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Effect of Credit Management on the Performance of Deposit Money Banks (DMBS) in Nigeria

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ABSTRACT

Aim/Purpose: Most deposit money banks in Nigeria lack the essential quality of efficient and effective credit management which is responsible for their dilemma. Therefore, the studyexamines the effect of credit management on the performance of listed Nigerian deposit money banks.

Design/methodology/approach: The study adopted Ex-Post Facto research design.Secondary data were sourced from CBN statistical bulletin,covering the period from 1981to2019. Descriptive statistics, ARDL regression analysis, and post estimation tests were usedto analyzed the data.

Findings: The result of the study shows that 77.3% of the variation in ROA was caused by the independent variables.Individually, Non-performing Loan was found to be significant and negativelyaffected ROA, whereas LLP and LA were found to have significant positiveeffect on financial performance (ROA). The study therefore concluded that effective credit management is needed for a better financial performance of Nigerian Deposit Money Banks

Research Implications/limitations: Based on the findings, the study recommended that banks should increase their Loan Loss Provision (LLP) ratio to accommodate unexpected defaults from Loan and Advances (LA) to boost their performance. The research is limited by the data available to the researcher.

Originality/value/contribution: unlike some other studies which say otherwise, this study contributes to the literature by establishing that better loan loss provision management will reduce greatly the incidence of bank illiquidity and collapse.

Keywords: Credit management, Non-performing loan, Loan loss provision, Loan and advance, Nigerian Deposit Money Banks.

I. INTRODUCTION

The survival of any bank lies on her ability to create loans and manage it efficiently so as to meet the demand of customers as at and when due. Any bank who neglects the credit function will definitely go out of business (Osayeme, 2000). Credit is“the right to receive payments or the obligation to make payments on demand or at some future date on account of the immediate transfer of goods or money” (Uwuigbe, Uwalomwa&Ben-Caleb, 2012; Uwa, 2015).Loan creation is an important function of commercial banks as it is a major source of internally generated income and also help to reallocate resources to other sectors. This implies that the more credit a bank grant to the customers the more likely it will increase her revenue. Credit in a simple language entails giving out customers deposited fund to a third party at a rate higher than the interest rate paid to the customer with the objective of making profits. The present economic predicament of Nigeria has left much to be desired in terms of enabling environment for banking industry. Therefore, for DMBs to survive, it ought to embrace trade credit and adopt a proper credit management strategy to cushion the adverse effect of defaults on the financial performance. It is imperative to state that credit creation is good and engenders healthy business situation but if not properly managed could lead to huge loss and risks, (Onura & Ifeacho, 2017; Akinleye & Olarewaju, 2019). Since increased non-performing loan is anindication of poor credit management and a direct attack on the financial performance of DMBs.

Credit risk is the possibility that the total loan or a part of it can be lost as a result of credit events.Credit risk occurs as a result of inability of bank customer to honour the terms of credit, (Ahmadu, Sulaimon, Bello & Mijinyawa, 2019).

This jeopardizes the growth and financial performance of the firm and affects economy of the nation adversely.

Credit management is the tactics used by firms to retrieve credit and control same from customers. Credit management is a group of guidelines, strategies, methods and procedures adopted by firms to attain an optimal credit level and manage the same effectively to eliminate loan defaults (NPL) and improve the financial performance of banks. Credit management covers all activities of management that enable experts to formulate credit policies, analyze clients, classify customers and most importantly assess customers' creditworthiness before extending loan to avoid the increasing rate of non-performing loan that has adverse effect on the overall performance of banks, (Akinselure & Akinola, 2019; Eno, Ukpe & Essien, 2018; Kasali & Fashanu, 2020; Emmanuel & Ekwere, 2022). It is the strategy adopted by organizations to attain a credit levelconsidered minimal and acceptable and manage this effectively. Credit management involves the analysis of credit, rating of credit, classification and reporting of credit. When an optimal level of credit is achieved, the capital with debtors reduce and the possibleincidence of non-performing facility is reduced or eliminated, (Kipkirui& Omagwa, 2018; Nwanna&Oguezue, 2017), this helps to improve the financial performance of DMBs.In other words, in line with the Basel I and II accord and the submission of Asset Management Corporation of Nigeria (AMCON), DMBs as a matter of compulsion must put in place a workable credit management policy capability of reducing NPL and improve financial performance of banks as antidotes to poor performance.

