
CREDIT RISK MANAGEMENT AND RETURN ON ASSETS OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

This study is carried out to investigate credit risk management and its effect on the return on assets of Nigerian deposit money banks using secondary data from the Central Bank of Nigeria Statistical Bulletin and the Nigerian Stock Exchange fact book over the period of 1980 to 2014. To achieve stability and profitability, banks need to prioritise credit risk management, which will lead to a stronger financial sector and economy. A multiple regression model was employed to evaluate the relationship between the variables and a mixed result was generated. It was revealed from the study that there is a positive and insignificant relationship between the ratio of non-performing loans to loans and advances, ratio of performing loans to total loans and advances and ratio of total loans and advances to total deposits and the return on assets, but a negative and insignificant relationship exists between the ratio of loan loss provisioning to loans and advances and return on assets. It was recommended that banks should develop credit measures and frameworks to reduce bad loans while interest rates should be reviewed by the government to attract depositors. There should also be enlightenment programs to increase the knowledge of customers on credit and appropriate investment opportunities.

Key words: Credit Risk, Return on Assets, non-performing loans, Loan loss provisioning

1.0 Introduction

Credit risk is a situation that arises when a customer borrows money and is unable to meet up with the contract terms, giving rise to risks of repayment of the capital or the interest accrued over time. The borrower's ability to meet up with the terms of the contract is the determining factor and credit risk can occur in different types of businesses. It could arise when bank funds are invested, and in other words exposed through contractual agreements, which is reflected in the books of the financial institution or appear off the balance sheet.

Greseche, (2004) states that credit risk is one type of risk that banks face and the ability of the bank to efficiently and accurately measure this risk is a key factor determining its success. Credit risk is the likelihood of the bank losing funds in the form of outstanding loans given to customers for different business transactions, and there is a default of a fraction or all the amount due (Basel Committee of Banking Supervision 2001). There are various causes of default such as business failure and bankruptcy. Credit risk is therefore the likelihood of a customer taking a loan and not paying back. The banks manage this risk through credit risk management procedures which involves the monitoring of risks within a bank's operations. It helps in controlling and guiding through a profitable business transaction and is therefore an essential component of a successful bank.

Credit formation is one of the intermediation functions of banks. It is an activity that improves on income generation for the banks. As much as this activity generates income, it increases exposure to risk for the borrower and the lender. The smooth running of the bank business is affected when a lender does not fulfil his obligations as stated in the contract. When credit risks are high, depositors' funds are at risk. The importance of credit to the rate of growth in the Nigerian economy cannot be over emphasized. This is because it enables funds to be utilised efficiently by the financial mediation role of the bank which facilitates an increase in currency in circulation. The major function of banks is lending which involves bringing the deficit and surplus sectors of the economy together, through intermediation. This function increases banks earnings due to the interests which is generated from loans given to customers. A major setback on the operation and the profitability of these banks will then occur if there is default from customers. Therefore, if these loans are not properly managed, deposits meant for depositors will be lost and this in turn affects profitability. When banks stop lending, the economic growth of the country is affected. According to Charles and Kenneth (2013), there is very high risk to both parties that are involved in a lending agreement. Nzotta, (2004) stated that the success or failure of commercial banks depends a lot on how credit is managed, because the quality of the credit portfolio of banks reflects how good the credit management policies of the bank is. Giving of credit to customers is a risk which banks must undertake. This is because it supports growth in the economy and increases bank profit. When not paid back however, it negatively affects the corporate performance of the bank and the economy in general.

There has been a spate of bad loans recently leading to banks been closed by the Central Bank of Nigeria (CBN). This situation needs to be investigated to know how credit risk management may contribute to this and how this is impacting on the profitability of banks. The study will also reveal credit policies and guidelines to help customers understand the procedures. The study therefore seeks to find out how credit risk management impacts on the profitability of deposit money banks in Nigeria, by analysing both performing and non-performing loans.

1.1 Statement of the Problem

According to Charles and Kenneth (2013), there has been a rise in non-performing loans in deposit money banks in the country and this has contributed to some recent financial

constraints in the industry. Poudel (2012) noted that this rise in non-performing loans can be ascribed to weak corporate governance practises, poor administration of credit and adherence to credit management guidelines. The collapse of a lot of banks in Nigeria has also raised a lot of arguments among scholars for instance Kargi, (2011) and Kolapo, et al. (2013), about corporate performance of banks. They identified credit risk as a factor that had led to poor financial performance of banks though its exact impact is yet to be ascertained.

The effect credit risk has on profitability of banks in Nigeria was assessed. The results of the analysis showed that the volume of non-performing loans had a negative effect on profitability and this affects banks meeting the requirements of depositors promptly (Kargi, 2011). According to Chen 2012, the exact extent, nature and direction of how non-performing loans affects the financial performance of commercial banks is not clear hence it is still a subject of controversy.

Though several studies have been undertaken on how banks manage their credits in relation to their profitability in different countries, we still see banks even in recent times go through mergers and acquisitions due to inability of recovering bad debts. With the new CBN policies which will further reduce other income generating lines of banks, this study is relevant to carry out a measurement of the extent to which credit risk management affects the corporate performance of the banks to improve the profitability of these banks.

