

The Effect of Capital Adequacy on the Profitability of Deposit Money Banks in Nigeria

¹Okeke Ijeoma Chinwe., ¹Chidi-Okeke Chioma Nnenna., ²Obialo Kenechi Rosita

¹Department Of Banking and Finance, Nnamdi Azikiwe University, Awka Anambra State Nigeria

²Department Of Banking and Finance, Federal Polythechic Oko Anambra State Nigeria

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ABSTRACT

The study examines the effect of capital adequacy on the profitability of Nigerian deposit money banks for the period of 2010 – 2023. The objective of this study is to examine how capital adequacy has helped deposit money banks achieve an efficient performance. This study adopts an ex-post facto research design, and the sample size is all deposit money banks in Nigeria. The data used are mainly secondary data collected from the Central bank of Nigeria statistical bulletin and audited annual publications financial statements of all the deposit money banks listed on the Nigerian Stock Exchange. The study employed ordinary least square multiple regression (OLS), descriptive statistical analysis, in addition to E-view electronic packages. According to empirical results at 5% level of significance, findings shows that Capital Adequacy ratio has a positive and insignificant effect on the profitability of deposit money Bank in Nigeria, Loan to deposit ratio has a positive and insignificant effect on the profitability of deposit money Bank in Nigeria, Debt to equity ratio has a negative and insignificant effect on the profitability of deposit money Bank in Nigeria and Liquid Asset ratio has a positive and insignificant effect on the profitability of deposit money Bank in Nigeria. The study recommends that the regulatory authorities and Banks should continue to enforce capital adequacy requirements, focus on credit quality and risk management, optimize capital structure and manage liquidity effectively. These recommendations aim to promote financial stability, resilience, and profitability in the banking sector.

Keywords: Return on assets, Capital Adequacy ratio

INTRODUCTION

Background of the Study

Capital adequacy refers to the amount of capital a financial institution, such as a bank, has in relation to its risk-weighted assets. It ensures that the institution has enough capital to absorb potential losses and maintain stability. Capital adequacy is crucial for financial institutions to maintain trust and stability in the financial system. In Africa, where businesses vary widely in regulatory compliance and face unique challenges, credit defaults can significantly affect banks' profitability and stability, posing a substantial threat to their financial health (Odebode, Ezi and Ishioro 2024). Capital adequacy refers to a bank's capacity to maintain sufficient equity to meet withdrawal demands from depositors while also having enough financial strength to support asset growth through lending (Nwokoji, 2017). It remains one of the most heavily regulated aspects of the global banking sector.

The Capital Adequacy Ratio (CAR) serves as a key indicator of a bank's financial health. Adequate capital enables banks to absorb losses, meet regulatory capital requirements, and enhance overall performance. The capital adequacy ratio (CAR) is crucial for evaluating banks' financial stability, as sufficient capital enables them to absorb losses and meet regulatory requirements. The Basel Accords, especially Basel III, enforce stricter capital adequacy regulations to shield banks from credit defaults and other financial risks (Lucky and Tamunoiduabia, 2024). A strong capital base often translates into higher financial stability, fostering trust among depositors and attracting more funds under favorable conditions. In financial systems worldwide, including

Nigeria's, banks play a pivotal role by acting as intermediaries between surplus and deficit units—mobilizing savings and allocating credit (Singh, 2010). One of Nigeria's most significant financial sector reforms was the increase in the capital base of banks, which led to the emergence of more robust and resilient institutions. Capital adequacy, typically expressed as a percentage of a bank's primary capital to its risk-weighted assets, is used to evaluate financial strength and stability. Empirical evidence supports the importance of capital adequacy. Ejoh and Iwara (2014) found it to be a significant determinant of return on assets in Nigerian banks. Similarly, Ayaydin and Karakaya (2014) concluded that changes in capital levels can affect bank risk and profitability—either positively or negatively.

The importance of capital adequacy has been further underscored by various banking reforms in Nigeria. The 2004 banking consolidation led by Soludo raised the minimum capital requirement for banks to ₦25 billion, aiming to improve their ability to withstand financial shocks and boost profitability. To address recurring challenges in deposit money banks, the Central Bank of Nigeria (CBN) implemented further reforms aligned with Basel III standards. In 2019, the CBN raised the minimum capital requirement to ₦50 billion for banks with international authorization and Domestic Systemically Important Banks (D-SIBs), effective from January 2020, to enhance resilience and protect against unforeseen losses (Ofeimun & Akpotor, 2020). A well-capitalized bank is better equipped to protect depositors, expand operations, and pursue profitable opportunities. Studies by Olalekan and Adeyinka (2013) suggest that banks with strong capital positions tend to perform better financially, especially in volatile markets like Nigeria. However, the relationship between capital adequacy and profitability isn't always linear.