Financial performance is described as measuring a firm's achievements, policies, investment, opportunities, operations and positions in the industry in terms of monetary value, which is either measured via Return on Asset (ROA) Return on Investment (ROI), Return on Equity (ROE) or Net worth. It is in this vein that financial performance is defined as how best a firm can utilize optimally the resources within the environment to achieve the objectives of the organization, (Kajola, Olabisi, Adedeji & Babatolu, 2019). Financial performance is also a measure of a firm entire financial wellness and her ability to optimally utilize her opportunities and market share. Financial ratios are often used as tools to determine a firms' financial performance.

Credit management and performance of DMBs is a controversial area of study around the world. However,regardless of the efforts of central bank of Nigeria (CBN) in terms of guidelines to DMBs, banks in Nigeria have continued to suffer from the ills of non-performing loans over the years moving from 3.0% in 2014 to 11.4% in 2018, (CBN, 2019). Efforts have been put in place by researchers all over the world to tackle the problem of credit management (Kasali &Fashanu, 2020; Adegbie & Otitolaiye, 2020; Gadzo, Oduro & Asiedu, 2019; Kipkirui & Omagwa2018; Nwanna & Oguezue (2017); (Ahmadu, Sulaimon, Bello & Mijinyawa, 2019). Though these studies adopted different parameters, methods and statistical tools yet their results were varied and inconsistent. While some found a significant negative relationship, others found a significant positive relationship. Meanwhile, this study therefore uses ARDL to regress the variables and cover up the periods between 2006 and 2019.

Research Objectives

The main objective of this study is to examinethe effect of credit management on performance of listed DMBs in Nigeria.Other specific objectives are to:

i. Examine theeffect ofnon-performing loans (NPL)on return on Assets (ROA) of DMBs
ii. Evaluate theeffect of loan loss provision(LLP) on return on assets (ROA) of DMBs
iii. Assess the effect of loan and advances onReturn on Asset (ROA)of DMBs

II. CONCEPTUAL REVIEW

No firm exists in isolation of other firms in the same industry. Therefore, granting of credit (loan) must be highly competitive if such a firm wants to affect her returns and profitability positively. This is because if another firm's credit terms appear more attractive, customers will have no choice than to go for such firm (Kipkoech, 2015). Philip (as cited in Onura & Ifeacho, 2017) opined that before a firm could grant credit to a person, firm or company, "the company must know who the customer is; agree on repayment term; issue invoice promptly without delay and be apt to ask for repayment when it is due without fear". This corroborates Lawrence (2003) who noted that credit management is effective if accounts receivables is collected without losing sales from high-pressure collection techniques. Association of credit professionals (ACP) describes good credit management as that which satisfies the customers and at the same time improves profitability. Onura and Ifeacho, (2017) posit that a good credit management should be proactive task, starting well ahead of sales (granting of loan). The best credit

management strategy is the ability of management to establish a trade-off between acquiring large market share through credit sales (granting of loan) and the collectability of the account receivable which determines the liquidity and profitability.

