

## Management of Credit Risk in Banks and its Growth for Sustainable Development in Africa: Evidence from Nigeria

<sup>1</sup>Ezema Clifford Anene and <sup>2</sup>Okere Mercel

<sup>1</sup>Department of Insurance and Risk Management, Faculty of Management Science, Nigeria

<sup>2</sup>Department of Insurance and Actuarial Science, Imo State University, Owerri, Imo State, Nigeria

Email: Clifford.ezema@esut.edu.ng; okeremarcel@imsuonline.edu.ng

### ABSTRACT

This study examined management of credit risk in banks and its growth for sustainable development in Africa. Evidence from Nigeria. Risk Management practice for the purpose of this study was centered to credit risk while output growth was centered on earnings per share of shareholders. Its specific objectives are: to determine the Capital adequacy ratio and Liquidity risk ratio of banks on earnings per share of shareholders from 2014 and 2024 using multiple regression model adopted for data analysis. The result indicated that Capital adequacy ratio has a positive but statistically non-significant effect on Earnings per share with  $PV = 0.2927$ , Coefficient = 2.114684 while liquidity risk ratio has positive but not statistically significant effect with  $PV = 0.0918$ , Coefficient = 28.28475 on Earnings per share of deposit money banks in Nigeria. The implications are that variations in Capital Adequacy does not have a meaningful effect on shareholders earnings while Liquidity Risk may affect shareholders earnings but the effect is not substantial enough to be considered significant at conventional levels. Based on the findings it was recommended among others that banks should carefully manage their lending practices, diversify their lending opportunities and match loan growth with risk management principles so as to maximize shareholders returns.

**Keywords** Credit risk, Earnings per share, Capital adequacy ratio and Liquidity ratio.

### INTRODUCTION

Nigerian deposit money banks function to actively participate in the financial stimulations of the economy. It accepts deposits from customers, manages it, serves as trustee and credits it to their account on demand. The sole function of loaning part of the deposit to deserving borrowers generate income to the banks and additional earnings to depositors. The banks engage in credit extension in order to let the cash deposited with them generate profit as no idle cash does that. [1], posits that credit attracts demands for the bank services. This became necessary because interplay of the bank sectors and the beneficiaries of its services is the reason for active growing economy. The banks benefit as income realizable from its lending activities is ploughed back an investment to boost its operations. [2], asserts that profit arising from increased sales over added costs of receivables. This profit can be used in different ventures of the bank to sustain its operations. Among which is credit extension to demanding and deserved customers.

Credit extension entails legitimate possession of goods or services, cash in this case under agreement to pay at a later date. When finance is loaned, payment of principal and interest is made in bulk or installment at a stipulated or streamed intervals until the total sum is repaid. Such credit extension sometimes are prone to defaults and delinquencies. Defaults arises when a borrower fails to pay out rightly and become delinquent when payment is made not as at when due. When this happens, credit risk sets in. This type of risk is primarily that of deposit banks which after thought and due assessments of the borrower(s) extended the loan. [3], affirms that credit risk of deposit money banks are on increase in numerous financial instruments other than loan such as acceptances, trade financing, interbank transactions, foreign exchange transactions, swaps, etc. It leads to low cash flow, low liquidity levels and financial distress of the bank(s). [4], opines that credit risk entails a situation where a borrower of fund or any other debt with default in payment that he or she is obliged to do. Awareness of credit risk aids deposit money banks to adjust their capital and be conscious of market situation bearing in mind that other parties may default. As such managers are advised to employ most recent modern risk management techniques such as risk appraisal, diversification and control to

enhance the earning capacity of the banks [1]. These they can undertake order process whereby risks with highest loss and highest livelihood of occurrence are first brought under control before the ones with lesser possibility of occurrence and lesser loss are controlled in descending order [5].

However, despite applying all cannons of good lending on these customers before lending to them they often default in repayment. [6], asserts that the customer (borrower) who looked quite honest and kind on demand and receipt of the loan becomes antagonistic, corporative and troublesome in time of repayment while [7], suggests that inability to repay the loan can be caused by decrease in real wages as well as excessive concentration on certain unyielding portfolios which may also include fund diversification. This eventually results in notable decrease in banks income, value and shareholders earnings.

As a result of these incessant failures (defaults and delinquencies), the deposit money banks developed credit risk management scheme to minimize loan default. Hence this study “the effect of credit risk management on earning capacity of shareholders of deposit money banks in Nigeria in order to discover whether proper management of credit risk management metrics significantly improve credit operations and consequently enhanced shareholders earnings of the banks.

The broad objective of this study is to examine the effect of credit risk management on earning capacity of shareholders of deposit money banks in Nigeria while the specific objectives are: Ascertain whether capital adequacy ratio has effect on earnings per share of shareholders of deposit money banks in Nigeria. Investigate whether liquidity risk ratio has effect on earnings per share of shareholders of deposit money banks in Nigeria.

