



Effects of credit management on financial performance of Deposit Money Banks (DMBS) in Nigeria

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Abstract

The financial performance of Deposit Money Banks (DMBs) worldwide is fundamental to the economic and financial framework of each nation; therefore, the stability and underlying economic performance of DMBs are crucial for a nation's economic development. Stakeholders in the banking sector, including depositors, shareholders, investors, and policymakers, exhibit significant concern regarding the financial performance of commercial banks due to the prevailing dangers associated with insufficient returns on investment. Sequel to this, this study aims to evaluate the effects of credit management on financial performance of Deposit Money Banks (DMBs) in Nigeria. Using purposive sampling technique, fourteen (14) banks were selected as the sample subjects. The validity and reliability were based on the statutory audit of their financial statement approved for use by CBN. The study adopted descriptive and inferential (regression) statistics in data analysis. The findings revealed that: credit management has significant effect on financial performance of Deposit Money Banks in Nigeria. Specifically, the study revealed that nonperforming loan has significant negative effect on financial performance. The study concluded that credit management influences the financial performance of deposit money banks in Nigeria. The study recommended that the management of deposit money banks in Nigeria should formulate and uphold a comprehensive credit management strategy and framework, together with a rigorous credit policy, to reduce non-performing loans and default rates, thereby enhancing their performance levels.

Keywords: Credit management, Financial performance, DMBs, Nigeria

Introduction

The financial performance of Deposit Money Banks (DMBs) worldwide is fundamental to the economic and financial framework of each nation; therefore, the stability and underlying economic performance of DMBs are crucial for a nation's economic development. Stakeholders in the banking sector, including depositors, shareholders, investors, and policymakers, exhibit significant concern regarding the financial performance of commercial banks due to the prevailing dangers associated with insufficient returns on investment (Bouteille et al., 2021). The extensive history of corporate failures associated with inadequate bank financial performance and reporting deficiencies is concerning, as the aggregate effect of these prominent cases has resulted in persistent bank losses in investments, diminished credibility, and eroded stakeholder confidence in banks' management of depositors' funds and the intrinsic credit risks of banks (Al-Eitan & Bani-Khalid, 2019) (Alzorqan, 2014).

The performance of the listed Deposit Money Banks in Nigeria is asymmetrical, reflecting the varying capacities of each bank to effectively navigate,

manage, and align itself for profitability. Statistically, publicly listed Deposit Money Banks in Nigeria have had declining profitability mostly during the past decade, despite substantial financial investments (Yenni et al., 2021) (Ajekwe et al., 2017). Subpar performance in financial institutions may yield catastrophic repercussions for a growing economy. Efficient credit management is crucial for organizational performance. The net interest margin serves as the proxy for financial performance, considering its correlation with credit management strategies. Suresh and Paul (2018) observed that Net Interest Margin (NIM) quantifies the net returns related to banks' earning assets. This measure considers just productive assets, excluding all others. It facilitates the identification and disposal of nonproductive assets that diminish financial performance. Abdel-Basset et al. (2019) observed that net interest margins are a crucial component in evaluating performance by considering productive assets. The identification of productive assets allows organizations to eliminate non-productive assets, thereby enhancing their financial performance. This research appropriately measures performance using this metric due to its relevance to credit systems in banks. Efficient credit management systems inside

organizations are essential for corporate performance (Hudson, 2020) (Andrieu et al., 2018).

Credit risk represents the foremost difficulty faced by banks, since their performance is considerably hindered by the reliance on credit facilities, which generate interest and constitute a substantial portion of their revenues. Ghaith and Tareq (2018) asserted that credit management is an intrinsic aspect influencing performance in the banking sector. Aslam et al. (2020) defined credit management as a set of written directives outlining the criteria, consumer qualifying prerequisites, collection procedures, and actions to be taken in cases of customer misconduct. Credit management significantly contributed to the financial crisis and has garnered considerable attention from the public and policymakers.

