correlation at up to 3 lags

F-statistic	0.635379	Prob. F(3,15)	0.6037
Obs*R-squared	2.480461	Prob. Chi-Square(3)	0.4788

Source: Author's Computation from Eview 11, 2025.

Table 4.4 displays the serial correlation's outcome. With a p-value of 0.4788, the probability value of the chi-square indicates that there is no serial connection among the regressors. Therefore, the model has no autocorrelation.

Table 4.5 Stability Test

Ramsey RESET Test

		df	
	Value		Probability
F-statistic	0.759381	(3, 15)	0.5341
Likelihood ratio	3.110626	3	0.3749

Source: Author's Computation from Eview 11, 2025.

The model is stable according to the null hypothesis of the test, which is that the model is stable, as demonstrated by the Ramsey Reset stability test, where the F-statistics probability of 0.5341is larger than the 5% significance line.

Table 4.6 Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
CRR	0.046191	5.600057	1.722388
LIQ	0.011245	17.08909	1.598567
LADR	0.006339	8.114384	1.626925
C	26.37298	13.42699	NA

Source: Author's Computation from Eview 11, 2025

All of the variables are independent of one another, according to the multicollinearity test computed using variance inflation factors (VIF); this result is drawn from the uncentered VIF, which is all less than 10.

Table 4.7 ARDL Model Selection

Model	LogL	AIC*	BIC	HQ	Adj. R-sq	Specification
160	-52.234391	6.235199	6.583150	6.294086	0.116567	ARDL(1, 2, 0, 0)
156	-51.604252	6.274132	6.671790	6.341431	0.098106	ARDL(1, 2, 1, 0)
159	-52.112827	6.327666	6.725324	6.394966	0.048508	ARDL(1, 2, 0, 1)
96	-52.211570	6.338060	6.735718	6.405360	0.038567	ARDL(2, 2, 0, 0)

Source: **Author's Computation from Eview 11, 2025.**

Model 1, 2, 0, 0 is the best suitable model for the research, according to the ARDL model selection shown in Table 4.7. This is because the model has the greatest value across all information criteria when compared to all the other models in the Table.

4.2 Interpretation of result

Table 4.8 Bound Test

Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic : n=1000	
F-statistic	5.326003	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

Source: **Author's Computation from Eview 11, 2025.**

The goal of the bound test shown in Table 4.8 is to ascertain if the model has a long-run connection. At a 5% significance level, the F-statistics value of 5.326003 is bigger than the upper and lower bounds, which are respectively calculated at 2.79 and 3.67. This suggests that the model has a long-run connection.

Table 4.9 Long Run Multiplier

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CRR	-0.356716	0.178525	-1.998128	0.0433
LIQ	0.011975	0.085272	0.140435	0.8905
LADR	0.113783	0.062848	1.810429	0.0934
C	10.75835	3.889827	2.765767	0.0160

Source: **Author's Computation from Eview 11, 2025.**

Table 4.9 shows the long-term association between the factors. With a coefficient of -0.356716, the result demonstrated that CRR has a negative and statistically significant impact on ROE. This means that a 1% rise in CRR would result in a 35% drop in ROE. With a coefficient of 0.011975, LIQ has a positive and statistically insignificant influence on ROE; that is, a 1% rise in LIQ will result in a 1.1% increase in ROE. Similarly, with a coefficient of 0.113783, LADR has a positive and statistically insignificant impact on ROE; that is, a 1% rise in LADR will result in an 11% increase in ROE. Therefore, in the same way that only CRR negatively affects RGDP, only CRR has a lasting impact on ROE.

Table 4.10 Short Run Dynamics

ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
R-squared	0.671508	Mean dependent var		-1.073124
Adjusted R-squared	0.632862	S.D. dependent var		6.827221
S.E. of regression	4.136743	Akaike info criterion		5.815176
D(CRR)	0.348019	0.282611	1.231442	0.2400
D(CRR(-1))	0.889484	0.325941	2.728976	0.0172
CointEq(-1)*	-0.428532	0.174293	-2.458687	0.0201
Sum squared resid	290.9149	Schwarz criterion		5.964536

Log likelihood	-55.15176	Hannan-Quinn criter.	5.844332
Durbin-Watson stat	2.306792		

Source: Author's Computation from Eview 11, 2025.

The short-run model, which includes the study's error correction term, is shown in Table 4.10 and assesses the parameters' short-term dynamics. The study found that CRR had a statistically negligible positive impact on ROE in the short term. The findings suggested that, in the near term, a 1% rise in CRR would result in a 34% increase in ROE, with the relationship between CRR and ROE now being positive and statistically significant. On the other hand, it is determined from the estimation's result that LIQ and LADR have no independent short-term impact on ROE.

Ultimately, the speed at which the short-run to long-run adjustment is made is shown by the error correction term, which at the 5% significance level reported a significant value with the proper sign (-), in line with the theoretical apriori expectation. The results indicate that 42% of the shortrun inconsistencies are being fixed and incorporated into the long-run equilibrium relationship in each period. The coefficient value is -0.428532 ($p=0.02<0.05$). According to the R-squared, in the near term, CRR, LIQ, and LADR are jointly responsible for 67% of the variations in ROE. Additionally, the Durbin-Watson statistic, which has a 2.306792 coefficient that is inside the permitted range of 1.79 to 2.40, demonstrated that there is no autocorrelation among the variables. **4.3 Discussion of Findings**

The results demonstrated that the cash reserve ratio had a negative impact on Nigerian banks' performance, suggesting that an increase in the cash reserve ratio causes Nigerian banks' performance to drop. The results demonstrated a positive relationship between the liquidity ratio and the performance of Nigerian banks, suggesting that higher liquidity ratios are associated with higher bank performance. The results of this study are contradicted by a study by Ayodeji and Oluwole (2018), which shows that the profitability of Nigeria's deposit money banks falls when the cash ratio and liquidity coverage ratio rise. Chaudhury (2018), however, backs up the idea that liquidity and productivity have a strong and positive relationship. Lastly, research revealed that the liquid assets to deposit ratio positively affects Nigerian banks' performance, suggesting that an

increase in the ratio causes Nigerian banks' performance to rise. The results of this study are consistent with those of Onyekwelu et al. (2018), who showed that liquidity has a positive and significant influence on bank profitability indicators.

5 CONCLUSION

The study examined the impact of liquidity management on the performance of Nigerian banks during a 24-year period, from 2000 to 2023. The findings suggest that while a rise in the cash reserve ratio initially improves bank performance in Nigeria, it ultimately results in a drop in those banks' long-term performance. On the other hand, a higher liquidity ratio eventually results in improved bank performance in Nigeria. In a similar vein, more liquid asset to deposit ratios eventually results in better bank performance in Nigeria. Thus, the study comes to the conclusion that while cash reserve ratio had a good impact on Nigerian bank performance in the short term, both the liquidity ratio and the liquid assets to deposit ratio had a positive long-term impact on the performance of Nigerian banks.

Based on the discoveries of the study, the following serves as the study's recommendations:

i. The authorities should lower the financial systems' cash reserve ratio in an effort to improve the performance of Nigerian banks, since this action has the ability to improve bank performance in Nigeria.
ii. In order to promote consistent improvement in the performance of Nigerian banks, the percentage of liquidity should be increased to a beneficial level.
iii. In order to enhance the performance of banks in Nigeria, the banks should work to maintain a healthy level of liquidity assets and should raise them as deposits rise.

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