## REVIEWS OF RELATED LITERATURE

### Conceptual Review; Credit Risk Management (CRM)

Risk entails probability of loss in business ventures, a likelihood of a negative outcome [1]. Also, according to [8], [9], risk refers to loss or exposure to unfavorable business outcomes arising from variation between expected and actual outcome of interest resources. It is a term that explains that borrower will default in making payment which it is obliged to do. Credit risk is a practice of identifying, assessing and mitigating potential risks associated with extending credits to individuals, businesses and other entities. It therefore involves evaluating the likelihood of borrowers default and determining appropriate measures to reduce the impact of such risk management. To effectively delve into this, effective credit risk management strategies are adopted to bring risks with highest likelihood of occurrence and higher loss under control while those with lesser possibility of occurrence and lesser loss are controlled in descending order [5]. Credit management serves as strategy to managing uncertainty that includes risk management, formulation of risk management strategies and risk mitigation using managerial resources [6]. Reliable credit risk management optimizes cash flow to ensure stability of banks operation and serves as a roadmap to maximum growth potential. It plays vital roles in deposit money banks, mitigating potential losses resulting from borrower's default.

### Capital Adequacy Ratio (CAR)

Capital adequacy refers to Sufficiency of capital needed for business performance. It is a necessity as it determines how sound and favorable a business organization performs. It is therefore a tool needed in all spheres to aid and enhance absorption of unexpected operational risks, restore confidence in the going concern of a business organization thereby forecasting insolvency. In line with [10], a properly managed firm grows capitalization by holding more earnings as capital. This is necessary since improper management of capital tends to cause business to run out of operations.

Thus: Capital adequacy ratio: 
$$\frac{\text{Tier 1 capital} + \text{Tier 2 capital} + \text{Tier 3 capital}}{\text{Risk weighted assets}} \times 100\%$$

Such that: Tier 1 capital includes: shareholders' equity and retained earnings.

Tier 2 capital consists of revaluation reserves, hybrid capital instruments and Subordinated term debt.

Tier 3 capital comprises of tier 2 capital and short term subordinated loans.

Hayes (2021) [11], Capital Adequacy ratio is 
$$\frac{\text{Total Capital}}{\text{Total Assets}} \times 100\%$$

Some popular risk weighted assets are debentures, treasury bills, government bonds. Risk weighed assets are a way of measuring banks assets according to their different levels of risk.

### Earnings Per Share (EPS)

This is the ratio between a company's earnings and the number of common shares outstanding to each share of common stock. It is the value of earnings per outstanding share of common stock of a company and as well the proportion of a company's income made available to shareholders that are allocated to each outstanding shares of common stock. It therefore indicates the bank's profitability by showing how much

money the bank(s) make (s) for each share of its stock. It is useful in measuring a company's current financial standing and also past performance.

Practically, Earnings Per Share (EPS) = 
$$\frac{\text{Net income} - \text{preferred dividend}}{\text{Average outstanding common shares}}$$

Note: Average outstanding common shares is used because it gives accurate earnings since companies may issue or buy back stock throughout the year and that makes the actual outstanding shares and true earnings per share difficult to calculate.

### **Liquidity Risk Ratio (LRR)**

This is simply the ratio between current assets (Liquid resources of the company) and current liabilities (short – term debts). It measures the ability of the deposit money banks to meet upcoming debt payment with the most liquid part of its assets (cash at hand and short term investments). It ascertains the ability of debtors to pay current debt obligations internally without raising external capital. Evidences from MIU City University MIAMI (2024) indicates that it is calculated by dividing total current assets by total current liabilities.

That is: Liquidity risk ratio: 
$$\frac{\text{Total current assets}}{\text{Total current liabilities}} \times 100\%$$

### **Theoretical Framework**

#### **Moral Hazard Theory**

This theory originated from Ken Arrow as a result of renewed study of economists in 1960s. The moral hazard problem explains that a borrower has the incentive to default in the repayment of an amount of money borrowed unless consequences for such default is stated for his future applications for credit. This occurs from the difficulty lenders experience in assessing the level of wealth borrowers would have accumulated before the due date for repayment and not at the moment of application.

Notably, if lenders cannot assess borrowers' wealth, the borrowers will be tempted to default on the terms of agreement. The realization of this compels the lenders to increase interest rates possibly to equitable future market situations.

#### **Shareholders theory**

Shareholders theory was introduced by an American economist known as Milton Friedman in 1970. He informed that the social responsibility of a business is to maximize the revenue and increase returns to shareholders through their operations. As such managers are ultimately obligated to maximize shareholders interest in a manner that is consistent with social norms and law. The companies or banks market value or its shareholders value now is the standard at which performance is evaluated [12]. [13], affirm that shareholder theory states that the basic objective of management is to maximize shareholders value. It ranks in the interests of other corporate stakeholders such as employees, suppliers, customers and the society. The theory assumes that shareholders value corporate assets with two measurable metrics referred to as dividends and share price and so management should take decisions that enhance their values. The implication of this theory in this research work is that managers should give shareholders' interests top priority in order to always enhance their earnings to keep fit their return and even attract more investments. On the contrary, shareholders theory fails to put into consideration that shareholders and corporates may have other objectives that may differ from financial performance. [14], assert that corporations have a number of purposes and interests ranging from encouraging entrepreneurship, innovation to building communities. The study was anchored on shareholders theory because it best suits banks credit management since it recognized lender – borrower relationship. It also acknowledged the factors to be considered before granting loans to borrowers such as information about the bank customer's, ability and timely repayment etc.