Credit risk management is essential in the presence of credit risk. Financial firms must adeptly manage credit risk to ensure survival, profitability, and growth. Taiwo et al. (2017) (Greuning & Bratanovic, 2009) assert that elevated and inadequately managed credit risks lead to significant losses, threaten depositor security, and adversely affect the profitability of Deposit Money Banks (DMBs). The increase in Non-Performing Loans (NPLR) in Nigeria exerts considerable pressure on the financial condition of Deposit Money Banks (DMBs). Recent data from the International Monetary Fund indicates that Nigeria's Non-Performing Loan Ratio (NPLR) rose from 5% to 15.6% percent to total loans between June 2015 and October 2017. This trend adversely impacts on the banking sector's ability to maintain expansion and facilitate credit intermediation, while simultaneously heightening the requirement for loan loss reserves. Moreover, the Capital Adequacy Ratio (CAR), an essential element of credit risk management, acts as an indicator of DMBs' financial soundness. The Central Bank of Nigeria's 2017 Financial Stability Report indicates that the Capital Adequacy Ratio declined by 3.3% from December 2016 to June 2017 (Alhassan et al., 2021) (Osakwe et al., 2019).

The ratio of hazardous assets to first-tier capital declined by 3.9%, from 16.3% in December 2016 to 12.4% in June 2017. Therefore, it is essential to examine the impact of credit management on the performance of Nigerian Deposit Money Banks

(DMBs). The principal objective of this study is to determine the impact of credit management on the performance of Deposit Money Banks (DMBs) in Nigeria, with credit risk indicators being non-performing loans ratio (NPLR), Loan-Loss Provisions Ratio (LLPR), and Capital Adequacy Ratio (CAR), while performance is measured by Return On Assets (ROA).

Literature Review

The study by Ogunmakinu (2022) investigates the impact of credit management on the performance of Deposit Money Banks in Nigeria, specifically analyzing Non-Performing Loans (NPL), Profit After Tax (PAT), Capital Adequacy Ratio (CAR), and Loan to Deposit Ratio (LDR). The findings indicate that Non-Performing Loans (NPLs) exert a substantial beneficial influence on profit after tax, whilst loan loss provisions have a detrimental effect. Onuora and Ifeicho (2017) investigated the impact of credit management on the profitability of manufacturing enterprises in Nigeria. An analysis of specific firms listed on the Nigerian Stock Exchange. The study aimed to examine the impact of credit policy, liquidity management, and debtors' turnover on the firm's profitability. Secondary data was obtained from five selected companies, encompassing the period from 2010 to 2014. The collected data were analyzed using pooled multiple regression to evaluate the hypotheses. It was determined that credit policy and liquidity management have a significant negative correlation with return on assets, whereas debtors' turnover exhibits an opposite influence on return on assets.

Nwanna and Oguezie (2017) examined the impact of credit management on the profitability of Deposit Money Banks in Nigeria. The study focuses on loans and advances, loan loss provisions, and non-performing loans, as well as their impact on the financial performance of Deposit Money Banks (DMBs) in Nigeria. Secondary data for all DMBs were collected from the Central Bank Bulletin for the period from 2006 to 2015. Multiple regression techniques were employed to analyze the data. It was determined that loans and advances, as well as loan loss provisions, exert a positive although small influence on profitability, whereas nonperforming loans have a negative and insignificant impact on

profitability. Nyabicha (2017) investigated the impact of credit risk management on the financial performance of commercial banks listed on the Nairobi Securities Exchange in Kenya. The study aims to ascertain the significant association between capital adequacy ratio, loss given default, loan loss provision, non-performing loans, and bank stock performance in Kenya. Secondary data was gathered from 44 commercial banks in Kenya for the period spanning 2008 to 2014. Generally required least squares regression was employed to analyze the secondary data. The study indicated that there is no substantial correlation between capital adequacy ratio, loss given default, loan loss provision, and bank stock performance in Kenya. It also disclosed a statistically adverse correlation between the nonperforming loan ratio and bank stock performance in Kenya.

Mogga, Mwambia, and Kithinji (2018) examined the impact of credit risk management on the financial performance of commercial banks in Juba City, South Sudan. The study utilized primary data obtained through questionnaires to gather information. The focus was on risk identification, risk monitoring, risk analysis, and evaluation as instruments of risk management and their impact on the financial performance of banks in Juba City. SPSS was employed to evaluate data collected from six banks. The study revealed that risk identification significantly impacts the financial performance of banks, however risk analysis and assessment have an insignificant effect on financial performance. Kipkirui and Omagwa (2018) investigated the relationship between Credit Management Practices and the Financial Performance of Microfinance Institutions in Nairobi's central business area, Kenya. They aimed to ascertain the impact of client appraisal, credit risk collection policy, and credit terms on the financial performance of microfinance institutions in Kenya. The research utilized primary data collected through questionnaires. Multiple regression was conducted using 158 questionnaires. The study determined that enhancements in credit risk management, client evaluation, collection policies, and credit terms will bolster the financial standing of microfinance banks.