The struggle to mitigate credit risk and banks dilemma have faced several challenges that lead to poor performance. Credit risk management has pasted through several phases and a whole lot of strategies have been adopted including "transferring to another party, avoiding the risk, reducing the negative effects of the risk, and accepting the risks" (Saunders & Cornett, 2008). It is on the quest to manage credit risk and her consequence that Basel I, II and III were introduced into the banking Sector by Basel Committee. Basel I which centered on credit risk management introduced 8% minimum capital requirement as a tool to prevent huge risk in excess. Basel II, which is based on reinforcing Pillars includes the assessment of minimum capital requirements, the supervisory review process and market discipline as response to financial innovation, securitization and effort to underlying bank risks is paramount. Basel III, brought in higher rules for capital and liquidity management among DMBs, hence centers on provision of both specific and systematic risks (Felix & Claudine, 2008; Dierick,Pires, Scheicher &Spitzer, 2015; Nikolaidov & Vogiazas, 2014; Nyabicha, 2017).Basel Accord guideline to DMBs also laid emphasis on adequate provisions for perceived losses based on the credit portfolio classification system. Specific and general provisions are considered adequate to achieve this objective. While specific provisions are made to cover risks of default on certain specific facilities, general provisions are to cover unforeseen shortfall from a performing credit facility.

IMF (2009) described non-performing loans as "obligation or loan which both the principal and interest payments are more than 90 days overdue, more than 90 days' worth of interest has been refinanced, capitalized or delayed, or if payments are less than 90 days overdue but payments are no longer anticipated". Non-performing Loans have been attributed to poor credit management, inflation and others which leads to insolvency, illiquidity and poor financial performance of banks. Non-performing Loans are direct attack on the blood vessel of every financial institution sinceit attacks liquidity and performance of the firms. An effective credit risk management is expected to encourage lower Non-performing loan(NPLs) as well as lower the firm's risk. A higher Non-Performing Loan Rate (NPLR) indicates inefficiency on the part of management in evaluating loan applications, (Nwanna &Oguezue, 2017; Nyabicha, 2017; Kagoyire & Shukla, 2016).

Loan loss provision is a management strategy of managing loan defaults using earnings. Loan Loss Provision(LLP) have been found to be effective in capital management. (Anandarajan & McCarthy 2006; Nwanna & Oguezue, 2017; Nyabicha, 2017).

2.2 Theoretical Review

Several theories exist on credit risk management but this study adopted the theory of financial crisis and anticipated income theory as lens to x-ray the variables of this study.

This theory was used by Kithinji (2010) to explain how crisis in financial sector hinders the banks' ability to create credits (loans). The theory which explains crises to include poor demand, liquidity squeeze, devaluation of currency, unfavourable monetary policies, poor government policy, unfriendly business environment, high taxes, inflation, high cost of business and high cost of living. The theory holds that while these crises persist, banks' ability to create loans and advances is hampered. Worst still is the fact that any loan extended to customers within these periods have a high tendency of going bad. Thereby increasing the rate of non-performing loans. The theory urges a more rigorous and thorough assessment of customers' creditworthiness during this crisis period to reduce non-performing loans and loan loss.

Anticipated Income Theory which was propounded by H.V Prochnow in 1945 advocates that banks should hold term loan of all dimension and near cash to increase liquidity rather than hold liquid cash. The banks can plan with the borrowers' expected future income to recover loans perfectly well using the theory. This will not only allow the banks to give short term loan but also medium and long-term loan are given so long as the periodic and regular income of the loan borrower persists (Nwanna, 2017; Okoh, Nkechukwu & Ezu, 2016). The relevance of this theory to this study is seen in the ability to improves recovery rate of loans granted to clients, helpsto reduce non-performing loans and most importantly improve the profitability and liquidity of the Deposit Money Banks.

2.3Empirical Review

Onuora, and Ifeacho (2017) examined the effects of credit management on profitability of manufacturing firms in Nigeria: A study of selected companies in Nigeria Stock Exchange. The study sought to know the effect of credit policy, liquidity

management and debtors' turnover on profitability of the firm. Secondary data was sourced from five (5) selected companies covering the period between 2010 and 2014. Data gathered were analyzed using pooled multiple regression to test the hypotheses. It was found that credit policy and liquidity management have significant negative relationship on return on asset, while debtors' turnover has contrary effect on return on assets. Nwanna and Oguezue (2017) investigated the effect of credit management on profitability of Deposit Money Bank in Nigeria. The study intends on loan and advances, Loan loss provision and non-performing loan and their effects on the financial performance of Deposit Money Banks (DMBs) in Nigeria. Secondary data for all DMBs were gathered via Central Bank Bulletin for the period covering 2006 and 2015. Multiple Regression Techniques was implored to analyze the data. It was found that loan and advances and loan loss provision have positive and insignificant effect on profitability, while non-performing loan have negative and insignificant effect on profitability.