After the 2007–2009 global financial crisis, Nigeria adopted Basel II and III regulatory frameworks to bolster capital adequacy, ensuring banks remain solvent during periods of stress (Sanusi, 2010). CBN's capital adequacy guidelines currently require a CAR of 15% for banks with international licenses, 16% for D-SIBs, and 10% for banks with national licenses (CBN, 2019). These standards serve as critical benchmarks for assessing the financial strength of Nigerian deposit money banks. While recapitalization efforts have helped stabilize the system, some banks continue to struggle with capital erosion due to losses, as seen in 2017 (Ofeimun & Akpotor, 2020).

Maintaining adequate capital instills confidence in the banking system by assuring stakeholders of a bank's ability to meet its obligations. The Capital Adequacy Ratio, which reflects the ratio of a bank's regulatory capital to its risk-weighted assets, remains a key metric in evaluating financial soundness. Prudential guidelines also focus on three main elements: credit risk, market risk, and the form and quality of capital held. These frameworks reinforce the role of capital adequacy in ensuring long-term solvency and reducing systemic risk in the banking sector.

Ultimately, profitability reflects a bank's ability to efficiently generate returns, often measured using profitability ratios (Ajayi, Animola & Origin, 2019). These ratios serve as key indicators of how effectively banks utilize their assets and manage capital to achieve sustainable growth.

Despite regulatory reforms and capital recapitalization efforts in Nigeria, several banks have struggled with profitability challenges, with some experiencing capital erosion, operational inefficiencies, and distress. This raises concerns about the effectiveness of capital adequacy in driving profitability in Nigeria's banking system. The relationship between capital adequacy and profitability is complex, with some studies suggesting that higher capital levels enhance profitability, while others argue that excessive capital may limit returns. This study aims to examine the effect of capital adequacy on the performance of Deposit Money Banks (DMBs) in Nigeria

Research Objectives

1. To assess the effect of Capital Adequacy ratio on the profitability of deposit money Bank in Nigeria.
2. To ascertain the effect of loan to deposit ratio on the profitability of deposit money Bank in Nigeria.
- 3: To evaluate the effect of debt to equity ratio on the profitability of deposit money Bank in Nigeria.
- 4: To examine the effect of liquid asset ratio on the profitability of deposit money Bank in Nigeria.

Theoretical Framework

This study is anchored on the Buffer Theory of Capital Adequacy, which suggests that banks maintain excess capital as a buffer to mitigate the risk of falling below regulatory minimums. This theory implies a trade-off between capital adequacy and risk-taking. The study's framework is supported by the Central Bank of Nigeria's regulations on minimum capital adequacy ratios, which align with the Basel Capital Accord approach. Therefore, the setting of minimum capital requirements and capital adequacy ratios for banks seem to be consistent with the buffer theory of capital adequacy (Hunjra, Zureigat & Mehmood, 2020). The Buffer Theory provides a suitable lens for examining capital adequacy in the context of Nigerian deposit money banks.

Empirical Review of Related Studies

John, Ibrahim, Tonga, and Chinyere (2025) analyzed how credit default influences the capital adequacy ratio of Quoted Deposit Money Banks (QDMBs) in Nigeria. The study analyzed data from thirteen banks listed on the Nigerian Stock Exchange between 2011 and 2023. Guided by Modern Portfolio Theory (MPT), the study employed panel regression to explore the relationships between variables. Findings revealed that both credit spread and non-performing loans positively and significantly affect Tier 1 capital ratios. Conversely, loan loss provisions and regulatory capital showed minimal impact on Tier 1 capital ratios. The study concluded that non-performing loans and credit spread—components of credit default—significantly shape banks' capital adequacy. Awwad (2023) examined the relationship between capital adequacy ratio and the profitability of Palestinian banks using data from 2010 to 2019. Six local banks listed on the Palestinian Stock Exchange were sampled. , the study found a negative correlation between capital adequacy and bank performance, specifically in terms of non-performing loans and return on assets. Hassan and Hassan (2023) analyzed the factors influencing the profitability of Nigerian listed deposit money banks (DMBs) between 2013 and 2022. Using return on assets as a proxy for profitability, they applied panel regression to data from twelve listed DMBs. The results indicated that the capital adequacy ratio had a significant positive impact on profitability, while non-performing loans had a significant negative effect. Ezu, Nwanna, and Eke-Jeff (2023) assessed how capital adequacy affects the performance of Nigerian deposit money banks from 2000 to 2020. Using an ex-post facto design, Ordinary Least Squares (OLS) multiple regression revealed that variables like total capital to risk-weighted assets, bank capitalization to total credit, and debt to equity ratio significantly influenced return on assets. The study concluded that capital adequacy has both direct and inverse linear effects on banks' performance.