Gadzo, Oduro, and Asiedu (2019) investigated the influence of credit risk on business financial performance. Secondary data were obtained from

banks listed on the Ghana Stock Exchange. The study indicated that capital sufficiency, operating efficiency, profitability, and net interest are inversely correlated with credit risk, whereas bank size and financing gap are positively correlated with credit risk. This study aligns with the findings of Kajola, Babatunji, Olabisi, and Babatolu (2019), who investigated the impact of credit management on the financial performance of banks. Ten banks listed on the Nigerian Stock Exchange were studied. Secondary data from 2005 to 2016 were gathered about the Non-Performing Loan to Total Loan Ratio (NPLDR), capital adequacy, Return On Assets (ROA), and Return On Equity (ROE). The research using Generalized Least Squares (GLS) regression determined that all credit management indicators exhibit a strong correlation with Return On Assets (ROA) and Return On Equity (ROE). Adegbe and Otolaiye (2020) investigated the impact of credit risk on the financial performance of Deposit Money Banks in Nigeria. The investigation encompassed the years 2006 to 2018, with 169 firms. The findings indicated a considerable positive correlation between financial performance and credit management. The research aligns with the findings of Kasali and Fashanu (2020), who investigated the relationship between credit management and the financial performance of financial institutions in Nigeria. Primary data were collected from 59 participants across two designated banks. Correlation and regression analyses were applied, revealing that an effective credit strategy boosts the efficiency of enterprises.

Emmanuel and Ekwere (2022) analyzed credit risk and the performance of banks in Nigeria. Data was collected from ten (10) banks between 2006 and 2018 about NPLs, LLP, ROA, and ROE. Utilizing econometric tools, the study identified a substantial positive association between these variables and the performance of banks in Nigeria. Hambolu, Omuemu, & Abdul-Majeed (2022) evaluated the influence of credit risk on the performance of banks in Nigeria. Data was collected from 11 banks from 2008 to 2018. The study, utilizing panel analysis, discovered a substantial and positive correlation between the profitability of commercial banks in Nigeria and the ratio of loan loss to assets. The analysis revealed that the non-performing loan (NPL) percentage has a negative yet substantial correlation with both assets

and profitability. Festus and Olaniyan (2022) analyzed the relationship between monetary policy and the financial performance of publicly listed deposit money banks in Nigeria. Data was gathered from the cited commercial banks in Nigeria from 2010 to 2020. Ordinary Least Squares (OLS) was employed to analyze the collected data, revealing a robust positive correlation among cash reserves, real lending rates, and exchange rates within the Nigerian banking sector.

Sujeewa (2015) analyzed the influence of credit risk management on the performance of commercial banks in Sri Lanka. The study utilized panel data from 2009 to 2013 and demonstrated that non-performing loans negatively affect banks' profitability, as measured by ROA. Sahiti, Ahmeti, & Aliu (2018) conducted a quantitative analysis of the impact of risk management on bank profitability in Kosovo, utilizing return on equity as a performance proxy. The findings indicated a significant correlation among factors, demonstrating that an increased risk asset ratio leads to a slight decrease in profitability, whereas a larger level of non-performing loans exerts a favorable and more pronounced impact on profitability. Imad (2017) examined the influence of credit risk on the profitability of five banks in Palestine. Profitability was assessed by return on equity and return on assets, whereas credit risk was evaluated using net charge-offs relative to total loans and advances, non-performing loans as a proportion of total loans and advances, and pre-provision profit in relation to total loans and advances. The study identified a weak yet positive correlation between credit risk and bank profitability.

Method

The research employed an ex-post facto design, as utilized in analogous studies by Nwude and Okeke (2018) and Ahmed and Malik (2015). The ex-post facto research design is considered the most suitable because it utilizes pre-existing secondary data that has been approved by relevant authorities, without any manipulation.