### **Empirical Review**

#### **Capital Adequacy Ratio and Earning Per Share**

Besides, [15], had research that examined the impact of liquidity transformation on capital adequacy ratio of Vietnamese commercial banks. Using generalized least square regression model in the analysis of secondary data from the annual reports unveiled that liquidity transformation has negative effect on capital adequacy ratio (CAR), while capital adequacy ratio and credit risk are positively related to return on equity (ROE), gross domestic product (GDP) and inflation has insignificant effect on capital adequacy ratio (CAR).

[7], conducted a study on the effect of liquidity, asset quality, sensitivity, efficiency and profitability on capital in state banks. It used secondary data processed by using SPSS 21. Findings were that loan to deposit ratio, investing policy ratio, adversely classified asset, nonperforming loan (NPL), internal rate of return (IRR), net open position, operational efficiency ratio, fee based income ratio and ROA simultaneously have significant effect on CAR but net open position and fee based income ratio partially have significant effect on

the CAR. [8] assessed the impact of liquidity management on capital adequacy ratio (CAR) of listed deposit money banks (DMBs) in Nigeria 2012–2022. Employing panel data regression model in the analysis resulted in rising effect of loan deposit ratio in capital adequacy of listed deposit money banks in Nigeria whereas liquidity has significant effect on capital adequacy.

Ezu et al (2023) appraised the effect of capital adequacy on the financial performance of Nigerian deposit money banks for the period 2000 – 2020. Data were sourced from audited annual publications financial statements of all deposit money banks on the Nigeria stock exchange. Analysis was by ordinary least square multiple regression. Results indicated that total capital to risk weighted assets, banks capitalization to total credits and debt in equity ratio had direct and inverse linear significant effect on return on asset (ROA).

[15] studied capital adequacy and return on equity of deposit money banks in Nigeria from 2004 to 2022. Data were gathered from NDIC annual financial statistical bulletin and subjected to inferential test. The result revealed that total qualifying capital has significant influence on return on equity capital to risk weighted ratio has statistically significant and positive relationship to return on equity and capital adequacy has significant effect on return on equity of deposit money banks in Nigeria

#### **Liquidity Risk Ratio and Earning Per Share**

A study by [16] on the effect of liquidity risk management on the financial performance of consumer goods companies in Nigeria, aimed at verifying the extent of concern of these companies in management of their liquid cash, cash defensive intervals, long term debts and quick ratios for the purpose of enhancement of financial performance. Data were sourced from annual reports and accounts of the respective companies and analyzed using multiple regression analysis. It was unveiled that long term debts, quick ratios and cash defensive intervals has a significant effect on earnings per share (EPS) and return on assets (ROA) and that cash ratios and long term debts affect only return on capital employed (ROCE). Empirically, there is a significant relationship between liquidity risk management and finance performance of consumer goods companies significantly.

[17] appraised moderating effect of liquidity on the relationship between capital structure and profitability: Evidence from listed deposit money banks in Nigeria. Data were drawn from Nigeria stock exchange facts book from 2010-2019 and tested hypotheses with random effect estimate. The result showed that customers' savings had a positive and statistically significant effect on return on asset (ROA), Loans and Advances had a negative relationship and insignificant effect on return on asset (ROA).

[18] evaluated the effect of liquidity ratios management on the profitability of industrial companies listed on the Amman stock exchange. Data were sourced from financial statements of the companies between period 2010 and 2018 and analyzed through the use of SPSS program. It was then discovered that liquidity management affects profitability in the companies.

[19] investigated the effect of liquidity risk on shareholders wealth of commercial banks listed on the Nigeria stock exchange (NSE) between 2013 and 2019. Data were sourced from published financial statements and banking survey publications and analyzed using simple and multiple regression analysis. The result showed that liquidity risk had a negative effect on shareholders wealth.

Over the years between 2006 and 2019 Jacob et al (2022) examined the effect of liquidity risk management on the financial performance of listed deposit money banks in Nigeria. Data were gathered from annual reports and accounts of the selected banks and analyzed using STATA 13. It revealed that both total deposits to total assets and total loan to total deposit have negative insignificant effect on return on asset (ROA). Conversely, liquidity assets to total assets and short term liabilities to liquid assets both have a negative significant effect on the return on asset (ROA) of the sampled banks.

[20] evaluated risk management and performance of deposit money banks (DMBs) in Nigeria. A re-examination emphasis on panel data analysis on secondary data from annual reports of the various banks studied. It found that both liquidity and capital risk variables exert a negative but insignificant effect on performance of the internationally authorized banks positively and significantly.