Abdulai and Umar (2022) studied the impact of capital adequacy ratio and bank size on the profitability of Ghanaian banks from 2008 to 2017, while also incorporating inflation and monetary policy rate. Using return on assets as the profitability measure and applying OLS analysis, findings showed that capital adequacy and bank size positively influenced profitability. Inflation had a positive effect, whereas the monetary policy rate had a negative impact. Sani and Muhammad (2021) used regression analysis on financial data from fourteen deposit money banks in Nigeria (2011–2018) to examine the link between capital adequacy and bank performance. Return on assets and return on equity served as performance indicators. Results demonstrated a significant positive relationship between capital adequacy and both performance metrics. Aliyu, Abdullahi, and Bakare (2020) explored the connection between capital adequacy and the financial performance of internationally authorized DMBs in Nigeria, analyzing secondary data from 2012 to 2019. Panel regression analysis showed that loans and advances had a significant positive effect on financial performance, and the study concluded that capital adequacy positively correlates with DMBs' financial outcomes. Agu and Nwankwo (2019) evaluated how factors such as loans and advances, owners' equity, and total deposits impact commercial bank performance (2010–2017). Regression analysis revealed a positive, though statistically insignificant, impact of owners' equity on net interest income. Tochukwu (2016) utilized pooled least squares regression to evaluate the effect of risk management variables on capital adequacy across twelve banks (2009–2015). The study found that only risk-weighted asset ratio significantly affected capital adequacy. Ozurumba (2016) investigated the impact of non-performing loans on commercial bank performance (2000–2013) using OLS and ratio analysis. Findings revealed a negative relationship between non-performing loans and return on assets. Eyo and Offiong (2015), focusing on Access Bank Plc (1999–2012), discovered a significant relationship between supplementary capital and profitability, while no significant link was found for core capital.

Agbeja, Adelakun, and Olufemi (2015) analyzed how capital adequacy influences profitability and credit risk exposure in Nigerian banks using secondary data. Their results demonstrated a strong positive relationship between capital adequacy and profitability. Akani and Lucky (2015) used time-series data and VECM to analyze capital adequacy ratios and commercial bank profitability (1980–2013). They found a positive long-term relationship, especially between capital to risk asset ratio and return on assets. Some variables, however, showed negative correlations. Ejoh and Iwara (2014) assessed capital adequacy's effect on five Nigerian banks (1981–2011), finding a strong link between capital ratios and return on assets. The study noted that higher equity capital enhances bank safety and profitability. Abba, Zachariah, and Inyang (2013) analyzed the relationship between capital adequacy and banking risk (2007–2011). Regression analysis showed a significant negative relationship—rising risk levels led to lower capital adequacy. Ezike and Oke (2013) examined how adopting capital adequacy standards affected Nigerian bank performance. OLS regression showed that loans, deposits, and total assets significantly influenced earnings per share and profit after tax. Olalekan and Adeyinka (2013) and Asikhia and Sokefun (2013) found that secondary data supported a significant link between capital adequacy and profitability, while primary data analysis suggested no significant relationship. Limitations included unclear population parameters.

RESEARCH METHODOLOGY

Research design

The research design adopted in this study is the ex-post facto .

This research adopted a secondary method of data collection. The quantitative data from annually audited financial reports of deposit money banks published in Nigeria Deposit Insurance Corporation (NDIC) and Central Bank of Nigeria (CBN) annual reports and statistical bulletins which contains the independent variable such as liquid asset ratio, debt to equity ratio ,capital adequacy ratio and loan to deposit ratio and the dependent variable Return on assets. The data used for this study are time series ranging from 2010 to 2023.