Nyabicha (2017) examined the effect of credit risk management on financial performance of commercial banks listed at the Nairobi securities exchange, Kenya. The study intends to determine if there is significant relationship between capital adequacy ratio, loss given default, loan loss provision and non-performing loan and bank stock performance in Kenya. Secondary data was collected from 44 commercial banks in Kenya covering the period of 2008 and 2014. Panel estimate generalized least square regression was implored to analyze the secondary data. The finding revealed that there is no significant relationship between capital adequacy ratio, loss given default, loan loss provision and bank stock performance in Kenya. It also revealed a statistically negative relationship between non-performing loan ratio and bank stock performance in KenyaMogga, MwambiaandKithinji (2018) investigated the effect of credit Risk management on the Financial Performance of commercial Banks in Juba City, South Sudan. The study implored primary data via questionnaires to source for data. The emphases were on risk identification, risk monitoring, risk analysis and assessment as tools of risk management and their effect on the financial performance of Banks in Juba City. SPSS was used to analyze the data gathered from six(6) banks, the study found that risk identification has significant effect on the financial performance of banks, while risk analysis and appraisal had insignificant effect on financial performance.

Kipkirui and Omagwa (2018) examinedCredit Management Practices and Financial Performance of Microfinance Institutions in Nairobi central business district, Kenya. They sought to know the effect of client appraisal, credit risk collection policy and credit terms on financial performance of Microfinance in Kenya. The study adopted primary data via questionnaires. Using 158 questionnaires, multiple regression was applied. The study found that increase in credit risk control, client appraisal and collection policy and term of credits will improve financial position of Microfinance banks.

Gadzo, Oduro and Asiedu (2019) examined the impact of credit risk on corporate financial performance. Secondary data were gathered from listed banks in Ghana Stock Exchange. The study revealed that capital adequacy, operating efficiency, profitability and net interest inversely relates to credit risk, while bank size and financing gap relate positively with credit risk. This study is in consonance with Kajola, Babatunji, Olabisi and Babatolu (2019) who examined the effect of credit management on financial performance of banks. Ten banks listed in Nigeria stock exchange were examined. Secondary data spanning over 2005 and 2016 were collected on non-performing loan to total loan (NPLDR), capital adequacy and ROA and ROE were used. The study adopted generalized least square (GLS) regression and found that all the credit management indicators have a significant relationship with ROA and ROE. Adegbie and Otitolaiye (2020) examined the effect of credit risk on financial performance of DMBs in Nigeria. the study covered the period of 2006 and 2018 using 169 firms. The result revealed a positive significant relationship between financial performance and credit management. The study is consistent with Kasali and Fashanu (2020), who examined the nexus between credit management and financial performance of financial institutions in Nigeria. Primary data were obtained from 59 respondents from two selected banks. Correlation and regression analysis used applied and the result revealed that effective credit policy enhances the firms' efficiency.

Emmanuel & Ekwere (2022)examined credit risk and performance of banks in Nigeria. data was gathered from ten (10) banks between 2006 and 2018, on NPLs, LLP, ROA and ROE, using econometric techniques, the study found a positive significant relationship between the variables and performance of banks in Nigeria.Hambolu, Omuemu, & Abdul-Majeed, (2022) examined the impact of credit risk on the performance of banks in Nigeria. Data was

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gathered from 11 banks between 2008 and 2018. Using panel analysis, the study found that profitability of commercial banks in Nigeria have significant and positive association with the ratio of loan loss to assets. It was equally found that NPL ratio to asset and profitability has negative but significant relationships. Festus & Olaniyan (2022) examined Monetary policy and financial performance of listed deposit money banks in Nigeria. data was collected from the quoted commercial banks in Nigeria between 2010 and 2020. OLS was adopted to analysis the data gathered and the study found that strong positive relationship exists among cash reserve, actual lending rate and exchange rate in Nigeria banking industry.