In furtherance, Udenwa et al (2023) investigated the effect of liquidity risk on the financial performance of quoted deposit money banks in Nigeria. Ratio of loans and advances to total assets and the ratio of loans and advances to total deposits were specific variables used to measure liquidity risk whereas return on asset (ROA) was specific variable used to measure financial performance. Data were from annual reports of the various deposit money banks under study that were listed on the Nigerian Exchange Group (NEG) from 2014 to 2021. Results was that of panel regression analysis which revealed that the loans and advances to total assets and loans and advances to total deposit have a significant effect on the performance of the quoted deposit money banks in Nigeria.

#### **Gap in Empirical Review**

In the above empirical reviewed works, it is evident that none of the authors to the best of my knowledge researched on the title managing credit risk and earning capacity of shareholders of banks in Nigeria

particularly within the period 2014 to 2024. Besides, the models of the study provided strong empirical validation considered to significant to proxy these specific independent variables: Capital adequacy ratio, and Liquidity risk ratio, with specific dependent variable, Earning per share (EPS). As such it has added to knowledge having extended the study for this reasonable period.

## METHODOLOGY

### Research Design

The design that was adopted for this study was *ex-post facto* research design. According to Tuckman (1972) the term *ex-post facto* is an experiment in which the researcher examines the effects of a naturalistically-occurring treatment after that treatment has occurred rather than creating the treatment itself. The researcher considered the design most suitable to this study in as much as it determines the cause –and-effect relationship between independent variables (Loans and Advances ratio, Loan Loss Provision Ratio, Nonperforming Loan Ratio, Capital Adequacy Ratio, and Liquidity Risk Ratio) and dependent variable (Earning Per Share). Besides, the treatment is included by selection rather than manipulation.

### Model Specification

The model specification is designed to examine the effect of credit risk management on the earnings of shareholders in deposit money banks, follows a linear regression framework, allowing us to assess how these independent variables influence EPS, taking into account both the magnitude and direction of their effects. Specifically, the model specification considers the Fixed Effects Model (FEM) and Panel EGLS Multiple Regression to control for individual heterogeneity across banks and ensure robust estimates. It was accomplished through this regression model that relates “Y” to a function of “X” and  $\beta$  the unknown parameter.

Thus:  $Y = f(X, \beta)$ , Where: Y= Dependent Variable, F = function of, X = Independent Variable.  $\beta$  = Coefficient of independent or explanatory variables

This gave window for adopting a similar model based on the study of Ukinamemen and Ozekhome (2019) on the Impact of capital adequacy on the financial performance of banks in Nigeria. thus:  $ROE = f(CAR + LAR + DR + BS + GR + \beta)$  Such that: ROE = Return on Equity. F = function of Capital Adequacy Ratio. LAR = Loan and Advance Ratio

DR = Debt Ratio, BS = Bank Size, GR = Growth rate,  $\beta$  = unknown parameter

Therefore,  $EPS = f(LADR + LLPR + NPLR + CAR + LRR + \beta)$  In substitute we have the fixed effects account for time-invariant characteristics within the data, while the random effects model serves as a basis for comparison, determined through the Hausman test.

The functional model is now specified as: Thus,  $EPS = f(CAR + LRR)$  (Equation 1)

The model used a linear regression equation stated below to test the hypotheses. They are:

$EPS_{it} = \beta_0 + \beta_1 CAR_{it} + \beta_2 LRR_{it} + \epsilon_{it} + \epsilon_{it}$  (Equation 2)

Where; EPS = Earning Per Share, CAR = Capital Adequacy ratio, LRR = Liquidity risk ratio

$\beta_0$  is the constant term or intercept for firm  $i$  in the year  $t$ .

$\beta_1, \beta_2$  are linear regression coefficients to be estimated.

$\epsilon_{it}$  is the non-observable individual effect while  $\epsilon_{it}$  is the disturbance or error term for firm  $i$  in the year  $t$ . In comparison;  $ROE = f(CAR + LAR + DR + BS + GR + \beta)$   $EPS = f(CAR + LRR + \beta)$ . Based on the specifications CAR and LAR were similarly undertaken as the variables of independent variable.

## DATA PRESENTATION AND ANALYSIS

**Table 1: Panel Data Extracted from Audited Annual Reports and Accounts of the Individual Banks**

BANKS	YEAR	EPS	CAR	LRR	LNTA
Access	2014	114	17	1.24718	14.55952
Access	2015	174	17.31	1.322591	14.76768
Access	2016	221	19.54	1.437619	15.06365
Access	2017	177	19.5	1.434595	15.22704
Access	2018	254	19.5	1.16243	15.41574
Access	2019	207	17.22	1.011129	15.78167
Access	2020	225	20.93	1.069465	15.9765
Access	2021	314	32.64	0.631727	16.27783
Access	2022	469	17.85	0.640503	16.52171