Model Specifications

This study adopted the model of Ezu, Nwanna and Eke-Jeff (2023) with some modifications to suit this study. The profitability indicator use for this particular study is Return on Assets (ROA) and the major determinants (independent variables) are Capital Adequacy Ratio (CAR), Debt to equity(DER), Loan to Deposit Ratio(LDR) and Liquid Asset ratio (LAR).

The regression model of the study is: $ROA = f(CAR, LDR, LAR, \text{ and } DER)$.

Where: ROA = return on Asset

CAR = capital adequacy Ratio

DER = debt to equity ratio

LAR = liquid asset ratio

LDR = Loan to deposit ratio

The model is specified in econometric form as follows:

$$ROA = b_0 + b_1 CAR + b_2 LDR + b_3 DER + b_4 LAR + \mu_t.$$

Rewritten we will have: $\hat{Y} = \alpha + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + \mu_t$.

Where $\hat{Y} = ROA$, $X_1 = CAR$, $X_2 = LDR$, $X_3 = DER$, $X_4 = LAR$

The a priori expectation is $\beta_1, \beta_2, \beta_3, \beta_4 > 0$

ROA = Return on Asset

CAR = Capital Adequacy Ratio

LDR = Loan to Deposit Ratio

DER = Debt to Equity Ratio

LAR = Liquid Asset Ratio

ε = Error Term

α_i = Intercept / constant

$\beta_1 - \beta_4$ = Coefficient of the Independent Variables.

Capital Adequacy ratio: The Capital Adequacy Ratio (CAR), also known as the Capital-to-Risk-Weighted Assets Ratio (CRAR), is a measure used by financial institutions, particularly banks, to determine their financial strength and stability.

Loan to Deposit ratio: A loan ratio typically refers to the proportion of a loan in relation to an asset's value or the borrower's financial situation. Loan-to-Deposit Ratio (LDR):

Debt to equity ratio: The Debt-to-Equity (D/E) Ratio is a financial metric that compares the total debt of a company to its shareholders' equity. It indicates how much debt a company is using to finance its operations relative to the equity invested by its shareholders.

Liquid asset ratio: The Liquid Asset Ratio is a financial metric used to assess a company's ability to meet its short-term liabilities using its most liquid assets.

Return on Asset: Return on Assets (ROA) is a financial techniques that evaluates a company's ability to generate profit relative to its total assets. It indicates how efficiently management utilizes assets to produce earnings.

Method of Data Analysis

The data gathered in this study was analyzed using a multiple linear regression model. The Ordinary Least Square Regression Model predicts the relationships (whether positive or negative) between the dependent and the independent variable as well as the extent of the relationship. The decision rule of testing of hypotheses in the study, is as expressed: accept Alternate hypothesis (H_a) if cal p-value is less than 0.05 ($p\text{-value} < 0.05$); otherwise accept the null hypothesis (H_o).

Data Analysis

Unit Root Test

Unit Root Result

Table 1

Variables	Level	Prob.	Result
CAR	1(0)	0.0003	Stationary
LDR	1(1)	0.0252	Stationary
DER	1(0)	0.0000	Stationary
LAR	1(2)	0.0016	Stationary
ROA	1(0)	0.0002	Stationary

Source: Researchers computation from Eviews

The result shows the absence of unit root, as CAR and DER were stationary at level, LDR stationary at first difference while LAR stationary at second difference.

Test of Hypotheses

Test of Hypothesis I

H₀₁ Capital Adequacy ratio has no significant effect on the profitability of deposit money Banks in Nigeria.

H₁ Capital Adequacy ratio has a significant effect on the profitability of deposit money Banks in Nigeria.

Table 2 Regression Result for Capital Adequacy Ratio and Return on Asset

Dependent Variable: ROA				
Method: ARDL				
Date: 05/23/25 Time: 18:35				
Sample (adjusted): 2011 2023				
Included observations: 13 after adjustments				
Maximum dependent lags: 1 (Automatic selection)				
Model selection method: Schwarz criterion (SIC)				
Dynamic regressors (0 lag, automatic): CAR				
Fixed regressors: C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
ROA(-1)	-0.455305	0.189260	-2.405709	0.0370
CAR	0.173376	0.087804	1.974586	0.0766
C	-0.082360	1.338551	-0.061529	0.9521
R-squared	0.448267	Mean dependent var		1.736923
Adjusted R-squared	0.337920	S.D. dependent var		0.766066
S.E. of regression	0.623334	Akaike info criterion		2.091707
Sum squared resid	3.885458	Schwarz criterion		2.222080
Log likelihood	-10.59610	Hannan-Quinn criter.		2.064910
F-statistic	4.062350	Durbin-Watson stat		1.015769
Prob(F-statistic)	0.051126			