The study population comprised all DMBs in Nigeria. As of January 2025, there were 21 deposit money banks in Nigeria, according to the official website of

the Central Bank of Nigeria. The sample subjects were selected purposefully from banks registered on the Nigerian Stock Exchange prior to 2006. The sample subjects are Diamond Bank, Fidelity Bank, First Bank, First City Monument Bank, Skye Bank (now Polaris Bank), Sterling Bank, Access Bank, Stanbic IBTC, Guarantee Trust Bank, Union Bank, United Bank for Africa (UBA), Wema Bank, Zenith Bank Plc, and Unity Bank Plc. The duration of this study spans thirteen (13) years, from 2012 to 2025.

Secondary data were utilized, sourced from the annual reports of deposit money banks in Nigeria covering the period from 2015 to 2025. Secondary data represents one of the most reliable sources of valid information for the investigation. The data are more reliable than primary data, which may be influenced by individual opinions.

Model specification

The regression model used is as shown below:

$$FP_{it} = \alpha_1 + \beta_1 NPL_{it} + \mu_{it} \quad (1)$$

$$FP_{it} = \alpha_2 + \beta_2 CAR_{it} + \mu_{it} \quad (2)$$

$$FP_{it} = \alpha_3 + \beta_3 LLP_{it} + \mu_{it} \quad (3)$$

$$FP_{it} = \alpha_4 + \beta_4 LDR_{it} + \mu_{it} \quad (4)$$

$$ROE_t = \beta_0 + \beta_1 NPL_{it} + \beta_2 LDR_{it} + \beta_3 LTD_{it} + \beta_4 CAR_{it} + e_{it} \quad (5)$$

$$FP_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 CAR_{it} + \beta_3 LLP_{it} + \beta_4 LDR_{it} + \mu_i$$

$$FP_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 CAR_{it} + \beta_3 LLP_{it} + \beta_4 LDR_{it} + \beta_5 BSZ_{it} + \beta_6 BTR_{it} + \mu_i$$

Where;

FP_{it} = Financial performance of ith bank at year t.

NPL_{it} = Non-performing Loan ratio of ith bank at year t.

CAR_{it} = Capital Adequacy Ratio of ith bank at year t.

LRR_{it} = Loan loss provision of ith bank at year t.

LDR_{it} = Loan to Deposit ratio of ith bank at year t.

BSZ_{it} = Bank Size of ith bank at year t.

BTR_{it} = Total Revenue of ith bank at year t.

μ_i = disturbance term.

β_0 = intercept.

$\beta_1 - \beta_5$ = coefficient of the independent variables.

Table 1: Variable clarification

S/N	Variable	Measurement	Expected Sign	Interpretation
1.	FP _{it}	Financial performance of ith bank at year t		
	Independent Variables			
2.	NPL _{it}	Non-performing Loan ratio of ith bank at year t.	-	$\beta < 0$
3.	CAR _{it}	Capital Adequacy ratio of ith bank at year t.	+	$\beta > 0$
4.	LPP _{it}	Loan loss provision of ith bank at year t.	+	$\beta > 0$
5.	LDR _{it}	Loan to Deposit ratio of ith bank at year t.	-	$\beta < 0$
6.	BSZ _{it}	Bank Size of ith bank at year t.	+	$\beta > 0$
7.	BTR _{it}	Total Revenue of ith bank at year t.	+	$\beta > 0$

Results and Discussion

Descriptive analysis

Multicollinearity test

The multicollinearity test was conducted using Variance Inflation Factor (VIF) as presented in Table 2

Table 2: Variance inflation factor test

Variable	VIF	1/VIF
LLP	1.05	0.954148
CAR	1.19	0.840549
NPL	1.23	0.810082
LTD	1.24	0.804589
BSZ	4.73	0.211341
BTR	4.43	225790
Mean VIF	2.314.2	

In Baltagi (2015), the benchmark for Mean of the Variance Inflation Factor is 5.0 while for the

individual reverse factor is 1. Considering the reverse variance inflation factor of each of the variables ranging from 0.21 to 0.95 all below the threshold of “1” with the average of the being 2.3 being less than the benchmark of 5.0. This indicated that multicollinearity problem does not exist among the variables and that the series are suitable for the analysis.

Test of Hypothesis One (Ho1)

Research objective 1: To determine the effect of non-performing loans ratio on financial performance of Deposit Money Banks in Nigeria.

Research question 1: What is the effect of non-performing loans ratio on financial performance of Deposit money banks in Nigeria?

Research Hypothesis 1 (Ho1): Non-performing Loans ratio has no significant effect on financial performance of Deposit Money Banks in Nigeria.