<b>Access</b>	<b>2023</b>	<b>1507</b>	<b>36.17</b>	<b>0.61829</b>	<b>16.64187</b>
<b>Access</b>	<b>2024</b>	<b>1507</b>	<b>36.17</b>	<b>0.61829</b>	<b>16.64187</b>
<b>FCMB</b>	<b>2014</b>	<b>0.27</b>	<b>19.25</b>	<b>0.32336</b>	<b>13.97197</b>
<b>FCMB</b>	2015	0.13	16.88	0.380309	13.96353
<b>FCMB</b>	2016	0.19	16.54	0.297406	13.97489
<b>FCMB</b>	2017	0.08	16.88	0.380309	13.98625
<b>FCMB</b>	2018	0.18	14.17	0.32336	13.98769
<b>FCMB</b>	2019	0.18	15.37	0.554271	14.32744
<b>FCMB</b>	2020	0.15	16.1	0.264943	14.53744
<b>FCMB</b>	2021	0.26	16.24	0.343818	14.72908
<b>FCMB</b>	2022	0.37	16.24	0.200538	14.90846
<b>FCMB</b>	2023	0.97	15.88	0.313926	15.30253
<b>FCMB</b>	2024	0.97	15.88	0.313926	15.30253
<b>Fidelity</b>	<b>2014</b>	<b>48</b>	<b>24</b>	<b>0.653756</b>	<b>13.98696</b>
<b>Fidelity</b>	2015	48	19	0.761592	14.02392
<b>Fidelity</b>	2016	34	17.23	0.731739	14.07644
<b>Fidelity</b>	2017	65	16.03	0.730724	14.13702
<b>Fidelity</b>	2018	79.16	17	0.760464	14.35777
<b>Fidelity</b>	2019	94	18.29	0.450633	14.56411
<b>Fidelity</b>	2020	92	18.18	0.533707	14.83007
<b>Fidelity</b>	2021	79	19.15	0.671121	15.00349
<b>Fidelity</b>	2022	161	18.14	0.588205	15.19905
<b>Fidelity</b>	2023	311.04	16.17	0.690113	15.62743
<b>Fidelity</b>	2024	311.04	16.17	0.690113	15.62743
<b>FirstBank</b>	<b>2014</b>	<b>13</b>	<b>19.25</b>	<b>1.260806</b>	<b>15.284</b>
<b>FirstBank</b>	2015	27	16.88	1.34083	15.24251
<b>FirstBank</b>	2016	21	17.79	1.223006	15.37087
<b>FirstBank</b>	2017	26	17.74	1.235783	15.47117
<b>FirstBank</b>	2018	26	17.26	1.14619	15.47117
<b>FirstBank</b>	2019	39	11.16	1.089032	15.53271
<b>FirstBank</b>	2020	94	15.97	1.100435	15.8553
<b>FirstBank</b>	2021	36	17.39	1.115598	16.00519
<b>FirstBank</b>	2022	54	16.57	1.140403	16.17426
<b>FirstBank</b>	2023	42	17.9	0.430843	16.32181
<b>FirstBank</b>	2024	42	17.9	0.430843	16.32181
<b>GTBank</b>	<b>2014</b>	<b>3.03</b>	<b>21.4</b>	<b>1.133153</b>	<b>14.67248</b>
<b>GTBank</b>	2015	3.2	18.17	1.224903	14.74175
<b>GTBank</b>	2016	4.31	19.79	1.176971	14.95206
<b>GTBank</b>	2017	5.39	25.5	1.212315	15.02477

<b>GTBank</b>	2018	5.67	21.55	1.086433	15.00549
<b>GTBank</b>	2019	5.95	20.66	1.089985	15.13966
<b>GTBank</b>	2020	6.05	25.9	0.951619	15.41389
<b>GTBank</b>	2021	0.28	23.83	0.530168	15.50855
<b>GTBank</b>	2022	3.01	24.08	0.652625	15.67897
<b>GTBank</b>	2023	3.62	21.94	0.545207	15.78585
<b>GTBank</b>	2024	3.62	21.94	0.545207	15.78585
<b>Stanbic</b>	<b>2014</b>	<b>131</b>	<b>18.2</b>	<b>1.883556</b>	<b>13.75567</b>
<b>Stanbic</b>	2015	99	21.3	1.841026	13.75104
<b>Stanbic</b>	2016	6	22.8	2.060953	13.86765
<b>Stanbic</b>	2017	250	20.4	2.052666	14.14223
<b>Stanbic</b>	2018	151	20.6	2.095762	14.32453
<b>Stanbic</b>	2019	321	19.4	2.060004	14.28521
<b>Stanbic</b>	2020	237	19.4	3.050349	14.67869
<b>Stanbic</b>	2021	16.1	16.1	3.175641	14.77633
<b>Stanbic</b>	2022	138	16.9	2.946302	14.86446
<b>Stanbic</b>	2023	275	15.94	2.82721	15.4198
<b>Stanbic</b>	2024	275	15.94	2.82721	15.4198
<b>Sterling</b>	<b>2014</b>	<b>42</b>	<b>14</b>	<b>0.32238</b>	<b>13.98696</b>
<b>Sterling</b>	2015	36	17.49	0.296713	14.02392
<b>Sterling</b>	2016	18	10.66	0.263643	14.07644
<b>Sterling</b>	2017	14.9	11.55	0.273304	14.13702
<b>Sterling</b>	2018	33	12.86	0.348541	14.35777
<b>Sterling</b>	2019	37	14.7	0.454399	13.91347
<b>Sterling</b>	2020	39	17.9	0.388357	13.9833
<b>Sterling</b>	2021	52	17.98	0.465817	14.07247
<b>Sterling</b>	2022	67	14.82	0.515745	14.30057
<b>Sterling</b>	2023	48	14.67	0.516359	14.43501
<b>Sterling</b>	2024	48	14.67	0.516359	14.43501
<b>UBA</b>	<b>2014</b>	<b>1.08</b>	<b>16</b>	<b>1.227883</b>	<b>14.83167</b>
<b>UBA</b>	2015	1.11	20	1.079657	14.82806
<b>UBA</b>	2016	1.14	20	1.11246	15.06955
<b>UBA</b>	2017	1.17	20	1.046925	15.21902
<b>UBA</b>	2018	1.2	20	0.9614	15.09403
<b>UBA</b>	2019	37	23.4	1.298365	15.23536
<b>UBA</b>	2020	37	22.4	1.143667	15.46567
<b>UBA</b>	2021	27.2	24.9	0.731661	15.5338
<b>UBA</b>	2022	10.9	28.3	0.746978	15.81171
<b>UBA</b>	2023	20.7	32.6	0.737898	15.87828