Source: Eviews Output

Interpretation of Regression Result

The regressed coefficient correlation result in table 2 shows the existence of a positive effect of Capital adequacy ratio (CAR) on Banks Return on Asset (ROA) (0.173376) at 5% significant level. The probability value for the slope coefficient shows that $P(x_1=0.0766>0.05)$. This implies that Capital adequacy ratio (CAR) has no statistically significant effect on return on asset at 5% significance level. The coefficient of determination obtained is 0.44826 (44.826%), which is commonly referred to as the value of R^2 . The cumulative test of hypothesis using R^2 to draw statistical inference about the explanatory variable employed in this regression equation, shows that the R-Squared value tells that 44.826% of the systematic variations in the Banks return on asset is predicted by the Capital adequacy ratio (CAR) while 55.174% was explained by unknown variables that were not included in the model. The Durbin-Watson statistic of 1.0157 indicates that there is no auto-correlation problem.

Consequently, since the P-value of Capital adequacy ratio (CAR) is greater than the critical value of 0.05, thus we accept the null hypothesis that Capital Adequacy ratio has no significant effect on the profitability of deposit money Banks in Nigeria.

Test of Hypothesis II

H_{01} Loan to Deposit ratio has no significant effect on the profitability of deposit money Banks in Nigeria.

H_1 Loan to Deposit ratio has a significant effect on the profitability of deposit money Banks in Nigeria.

Table 3: Regression Result for Loan to Deposit ratio and Return on Asset

Dependent Variable: ROA				
Method: ARDL				
Date: 05/23/25 Time: 18:36				
Sample (adjusted): 2011 2023				
Included observations: 13 after adjustments				
Maximum dependent lags: 1 (Automatic selection)				
Model selection method: Schwarz criterion (SIC)				
Dynamic regressors (0 lag, automatic): LDR				
Fixed regressors: C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
ROA(-1)	-0.384754	0.219562	-1.752375	0.1103
LDR	0.003570	0.023159	0.154147	0.8806
C	2.221485	1.538510	1.443920	0.1794
R-squared	0.234964	Mean dependent var		1.736923
Adjusted R-squared	0.081957	S.D. dependent var		0.766066
S.E. of regression	0.734002	Akaike info criterion		2.418565

Sum squared resid	5.387593	Schwarz criterion	2.548938
Log likelihood	-12.72067	Hannan-Quinn criter.	2.391767
F-statistic	1.535643	Durbin-Watson stat	1.194323
Prob(F-statistic)	0.262065		

Source: Eviews Output

Interpretation of Regression Result

The regressed coefficient correlation result in table 3 shows the existence of a positive effect of Loan to Deposit ratio (LDR) on Banks Return on Asset (ROA) (0.003570) at 5% significant level. The probability value for the slope coefficient shows that $P(x_1=0.8806>0.05)$. This implies that Loan to Deposit ratio (LDR) has no statistically significant effect on return on asset at 5% significance level. The coefficient of determination obtained is 0.2349 (23.49%), which is commonly referred to as the value of R^2 . The cumulative test of hypothesis using R^2 to draw statistical inference about the explanatory variable employed in this regression equation, shows that the R-Squared value tells that 23.49% of the systematic variations in the Banks return on asset is predicted by the Loan to Deposit ratio (LDR) while 76.51% was explained by unknown variables that were not included in the model. The Durbin-Watson statistic of 1.1943 indicates that there is no auto-correlation problem.

Consequently, since the P-value of Loan to Deposit ratio (LDR) is greater than the critical value of 0.05, thus we accept the null hypothesis that Loan to Deposit ratio has no significant effect on the profitability of deposit money Banks in Nigeria.

Test of Hypothesis III

H_{01} Debt to Equity ratio has no significant effect on the profitability of deposit money Banks in Nigeria.

H_1 Debt to Equity ratio has a significant effect on the profitability of deposit money Banks in Nigeria.