III. RESEARCH METHODOLOGY

The study adopted Ex-Post Facto Research Design. All DMBs listed in Nigeria stock exchange were used. Secondary data were sourced from the CBN statistical Bulletin, covering 1981 to 2019. Dependent variable wasfinancial performance and was proxied by return on Asset (ROA), while the independent variable was credit management proxied by Non-Performing Loan (NPL), Loan Loss Provision (LLP) and Loan and Advances (LA).ARDL was used to estimate the parameters to unveil the effect of credit management on the financial performance of DMBs. These variables have been widely adopted by researchers in studying credit management (Onuora, &Ifeacho2017; Nyabicha 2017; Nwanna &Oguezue, 2017). E-views 10.0 was the statistical tool used for analysis.

3.1Model Specification

The model for the study was specifiedbelow:

ROA_t= (NPL LLP, LA)

(1) Expressing equation above in econometric form, we have:

$InROA_t = \beta_0 + \beta_1 InROA_{t-i} + \alpha_1 InNPL_{t-i} + \alpha_2 InLLP_{t-i} + \alpha_3 lnLA_{t-i} + u_t$

(2) The dynamic long run form of equation (2) afterexpressing same in log-linear form was specified thus

$InROA_t = \beta_0 + \beta_1 InROA_{t-i} + \alpha_1 InNPL_{t-i} + \alpha_2 InLLP_{t-i} + \alpha_3 InLA_{t-i} + \gamma ECM_{t-I} + Vt$

(3)Where:

InROA =Log of Returns on Assets which measures the firms' financial performance

InNPL= Log of Non-Performing Loan

InLLP = Log of Loan loss provision

LA=Loan and Advances

U_t = Disturbance Term,

β_0 =Intercept term

β_1 and β_2 = Estimation Parameters

t-i= Number of lags

γ = adjustment parameter which shows the extent to which the disequilibrium in the dependent variable (ROA_t) is being corrected each period

Vt = Ut = (Ut- Ut-i)

IV. EMPIRICAL RESULTS

4.1. Descriptive Analysis

Table 1 showed the descriptive statistics of all variables studied. The series (ROA, NPL, LLP and LA) had positive skewness with values of 4.28, 2.25, 1.10, and 1.87 respectively. This indicated that the data were non-symmetrical in nature. Meanwhile, the kurtosis of the series was greater than 3 indicative of leptokurtic distribution (greater than normal) with the exception of LLP which was less than 3. This suggested that the series hadplatykurtic distribution (less than normal). The probability value of the Jarque-Bera statistics was less than 5% level of significance, this suggested that the series were not normally distributed.

Table 1: DescriptiveStatistics

	ROA	NPL	LLP	LA
Mean	3.107027	10002.16	106966.2	14622.16
Median	2.33	123.56	21082.99	2345.5
Maximum	34.44	84048	431168.4	84048
Minimum	-9.28	8.6	160.9	123.56
Std. Dev.	5.742971	22256.08	139962.2	26499.32
Skewness	4.280234	2.257782	1.104167	1.875493
Kurtosis	25.91916	6.900939	2.913431	4.853779
Jarque-Bera	922.7944	54.89512	7.529859	26.98901
Probability	0.0000	0.0000	0.023169	0.000001

Sum	114.96	370080	3957751	541019.8
Obs	37	37	37	37

Source: Researchers Computation(2023) using Eviews 10

4.2. Unit Root Test.

Augmented Dickey-Fuller test and Philips Perron Test were adopted to examine the stationarity (unit root) of all variables on table 2. Return on Assets(ROA), and Loan and Advances(LA) were stationary at levels I(1) while Non-Performing Loan(NPL) and Loan Loss Provision(LLP)were stationary at first difference I(0).Since the probability values were less than 0.05 and the absolute values of the ADF Statistics was higher than the respective 5% Mackinnon critical values, the null hypothesis was not rejected at levels forall the explanatory variables, however, it was rejected at first difference. This indicates that the model was stationary at levels I(0) and first difference I(1). Since the variableswere stationary at levels and at first difference, there was need for further analysis to determine whether long run relationship existed between credit management and Banks financial performance using the F bounds co-integration test.