Table 3: Test of hypothesis one

	ROCE				DPRS			
Type of Estimates	RE GLS (DRISCOLL-KRAAY STD. ERR.)				POOLED OLS WITH CLUSTER STD. ERR			
Variable	Coeff	Std.Err	t-test	Prob	Coeff	Std.Err	t-test	Prob
NPL	-0.026	0.01	-2.47	0.028	-0.005	0.002	-2.69	0.008
Constant	1.592	0.518	3.08	0.009	0.465	0.047	9.94	0.000
R2	0.059				0.04			
Hausman Test	chi ² (1) = 0.80 (0.37)				chi ² (1) = 0.53 (0.46)			
Breusch Pagan LM Test	chi ² (1) = 12.96 (0.00)				chi ² (1) = 0.76 (0.38)			
Heteroskedasticity Test	chi ² (1) = 143.49 (0.00)				chi ² (1) = 3.51 (0.06)			
Pesaran CD Test	8.812 (0.00)							
Serial Auto-Correlation Test	F(1, 12) = 0.801 (0.388)				F(1, 12) = 11.85 (0.00)			

Model 1a and 1b

$$\begin{aligned} FP_{it} &= \alpha_1 + \beta_1 NPL_{it} + \mu_{it} \\ ROCE_{it} &= 1.592 - 0.026NPL_{it} \\ DPRS_{it} &= 0.465 - 0.005NPL_{it} \end{aligned}$$

Diagnostic tests

The results of the Hausman tests for both models determining the most appropriate estimating technique between Fixed Effect and Random Effect conducted at significance level of 5 per cent; with p -values of 0.37, and 0.46 being higher than the 5 per cent level of significance chosen for the study reveal that Random Effect is the most appropriate estimator according to its null hypothesis which states that there is presence of unsystematic difference in the model coefficients; thus, the study does accept the null hypothesis. The confirmatory tests on the results of Hausman tests conducted using Breusch-Pagan Lagrangian Multiplier test, deciding the most appropriate estimating technique between the random effects and pooled OLS, with null form of “no panel effect” that is “no significant difference across units”. The results with p -values of 0.00, and 0.38 confirmed the appropriateness of the random Effect that there exist a panel effect for Model 1a but negates that of Model 1b, that is no panel effect in Model 1b, which imply that random effect is the most appropriate for Model 1a (ROCE), while Pooled OLS is the most appropriate for Model 1b (DPRS).

Cross-sectional Independence Test is only applicable when there exists a panel effect (Model 1a), the result with p -values of 0.00 revealed that the residuals of the model across the firms “ i ” are correlated over time “ t ”. Breusch-Pagan/Cook-Weisberg Test with p -values of 0.00 and 0.06 indicated that there is presence of heteroskedasticity problem in Model 1a while Model 1b has no heteroskedasticity problem, which implies that the variations in the residuals of the model over the period “ t ” in Model 1a is trending while that of Model 1b is stable. The existence of associations among the coefficients of the model and its residuals were tested using Wooldridge test for serial autocorrelation as an unhealthy association result to the error terms being smaller than expected and the co-efficient of determination being higher than normal. The statistics derived with p -values of 0.39 and 0.00 support the null hypothesis which states that there is no first order autocorrelation for

Model 1a but negates that of Model 1b. This implies that there is no unhealthy association among the coefficients of the models and its residuals in Model 1a but otherwise in Model 1b.

Based on the results of the diagnostic tests carried out; Model 1a is estimated using Random Effect Generalized Least Square with Driscoll-Kraay Standard Errors while Model 1b is estimated using Pooled Ordinary Least Square with Cluster Standard Errors.

$$\begin{aligned} FP_{it} &= \alpha_1 + \beta_1 NPL_{it} + \mu_{it} \\ ROCE_{it} &= 1.592 - 0.026NPL_{it} \\ DPRS_{it} &= 0.465 - 0.005NPL_{it} \end{aligned}$$

The simple linear regression estimate of Model 1 shows that non-performing loans ratio has significant negative effect on financial performance measured by Return On Capital Employed (ROCE) and Dividend Per Share (DPRS). This is indicated by the sign of the coefficients that is $\beta_1 = -0.026 < 0$ and $-0.005 < 0$; which is consistent with the a priori expectation that non-performing loans ratio has a negative effect on Financial Performance of Deposit Money Banks in Nigeria. Based on the size and sign of the independent variable (β_1) coefficient; a 1% increase in NPL should on average result to 0.026% and 0.005% decrease in return on capital employed and dividend per share respectively. However, the t -statistic of -2.47 and -2.69 with corresponding high p -values of 0.028 and 0.008 respectively imply significant effect of non-performing loan on financial performance of deposit money bank.