Table 4: Regression Result for Debt to Equity Ratio and Return on Asset

Dependent Variable: ROA				
Method: ARDL				
Date: 05/23/25 Time: 18:37				
Sample (adjusted): 2011 2023				
Included observations: 13 after adjustments				
Maximum dependent lags: 1 (Automatic selection)				
Model selection method: Schwarz criterion (SIC)				
Dynamic regressors (0 lag, automatic): DER				
Fixed regressors: C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
ROA(-1)	-0.414574	0.180405	-2.298017	0.0444

DER	-0.143832	0.065633	-2.191472	0.0532
C	4.140005	0.858211	4.823993	0.0007
R-squared	0.481945	Mean dependent var		1.736923
Adjusted R-squared	0.378334	S.D. dependent var		0.766066
S.E. of regression	0.604011	Akaike info criterion		2.028724
Sum squared resid	3.648287	Schwarz criterion		2.159097
Log likelihood	-10.18671	Hannan-Quinn criter.		2.001926
F-statistic	4.651484	Durbin-Watson stat		1.051862
Prob(F-statistic)	0.037315			

Interpretation of Regression Result

The regressed coefficient correlation result in table 4 shows the existence of a negative effect of Debt to Equity ratio (DER) on Banks Return on Asset (ROA) (-0.1438) at 5% significant level. The probability value for the slope coefficient shows that $P(x_1=0.0532>0.05)$. This implies that Debt to Equity ratio (DER) has no statistically significant effect on return on asset at 5% significance level. The coefficient of determination obtained is 0.4819 (48.19%), which is commonly referred to as the value of R^2 . The cumulative test of hypothesis using R^2 to draw statistical inference about the explanatory variable employed in this regression equation, shows that the R-Squared value tells that 48.19% of the systematic variations in the Banks return on asset is predicted by the Debt to Equity ratio (DER) while 51.81% was explained by unknown variables that were not included in the model. The Durbin-Watson statistic of 1.0518 indicates that there is no auto-correlation problem.

Consequently, since the P-value of Debt to Equity ratio is greater than the critical value of 0.05, thus we accept the null hypothesis that Debt to Equity ratio has no significant effect on the profitability of deposit money Banks in Nigeria.

Test of Hypothesis IV

H_{01} Liquid Asset ratio has no significant effect on the profitability of deposit money Banks in Nigeria.

H_1 Liquid Asset ratio has a significant effect on the profitability of deposit money Banks in Nigeria.

Table 5: Regression Result for Liquid Asset Ratio and Return on Asset

Dependent Variable: ROA			
Method: ARDL			
Date: 05/23/25 Time: 18:38			
Sample (adjusted): 2011 2023			
Included observations: 13 after adjustments			
Maximum dependent lags: 1 (Automatic selection)			
Model selection method: Schwarz criterion (SIC)			

Dynamic regressors (0 lag, automatic): LAR				
Fixed regressors: C				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
ROA(-1)	-0.372870	0.222478	-1.675983	0.1247
LAR	0.002418	0.012235	0.197623	0.8473
C	2.327219	0.762021	3.054011	0.0122
R-squared	0.236130	Mean dependent var		1.736923
Adjusted R-squared	0.083356	S.D. dependent var		0.766066
S.E. of regression	0.733443	Akaike info criterion		2.417040
Sum squared resid	5.379385	Schwarz criterion		2.547413
Log likelihood	-12.71076	Hannan-Quinn criter.		2.390243
F-statistic	1.545615	Durbin-Watson stat		1.219757
Prob(F-statistic)	0.260075			

Source: Eviews Output

Interpretation of Regression Result

The regressed coefficient correlation result in table 5 shows the existence of a negative effect of Liquid Asset ratio (LAR) on Banks Return on Asset (ROA) (0.0024) at 5% significant level. The probability value for the slope coefficient shows that $P(x_1=0.8473>0.05)$. This implies that Liquid Asset ratio (LAR) has no statistically significant effect on return on asset at 5% significance level. The coefficient of determination obtained is 0.2361 (23.61%), which is commonly referred to as the value of R^2 . The cumulative test of hypothesis using R^2 to draw statistical inference about the explanatory variable employed in this regression equation, shows that the R-Squared value tells that 23.61% of the systematic variations in the Banks return on asset is predicted by the Liquid Asset ratio (LAR) while 76.39% was explained by unknown variables that were not included in the model. The Durbin-Watson statistic of 1.0518 indicates that there is no auto-correlation problem.