<b>UBA</b>	2024	20.7	32.6	0.737898	15.87828
<b>Union</b>	<b>2014</b>	<b>121</b>	<b>16.4</b>	<b>0.267301</b>	<b>13.82643</b>
<b>Union</b>	2015	105	15.3	0.256148	13.86404
<b>Union</b>	2016	94	13.3	0.331377	14.0408
<b>Union</b>	2017	75	17.8	0.374317	14.19089
<b>Union</b>	2018	63	15.91	1.37672	14.19659
<b>Union</b>	2019	84	11.5	0.739535	14.44264
<b>Union</b>	2020	84	15.8	0.635883	14.59975
<b>Union</b>	2021	66	14.6	0.581783	14.76939
<b>Union</b>	2022	7.73	14.52	0.467995	14.84361
<b>Union</b>	2023	12.34	16.04	0.447629	14.97862
<b>Union</b>	2024	12.34	16.04	0.447629	14.97862
<b>Zenith</b>	<b>2014</b>	<b>295</b>	<b>19</b>	<b>1.168885</b>	<b>15.13867</b>
<b>Zenith</b>	2015	336	20	1.304701	15.20351
<b>Zenith</b>	2016	412	22	1.260988	15.37151
<b>Zenith</b>	2017	4.87	27	1.243018	15.53743
<b>Zenith</b>	2018	5.27	25	1.172072	15.59986
<b>Zenith</b>	2019	567	22	1.067128	15.66347
<b>Zenith</b>	2020	630	20	0.743728	15.95337
<b>Zenith</b>	2022	743	20	0.606515	16.0613
<b>Zenith</b>	2023	747	19.8	0.635702	16.32394
<b>Zenith</b>	2024	1897	19	0.536527	16.8295

Author's compilation 2025

**Data Analysis**  
**Table 2: Descriptive Statistic Result Evidence shows normal distribution**

	EPS	LRR	CAR
Mean	135.9320	0.943597	0.643597
Median	40.50000	0.745353	0.545353
Maximum	1897.000	3.175641	3.575641
Minimum	0.080000	0.200538	0.200538
Std. Dev.	274.3600	0.619974	0.419974
Skewness	4.268433	1.567812	1.167812
Kurtosis	24.41587	5.878974	5.178974
Jarque-Bera	2214.656	75.50261	70.50261
Probability	0.000000	0.000000	0.000000
Sum	13593.20	94.35970	91.35970
Sum Sq. Dev.	7452069.	38.05238	34.05238
Observations	100	100	100

Source: Authors Computation, 2025 (Eviews-10)



**Table 3: ADF Unit Root Test Results**

Null Hypothesis: The variable has a unit root							
At Level							
		EPS	LAR	LLR	NPLR	CAR	LRR
With Constant	t-Statistic	0.9996	0.1767	0.0088	0.1227	0.3608	0.2385
	Prob.	0.1630	0.3258	0.4616	0.5719	0.1154	0.9541
With Constant & Trend	t-Statistic	0.8560	0.4663	0.0327	0.3492	0.8582	0.3582
	Prob.	0.2021	0.1970	0.1692	0.2090	0.4028	0.3394
Without Constant & Trend	t-Statistic	0.9945	0.6887	0.4474	0.2680	0.5299	0.5905
	Prob.	0.6168	0.8162	0.2315	0.3403	0.5071	0.2140
At First Difference							
		d(EPS)	d(LAR)	d(LLR)	d(NPLR)	d(CAR)	d(LRR)
With Constant	t-Statistic	0.9529	0.1405	0.0059	0.0798	0.0736	0.0404
	Prob.	0.0099	0.0159	0.0781	0.1152	0.0348	0.4519
With Constant & Trend	t-Statistic	0.8105	0.1615	0.0570	0.2244	0.9380	0.1603
	Prob.	0.0493	0.0615	0.2606	0.3472	0.3178	0.7686
Without Constant & Trend	t-Statistic	0.8417	0.0117	0.0001	0.0047	0.0043	0.0024
	Prob.	0.0004	0.0009	0.0060	0.0107	0.0018	0.0095

Source: E-views 10 software, 2025

The Augmented Dickey-Fuller (ADF) Unit Root Test results provide statistical evidence regarding the stationarity of the variables.