Table 2.:ADF & PP Unit Root Test Results

Variables	ADF Statistic	Prob. Values	5% MacKinnon Critical Values	Order of Integration	Phillips-Perron test statistic	Prob. Values	Remarks
ROA	-8.008416	0.0000	-2.954021	I(1)	-7.107429	0.0000	Stationary
LA	-6.261435	0.0000	-2.957110	I(1)	-5.160760	0.0002	Stationary
NPL	-2.883042	0.0589	-2.960411	I(0)	-2.956558	0.0494	Stationary
LLP	-4.306220	0.0088	--3.548490	I(0)	-4.413414	0.0067	Stationary

Source: Researcher's Computation (2023) using Eviews 10

4.3. Co-integrationTest:

Following the findings above that the series wereI(0) and I(1) respectively, (mixed integrated), the study employed Bounds test. The co-integration test for Credit Management model in table 3 revealed that the null hypotheses of no co-integration between the variables were rejected since the F test statistics (9.786) was higher than the I(0) and I(1) bounds. This implied that there was co-integration in the Credit Management model.

Table 3 ARDL F Bounds Cointegration Test Result.

Test Statistic	Value	Signif.	Asymptotic: n=1000	I(0)
F-statistic	9.786532	10%	2.03	3.13
K	7	5%	2.32	3.5
		2.5%	2.6	3.84
		1%	2.96	4.26

Source: Researcher's Computation(2023) using Eviews 10

4.4. Lag Length Criteria

An ARDL regression analysis was adopted because the data were integrated at mixed order, i.e.I(0) and I(1), while Akaike Information Criterion (AIC) was employed to select Lag length. However, lag length for the analysis was determined using the VAR lag length criteria. The maximum lag length selected by information criteria depicts optimal lag length of two (2) except Loglinear which was not selected at lag 2.

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Table 4: VAR Lag Order Selection Criteria for ROA NPL LLP LA

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1285.351	NA	5.59e+31	95.80380	96.18775	95.91797
1	-1110.904	232.5958	1.93e+28	87.62255	91.07812	88.65007
2	-922.7581	139.3677*	9.40e+24*	78.42653*	84.95370*	80.36740*
* indicates lag order selected by the criterion						

Source: Researcher's Computation (2023) using Eviews 10

4.5. Test of Hypotheses

4.5.1.Effect of Non-Performing Loan on Return on Asset

The ARDL Regression result of non-performing loan (NPL) on Return on Asset (ROA) revealed that non-performing loan had a negative but statistically significant effect on ROA. The coefficient of NPL (-0.0005) was an indication that holding other variables constant, a 1% increase in Non-Performing Loan would lead to 0.0005% decrease in Return on Assets(ROA)of DMBs.The p=0.0100< 0.05 indicated that the null hypothesis of no significant effect was rejected and concluded that NPL had significant effect on ROA.

4.5.2. Effect of Loan Loss Provision on Return on Asset

Table 5 revealed that Loan Loss Provision (LLP) had a positive and statistically significant effect on Return on Asset (ROA). The coefficient of LLP (0.00012) was an indication that a 1% increase in LLP had the capacity to raise the Returns on Assets(ROA) of DMBs by 0.0001%. This also suggested that an increase in LLP would induce the performance of DMBs positively. However, p=0.0003<0.05 indicated that Null hypothesis was rejected, therefore, LLP had significant effect on ROA.