Furthermore, the R-squared shows 0.059 and 0.04 on ROCE & DPRS model respectively. This shows that about 5.9% variations in ROCE can be attributed to NPL hence 94.1% variation in ROCE are attributed to other factors not included in the model. Similarly, about 4% variations in DPRS can be attributed to NPL hence 96% variation in DPRS are attributed to other factors not included in the model. Conclusively, this study failed to accept the null hypothesis which states that “Non-Performing Loans ratio has no significant effect on financial performance of Deposit Money Banks in Nigeria.” For both measures of financial performance (ROCE and DPRS).

Test of Hypothesis Two (Ho2)

Research objective 2: To assess the effect of Capital Adequacy ratio on financial performance of Deposit Money Banks in Nigeria.

Research question 2: What is the effect of Capital

Adequacy ratio on return on financial performance of Deposit Money Banks in Nigeria?

Research Hypothesis 2 (Ho2): Capital Adequacy ratio has no effect on financial performance of Deposit Money Banks in Nigeria.

Table 4: Test of hypothesis two

	ROCE				DPRS			
Type of Estimates	RE GLS (DRISCOLL-KRAAY STD. ERR.)				POOLED OLS WITH CLUSTER STD. ERR			
Variable	Coeff	Std.Err	t-test	Prob	Coeff	Std.Err	t-test	Prob
CAR	0.063	0.01	6.07	0.000	0.005	0.002	2.27	0.041
Constant	0.505	0.444	1.14	0.275	0.346	0.076	4.54	0.001
R2	0.1363				0.0219			
Hausman Test	$\chi^2_{(1)} = 0.21 (0.645)$				$\chi^2_{(1)} = 8.56 (0.00)$			
Breusch Pagan LM Test	$\chi^2_{(1)} = 28.42 (0.00)$				-			
Testparm Test	-				$F_{(13, 148)} = 21.19 (0.00)$			
Heteroskedasticity Test	$\chi^2_{(13)} = 73.26 (0.00)$				$\chi^2_{(13)} = 261.27 (0.00)$			
Pesaran CD Test	9.951 (0.00)				21.631 (0.00)			
Serial Auto-Correlation Test	$F(1, 12) = 1.788 (0.206)$				$F(1, 12) = 16.939 (0.00)$			

Model 2a and 2b

$$FP_{it} = \alpha_1 + \beta_1 CAR_{it} + \mu_{it}$$

$$ROCE_{it} = 0.505 + 0.063CAR_{it}$$

$$DPRS_{it} = 0.076 + 0.002CAR_{it}$$

Interpretation

Diagnostic tests

The results of the Hausman tests for both models determining the most appropriate estimating technique between Fixed Effect and Random Effect conducted at significance level of 5 per cent; with p -values of $0.645 > 0.05$, and $0.00 < 0.05$ reveal that while Random Effect is the most appropriate estimator for Model 2a, Fixed Effect is the most appropriate for Model 2b. The confirmatory tests on the results of Hausman tests conducted using Breusch-Pagan Lagrangian Multiplier test, deciding the most appropriate estimating technique between the random effects and pooled OLS for Model 2a, with null form of "no panel effect" that is "no significant difference across units". The results with p -values of 0.00 confirmed the appropriateness of the random Effect that there exists a panel effect for Model 2a (ROCE); the result of the Testparm test carried out to confirm the result of Hausman Test for Model 2b with

p -values of 0.00 showed that Fixed Effect is the most appropriate for Model 2b (DPRS).

Cross-sectional Independence Test for both Models with p -values of 0.00 and 0.00 revealed that the residuals of the model across the firms "i" are correlated over time "t". BreuschPagan/Cook-Weisberg Test and Modified Wald Test with p -values of 0.00 and 0.00 indicated that there is presence of heteroskedasticity problem in both models, which implies that the variations in the residuals of the model over the period "t" in both Models are unstable over time. The existence of associations among the coefficients of the model and its residuals were tested using Wooldridge test for serial autocorrelation as an unhealthy association result to the error terms being smaller than expected and the co-efficient of determination being higher than normal. The statistics derived with p -values of 0.21 and 0.00 support the null hypothesis which states that there is no first order autocorrelation for Model 2a but negates that of Model 2b. This implies that there is no unhealthy association among the coefficients of the models and its residuals in Model 1a but otherwise in Model 1b.