### Test of Hypotheses

The five hypotheses formulated in chapter one of this study was tested using the following decision rule:

**Decision Rule:** Following the guidelines outlined by Gujarati and Porter (2009), the decision rule entails accepting the alternative hypothesis (H1) under the following conditions: if the coefficient exhibits either a positive or negative sign, the absolute value of the t-statistic is greater than 2.0, and the p-value associated with the t-statistic is less than 0.05. Otherwise, the null hypothesis (H0) is accepted, and H1 is rejected.

### Step 2: Presentation of Test Results

**Table 4: Panel EGLS Multiple Regression Result (Fixed-Effects Model)**

Dependent Variable: EPS				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CAR	2.114684	1.998350	1.058215	0.2927
LLR	28.2223	1.998350	1.058215	0.0934

Source: E-views 10 software, 2025

### Step 3: Decision

The p-value for the capital adequacy ratio (CAR) is 0.2927, which is significantly higher than 0.05. This high p-value suggests that the effect of CAR on EPS is not statistically significant. Additionally, the t-statistic of 1.058215 is relatively low, indicating a weak effect of CAR on EPS. Therefore, we fail to reject the null hypothesis, concluding that CAR does not have a significant effect on the earnings per share of shareholders in deposit money banks in Nigeria. This result implies that while maintaining adequate capital reserves is crucial for regulatory compliance and financial stability, it does not directly affect the profitability distributed to shareholders as measured by EPS. The effect might be indirect or influenced by other intervening factors, such as risk management practices.

### SUMMARY OF FINDINGS

The findings are summarized as follows:

The study finds that the Capital Adequacy Ratio (CAR) has a positive but statistically non-significant effect on EPS, as reflected by a coefficient of 2.114684 and a p-value of 0.2927, implying that the capital adequacy level does not have a meaningful effect on shareholder earnings. The analysis suggests that the Liquidity Risk Ratio (LRR) positively affects EPS but is not statistically significant, with a coefficient of 28.28475 and a p-value of 0.0918, indicating that while liquidity risks may affect shareholder earnings, the effect is not substantial enough to be considered significant at conventional levels.

## CONCLUSION

The Capital Adequacy Ratio (CAR) and Liquidity Risk Ratio (LRR) were found to have positive but statistically non-significant effect on EPS. The positive coefficient of CAR suggests that a higher capital base might theoretically enhance shareholder earnings by ensuring financial stability and supporting growth. However, its lack of statistical significance implies that the effect of capital adequacy on EPS is not strong enough to be considered impactful in the short term. Similarly, the LRR's positive influence on EPS, while theoretically favorable, lacks statistical significance, suggesting that while good liquidity management can contribute to stability, it does not significantly affect profitability in the context of the Nigerian banking sector. Overall, these findings emphasize the critical role of managing liquidity and capital management, though important, may not have as pronounced an effect on short-term profitability. The analysis underscores the need for banks to focus on reducing loan impairments and improving asset quality to enhance earnings per share, while also considering the broader context of regulatory requirements and market conditions that affect these credit risk management metrics.

The following are hereby recommended: **Capital Adequacy Ratio (CAR):** Despite the positive coefficient of the Capital Adequacy Ratio (CAR), its statistical non-significance indicates that changes in CAR do not have a substantial immediate impact on EPS. However, maintaining a strong capital base is crucial for long-term financial stability and regulatory compliance. Banks should ensure they meet and exceed regulatory capital requirements and consider strengthening their capital position through strategic equity raises or retained earnings. This will provide a cushion against financial shocks and support sustainable growth, which may indirectly benefit EPS over time.

**Liquidity Risk Ratio (LRR):** The Liquidity Risk Ratio (LRR) has a positive but statistically non-significant effect on EPS, suggesting that while liquidity management is important, its immediate impact on profitability is not substantial. Banks should still prioritize effective liquidity management to ensure they can meet their short-term obligations and avoid liquidity crises. Implementing robust liquidity planning and forecasting, optimizing the management of liquid assets, and diversifying funding sources are essential practices. Additionally, banks should strike a balance between maintaining sufficient liquidity and investing in high-yield assets to enhance profitability and support EPS growth.

This model established a strong empirical validation towards understanding of credit risk management variables and their effect on Earnings Per Share (EPS) in deposit money banks in Nigeria as against prior studies conducted in other areas.

Additionally, the study's examination of Liquidity Risk Ratio (LRR) offers a new perspective on liquidity management. While LRR positively affects EPS, its effect is not statistically significant. This suggests that although managing liquidity is essential for operational stability, its direct effect on profitability might be less pronounced compared to other factors like loan losses. This contribution enriches the existing knowledge by emphasizing that liquidity management, while important, should be balanced with other performance-enhancing strategies to optimize shareholders returns.