4.5.3. Effect of Loan and Advances on the return on Asset

Table 5 also revealed that Loan and advances does not have significant effecton Returns on Assets (ROA). However, LA was found significant in explaining the changes in ROA at lag2. This revealed that LAhad a positive and statistically significant effect on the Returns on Assets(ROA) of DMBs. The coefficient of LA(-2) (0.000239) was an indication that a 1% increase in Loan and Advances(LA) granted to clients increased the Returns on Assets(ROA) of DMBs by 0.0002%. This signifiedthat the effect of Loan and Advances on DMBs returns on assets(ROA) was not immediate as it took a 2-time period to effect changes on ROA.Moreover, p=0.0450<0.05 indicated that null hypothesis was rejected; therefore,LA hadsignificant effect on ROA.

4.5.4.Short-Run Effect of Credit Management on Return on Asset

From the short-run results in table 5, the overall coefficient of determination (R^2) revealed that about 77% of changes in DMBs financial performance (ROA) was explained by the variations of the independent variables in the equation. F= 5.964177 revealed that the model was statistically significant.The signs and magnitude of the coefficients of the series revealedthat Loan and Advances(LA), Loan Loss Provision(LLP), and Non-Performing Loan(NPL) followed the apriori theoretical relationship of the variables in the model. Lastly, the Coefficient of ECM (-0.68503) was negative.This suggested that the previous disequilibrium was corrected at an adjustment speed of 68% annually. This revealed that it took 68% speed of adjustment from the short run disequilibrium to be corrected annually.

Table 5: Short-run ARDL Error Correction Regression. DV: ROA

Variable	Coefficient	Prob.
C	31.92966	0.0003
D(NPL)	-0.000518***	0.0100
D(NPL(-1))	-0.000438***	0.0264
D(NPL(-2))	0.000454***	0.0064
D(LLP)	0.000122***	0.0003
D(LLP(-1))	7.34E-05***	0.0159
D(LA)	-0.000166	0.1590
D(LA(-1))	-0.000142	0.2157
D(LA(-2))	0.000239***	0.0450
ECM(-1)*	-0.685036***	0.0002

R-squared	0.773145	
Adjusted R-squared	0.643513	
F-statistic	5.964177	
Prob(F-statistic)	0.000197	
***, 5% level of significance		

Source: Researcher's Computation(2023) using Eviews 10

4.5.5. Long-Run Effect of Credit Management on Return on Asset

The long run results in table 6 shows that Loan and Advances (LA), Loan Loss Provision (LLP) were found to have individual long run effects on returns on assets of DMBs in Nigeria. Meanwhile, Non-Performing Loan (NPL) didn't affects returns on assets(ROA) of DMBs in Nigeria. The Long run results also confirmed the short run dynamic results which established a long run relationship between the credit management components and DMBS financial performance proxied by returns on assets(ROA) between 1981 and 2019. They followed the apriori theoretical relationship of the variables in the model.

Table 6: Long-run ARDL Regression. DV: ROA

Variables	Coefficient	Prob.
NPL	-0.000134	0.4714
LLP	-6.180006	0.0001
LA	2.450008	0.0511

Source: Researcher's Computation (2023) using EVIEWS 10

4.6 Post Estimation Test: Breusch-Godfrey Serial Correlation

The residual dependence test was conducted to determine if there was autocorrelation among the variables on Table 6.The F statistics was 0.8661 with observed R^2 as 1.037513.Meanwhile, the F pvalue =0.5953>0.05 and X^2 pvalue = 0.8661>0,05 indicated that there was no autocorrelation in the model.

Table 7: Breusch-Godfrey Serial Correlation Test

F-statistic	0.146071	Prob. F(2,9)	0.8661
Obs*R-squared	1.037513	Prob. Chi-Square(2)	0.5953

Source: Researcher's Computation(2023) using EVIEWS 10

V. DISCUSSION OF FINDINGS

The findings of hypothesis one revealedthat incidence of Non-Performing Loans and advances (NPL) had significantly affected the performance of listed DMBs in Nigeria. This followed theoretical underpinnings that increase in NPL had the capacity to reduce the financial performance of DMBs. This suggested that as non-performing loan increases due to loan default, it resultedto a decrease in the financial performance of DMBs over time. This was consistent with previous works (John, Aremu & Olusegun, 2015; Rozina& Kumar, 2017) who found that the immediate consequence of large amount of NPLs in the banking system were illiquidity and insolvency which metamorphosed into bank failure as well as economic downturn. This work negated the work of Nwanna and Oguezue, (2017) who found that non-performing loan had negative and insignificant effect onperformance.