Consequently, since the P-value of Liquid Asset ratio is greater than the critical value of 0.05, thus we accept the null hypothesis that Liquid Asset ratio has no significant effect on the profitability of deposit money Banks in Nigeria.

DISCUSSION OF FINDINGS

The result of our first hypothesis shows that Capital adequacy ratio has positive and insignificant effect on profitability of deposit money banks in Nigeria. The positive effects suggest that while capital adequacy may contribute to profitability, it is not a dominant factor alone. This may indicate that while capital strength matters, factors like operational efficiency, asset quality and macroeconomic factors may be more critical drivers of profitability. Research by Agbeja, O., Adelakun, O.J., & Olufemi, F. I. (2015) showed a positive and significant relationship between capital adequacy and profitability of bank which differs from our findings. The result of our second hypothesis shows that the weak correlation and high p-value indicates that loan to deposit ratio does not significantly influence profitability of deposit money banks. Even though LDR is often used to access a banks liquidity and risk exposure, In this case, it does not appear to directly affect profitability of deposit money banks.

This suggest that banks' ability to generate returns on their asset may rely more on factors like interest margins, operational efficiency, or asset quality rather than the mere proportion of loans to deposit.

The result of our third hypothesis indicates a negative correlation between debt to equity and return on asset. This means that as DER increases, ROA tends to decrease slightly. The P-value is above the 5% threshold, indicating no statistical significance. The negative correlation suggest that increasing financial leverage could reduce profitability in deposit money banks. This aligns with conventional financial theory that excessive debt raises financial risk, which can reduce investor confidence and increase interest expenses thereby lowering returns.

The result of our final hypothesis indicates a positive correlation between liquid asset ratio and return on asset. This shows practically no relationship exist between liquid asset ratio and return on asset; changes in liquidity levels have almost no linear effect on profitability. The p-value is very high, indicating that the effect is not statistically significant.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

Summary of Findings

1. Capital Adequacy ratio has a positive and insignificant effect on the profitability of deposit money Bank in Nigeria.
2. Loan to deposit ratio has a positive and insignificant effect on the profitability of deposit money Bank in Nigeria.
3. Debt to equity ratio has a negative and insignificant effect on the profitability of deposit money Bank in Nigeria.
4. Liquid Asset ratio has a positive and insignificant effect on the profitability of deposit money Bank in Nigeria.

Conclusion

This study examined the effect of Capital Adequacy Ratio (CAR), profitability of deposit money banks in Nigeria. Using regression analysis, the findings provide insights into how selected capital adequacy indicators influence bank profitability. The analysis revealed that Capital Adequacy Ratio has a positive but weak and marginally significant impact on profitability, suggesting that well-capitalized banks are slightly more capable of generating returns on their assets. Similarly, the Debt to Equity Ratio exhibited a weak negative relationship with ROA, indicating that excessive reliance on debt financing may reduce profitability, the Loan to Deposit Ratio and Liquid Asset Ratio showed no significant effect on ROA, suggesting that variations in lending behavior or liquidity holdings do not directly translate to changes in profitability during the study period.

Overall, the study concludes that while capital structure and adequacy play a modest role in influencing bank profitability in Nigeria, liquidity and lending ratios do not significantly affect ROA. Policymakers and bank managers should therefore focus on maintaining optimal capital levels and prudent debt management, while not overemphasizing liquidity levels unless they compromise operational efficiency.

Recommendations for Regulatory Authorities and Banks

1. Enforce Capital Adequacy Requirements: Regulatory authorities should continue to enforce capital adequacy requirements and encourage banks to maintain higher capital buffers. Banks should focus on improving their capital structure through retained earnings and equity financing to enhance resilience and profitability.
2. Focus on Credit Quality and Risk Management: Banks should prioritize credit quality, interest margin, and risk management over aggressive lending strategies, as the Loan to Deposit Ratio has no significant impact on profitability.

3. Optimize Capital Structure: Banks should adopt a balanced capital structure, combining equity and debt to minimize risk and maximize returns. They should avoid over-reliance on debt financing, which can have a negative impact on profitability.

4. Manage Liquidity Effectively: While maintaining adequate liquidity is crucial for operational stability, banks should invest excess liquid assets in productive, interest-generating opportunities to maximize returns.

These recommendations aim to promote financial stability, resilience, and profitability in the banking sector.

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