Moreover, by analyzing a range of financial metrics LAR, LLPR, NPLR, CAR, and LRR the study provides a comprehensive view of how various aspects of financial management affects EPS. This holistic approach contributed to the literature by offering a broader perspective on the interplay between different credit risk management and shareholders returns. It demonstrates that while some metrics may not have a direct, significant effect on EPS, they are still vital in maintaining the overall financial health of deposit money banks. Finally, the practical implications of the study's findings are significant for both bank management and policy makers. By identifying key factors affecting EPS, the research provides actionable insights for improving financial performance. This includes recommendations for enhancing credit risk management practices, ensuring adequate capital levels, and optimizing liquidity management. The study's contributions are valuable for academics and practitioners seeking to enhance the financial performance, earnings of shareholders and stability of deposit money banks in Nigeria.

## REFERENCES

1. Catherine L. Determinants of State Tax Haven Utilization: Empirical Study on Banking Companies. *Journal Akuntansi Kontemporer*. 2024 May 30;16(2):76-86.
2. Kaaya I, Pastory D. Credit Risk and Commercial Banks Performance in Tanzania: a Panel Data Analysis.
3. Adegbe, F. F. and Otitolaiye, E. O. (2020). Credit risk and financial performance an empirical study of deposit money banks in Nigeria. *European Journal of accounting, auditing and finance research*, 8, (2), 38-58.
4. Mokrani, Y. E., Idrissi, I. E. and Alarm, Y. (2021). Discretionary loan loss provision in the Moroccan banking sector: The role of governance mechanisms. *Annals of and organizational research*, 2, (3), 191 – 208.

5. Isa K. Tax complexities in the Malaysian corporate tax system: minimise to maximise. *International Journal of Law and Management*. 2014 Feb 4;56(1):50-65.
6. Adesugba AK, Olalere VD. The determinants of capital structure of listed deposit money banks in Nigeria. *International Journal of Management and Commerce Innovations*. 2021;9(2):157-68.
7. Chen CJ, Panjer H. A bridge from ruin theory to credit risk. *Review of Quantitative Finance and Accounting*. 2009 May;32(4):373-403.
8. Ogunbela GK, Akinboboye OM, Ogunbiyi TL. Tax regime and challenges of scaling up tax collection in Nigerian informal economy. *Journal of Public Administration, Finance and Law*. 2021 Jul 1;10(20):250-66.
9. Owualla SI. *Principles of Financial Management*, Lagos: G. Mag Investment Ltd. 2000.
10. Carvallo O, Kasman A. Cost efficiency in the Latin American and Caribbean banking systems. *Journal of international financial Markets, Institutions and Money*. 2005 Jan 1;15(1):55-72.
11. Hayes N. *Doing psychological research*, 2e. McGraw-Hill Education (UK); 2021 Feb 16.
12. Olaoye CO, Adeyemi OS. Corporate governance and performance of deposit money banks in Nigeria. *International Journal of Management (IJM)*. 2021 Mar;12(3):422-40.
13. O'Connell M, Ward AM. Shareholder theory/shareholder value. In *Encyclopedia of sustainable management* 2020 Mar 9 (pp. 1-7). Cham: Springer International Publishing.
14. Eze JA. Are Shareholders Really the 'Owners' of a Company to Justify the Primacy of Their Interests over Every Other Interest in the Management of Public Companies?. *IJOCLLEP*. 2022;4:60.
15. Nguyen-Thi-Huong L, Nguyen-Viet H, Nguyen-Phuong A, Van Nguyen D. How does digital transformation impact bank performance?. *Cogent Economics & Finance*. 2023 Dec 31;11(1):2217582.
16. Abdulrahman, R. M. (2021). Moderating effect of liquidity on the relationship between capital structure and profitability: Evidence from listed deposit money banks in Nigeria. *Ife social sciences review* 29 (1), 145-157.
17. Abdulrasheed, A. (2022). Performance indices of deposit money banks. A post consolidated trend analysis. *NDIC quantity* 38, Number 2, 59-81.
18. Abimbola, E. (2020). Impact of nonperforming loan on bank performance in Nigeria. A case study of selected deposit money banks. *Journal of business and economic policy*, 7(4), 56 – 70.
19. Abimbola, O. A., Titilayo, M. O; Oluwatimileyin, A. and Adenle, O. A. (2022). Credit risk management: Implication for deposit money banks' performance in Nigeria. *Fuoye Journal of finance and contemporary issues*, 3 (2), 183-200.
20. Afolabi, T. S. Obamujì, T. M. and Egbetunde, T. (2020). Credit risk and financial performance. Evidence from microfinance banks in Nigeria. *IOSR journal of economics and finance* 11 (1), 08 – 15.

**CITE AS: Ezema Clifford Anene and Okere Mercel (2025). Management of Credit Risk in Banks and its Growth for Sustainable Development in Africa: Evidence from Nigeria. NEWPORT INTERNATIONAL JOURNAL OF CURRENT RESEARCH IN HUMANITIES AND SOCIAL SCIENCES, 5(3):8-18. <https://doi.org/10.59298/NIJCRHSS/2025/5.3.818000>**