The findings of hypothesis two revealed that Loan Loss Provision (LLP) does significantly affects the performance of listed DMBs in Nigeria.This followed the credit management hypothesis that the steady rise of loan loss provision in banks financial statement is a bad signalto the investors and the economy at large. The increasing incidence of banks collapse in Nigerian economy over the years hadgreatly reduced the investors' confidence in the credibility of banks. This meant that loan-loss reserve result was a direct charge against earnings in the event of upturns in the economic cycle, as banks anticipate future losses on the loan portfolio when theeconomy hits a downturn. However, on the event of anticipated loan crystallization, banks using their reserves were able to absorb losses without harm on the precious capital while retainingbanks' capacity to create credit (loan) to the economy. This finding supportedFarooq, Safdar and Bilal (2014) who studied the impact of loan

loss provision on bank profitability in Pakistan. Their study found that Loan Loss provision had negative influence on firms'financial performance. The findings further revealed that increases in loan loss provision according to the accounting framework suggested increase in loan default which on the long run affected the financial performance of deposit money banks.

Findings of hypothesis three revealed that the financial performance of DMBs was influenced by loan and advances of listed DMBs in Nigeria. It was evident that Loans and advances caused a positive effect on (ROA) financial performance of DMBs in Nigeria. This was consistent with Hsien and Yi (2010), who found that there was a positive correlation between the consumer loan ratio and bank performance, suggesting that it was beneficial for banks to explore the consumer loans market. Meanwhile, according to Ahamed (2016), bank disintermediation prevalent in many countries notwithstanding, banks remainedunequivocally central in their role of financing economic activity as well as different segments of the market in particular (Brock & Franken, 2002). The loan portfolio as far as DMBs is concerned remained the largest asset and major source of internally generated revenue. Hence,the bank's safety and soundnessrestedon it, as it posed the major risks and challenge for every DMB.Therefore, the importance of loan and advances in relation to banks financial performance cannot be overemphasized.

VI. CONCLUSION AND RECOMMENDATION

The study examined effect of credit management and financial performance of DMBs in Nigeria between 1981 and 2022 with credit management components such as Non-Performing loan, Provision for loan loss, and Loan and Advances. From the analysis the study found that Provision for loan loss had positive influence on banks financial performance This meant that the higher the LLP the better DMBs would perform financially. While Non-performing loan also had negative effecton banks financial performance, this indicated that the higher the rate of NPLs the poorer the financial performance of DMBs. Meanwhile, Loan and advances had direct effecton the performance of deposit money banks in Nigeria. Informed by the findings the study concluded that credit management had significant effecton the performance of Deposit Money Banks listed in the Nigerian Stock Market as a lot of strategies displayed here if followed would help savage the credit risks of DMBs.

The study recommended thatinterest rates on lending (loan and Advances) should be reviewed downwardto encourage more customers to access the facility, as this will not only generate more income to the DMBs but also help the Nigeria economy (businesses) recover faster from the effect of Covid-19 pandemic which may have increased the NPLs rates. Also, the study recommended that proactive measures must be taken to assess the loan applications to avoid granting loans and advances that will turn irrecoverable (NPL). Having verified the efficacy of LLP as a strong strategy of using earning to manage credit risk, the study therefore recommended an upward review of the LLP ratios among DMBs. Finally,DMBs should come up with credit bureau system which would serve as data bank where every bank would submit the names of its loan defaulting customers for references by others. This wouldhelp to reveal and counter multiple borrowing of loan (LA)by dubious clients from different banks to finance the same project.

The study admits that the relevance and validity of this study is limited by the quality of data accessible to the researcher as the researcher only used data available at CBN statistical bulletin within the period of the study. The researcher therefore recommend that the credit management indicators used in this study may be investigated using other statistical tools and other sources of data.

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