Based on the results of the diagnostic tests carried

out; Model 2a is estimated using Random Effect Generalized Least Square with Driscoll-Kraay Standard Errors while Model 2b is estimated using Fixed Effect Regression with Driscoll-Kraay Standard Errors.

$$\begin{aligned} FP_{it} &= \alpha_1 + \beta_1 CAR_{it} + \mu_{it} \\ ROCE_{it} &= 0.505 + 0.063CAR_{it} \\ DPRS_{it} &= 0.076 + 0.002CAR_{it} \end{aligned}$$

The simple linear regression estimate of Model 2a and 2b shows that capital adequacy ratio has significant positive effect on financial performance measured by Return On Capital Employed (ROCE) and Dividend Per Share (DPRS). This is indicated by the sign of the coefficients that is $\beta_1 = 0.063 > 0$ and $0.005 > 0$; which is consistent with the a priori expectation that capital adequacy ratio has a positive effect on Financial Performance of Deposit Money Banks in Nigeria. Based on the size and sign of the independent variable (β_1) coefficient; a 1% increase in CAR should on average result to 0.063% and 0.005% increase in return on capital employed and dividend per share respectively. However, the t-statistic of 6.07 and 2.27 with corresponding high p-values of 0.000 and 0.041 respectively imply significant effect of capital adequacy ratio on financial performance of deposit money bank.

Furthermore, the R-squared shows 0.1363 and 0.0219 on ROCE & DPRS model respectively. This shows that about 13.63% variations in ROCE can be attributed to CAR hence 86.37% variation in ROCE are attributed to other factors not included in the model. Similarly, about 2.19% variations in DPRS can be attributed to CAR hence 97.81% variation in DPRS are attributed to other factors not included in the model. Conclusively, this study failed to accept the null hypothesis which states that "Capital adequacy ratio has no significant effect on financial performance of Deposit Money Banks in Nigeria." For both measures of financial performance (ROCE and DPRS).

Conclusion and Recommendations

This study analyses the impact of credit management on the financial performance of deposit money banks in Nigeria from 2012 to 2025. There is a scarcity of literature regarding the proxy variables employed in

the study. The dependent variable, financial performance, was assessed through return on capital employed and dividends paid per share, while credit management was evaluated using the non-performing loans ratio, capital adequacy ratio, loan-to-deposit ratio, and loan loss provision relative to total revenue, with bank size functioning as a control variable.

The decision about credit management is among the most crucial choices made by depositing money institutions to optimize their financial performance and attain sustainable growth. This study's objective and regression analysis findings indicate that non-performing loans, capital adequacy ratio, and loan-to-deposit ratio negatively correlate with return on capital employed, whereas loan loss provision positively influences return on capital employed. Additionally, non-performing loans and loan-to-deposit ratio negatively affect dividend per share, while capital adequacy ratio and loan loss provision positively impact dividend per share. Consequently, we conclude that credit management is a crucial determinant of a deposit money bank's financial performance, significantly influencing their overall financial outcomes. Consequently, an inadequate credit management framework detrimentally impacts the financial system, whereas an effective credit management framework enhances the financial performance of Deposit Money Banks.

In accordance with the conclusions of this study, it is recommended that:

1. The management of deposit money banks in Nigeria should formulate and uphold a comprehensive credit management strategy and framework, together with a rigorous credit policy, to reduce non-performing loans and default rates, thereby enhancing their performance levels.
2. Moreover, the administration of Nigerian DMBs should align their loan assets with the characteristics of their deposit obligations. Consequently, savings deposits ought to be allocated for short-term investments or loans, whereas time (fixed) term deposits should correspond with long-term bonds. A meticulous and thorough evaluation process must be adhered to when extending loans and

advances to clients; furthermore, credit to individuals should be limited to short-term or, at most, medium-term durations.

3. Considering that the non-performing loan ratio exerts the most significant influence on financial performance compared to other independent variables in the regression models, it is evident that Deposit Money Banks should prioritize their non-performing loan ratio and develop strategies to reduce it to the lowest feasible level.

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