Furthermore, the period carried out in other research studies, either captures shorter periods or uses data collected from few banks. In this study, a total of 15 banks will be analysed and the study will cover 35 years. There is therefore a need to fill the gap of what has happened in recent times in respect to credit risk management.

1.2 Research Questions

1. What is the relationship between the ratio of non performing loans to loans and advances and return on assets of deposit money banks in Nigeria?
2. To what extent does ratio of performing loans and advances to total loans relate to the return on assets of deposit money banks in Nigeria?
3. To what extent does ratio of loan loss provisioning to loans and advances relate to the return on assets of deposit money banks in Nigeria?
4. To what extent does ratio of loans and advances to deposit relate to the return on assets of deposit money banks in Nigeria?

1.3 Research Hypotheses

H₀₁: There is no statistically significant relationship between ratio of non-performing loans to loans and advances and return on assets of deposit money banks in Nigeria.

H₀₂: There is no statistically significant relationship between ratio of performing loans and advances to total loans and return on assets of deposit money banks in Nigeria.

H₀₃: There is no statistically significant relationship between ratio of loan loss provisioning to total loans and advances and the return on assets of deposit money banks in Nigeria.

H₀₄: There is no statistically significant relationship between ratio of loans and advances to total deposit and the return on assets of deposit money banks in Nigeria.

2.0 LITERATURE REVIEW

2.1 Financial Intermediation Theory

This theory is built on the economics of imperfect information in the market place that emerged in the 70s. It exists because it reduces information and transaction costs that exist between borrowers and lenders. Financial intermediation helps in the provision of liquidity and helps in transforming the risk characteristics of assets and therefore assists in the efficient

functioning of markets. In summary, financial intermediaries play very important role in the credit market by efficiently allocating resources between depositors and borrowers.

2.2 Bank Risk Management Theory

This theory was developed by David H. Pyle. It shows how credit and market risks could affect the survival of banks both positively and negatively. It states that without credit risk management policies that are effective and efficient, the liquidity and profitability of banks will be impossible (David, 1997).

2.3 Credit Risk Theory

This theory states that approaches to analysing credit risk, include structural approach, incomplete information approach and reduced-form appraisal approach. This theory is also known as the structural theory which focuses on default which could happen in the life of bonds, from inception to maturity. This means that credit risk is not restricted to the maturity of the loan (Longstaff and Schwartz, 1995).

2.4 Concept of Corporate Performance of Banks

According to Daft (1991), corporate performance refers to the ability of an organisation achieving set objectives by efficient use of available resources. It is the results gotten from a process where managers plan and implement strategies to achieve corporate goals. Venktrakanan & Ramanujam (1986) in their research, stated that corporate performance can be divide into financial performance and operational performance. While the financial performance measures return on equity and return on assets, operational performance measures productivity and customer satisfaction. Kaplan and Norton (1992) mentioned that corporate performance measurement combines all aspects of the organisation's performance which incorporates both financial and non-financial factors. Simons (2000) on the other hand, stated that corporate performance can be explained using market mechanism by the company interacting with customers and the financial product market. This is achieved by meeting shareholders and creditors needs with financial indicators and satisfying the customers by improving on customer value expectation.

There are three basic ways according to Langfield Smith (1997) by which financial performance can be measured, the perpetual-based measure, accounting-based measure and market-based measures. The perpetual-based measure uses different methods provided by respondents, the accounting-based measure has to do with the optimal utilisation of assets, where net income, return on asset and return on equity are used, while market-based measure uses the stock prices to measure the market value of the bank and in essence measure the corporate financial performance.

2.5 Link Between Bank Credit Risk and Bank Financial performance

Dobbins (2008) defined credit risk management as the management of trade debtors. Mather (1962) mentioned that there are basically three principles that are used in evaluating credit. They are profitability, sustainability and safety. Other principles, generally known as the 5c's of credit include character, (honesty, integrity and reliability) of the borrower, cash flow generated from the operations of the business, collateral, capacity and capital. They are referred to as the cannons of lending.

Some tools of monitoring credit include that maintained by CBN (2005), which states that the design for credit frameworks should be aligned to risk monitoring and control. Banks need to develop procedures that are comprehensive and have ways that individual credits can be monitored through an effective information system. It is imperative that credit monitoring is

carried out to ensure that the banking sector has an effective credit administration process. This should be designed such that the relationship manager is informed as soon as the customer makes any changes to the credit report. For the banks, the new Basel regulatory proposal provides added support to the re-examination of approaches to credit risk management.

2.6 Empirical Review

Ogboi and Unuafé (2013), carried out a study on the relationship between credit risk management, capital adequacy and Financial Performance of commercial Banks in Nigeria. Data was obtained from selected banks from 2004 to 2009. The results showed positive relationship existing between credit risk management and capital adequacy and the financial performance of banks, and a negative relationship between loans and advances and profitability of bank. It was recommended that proper credit appraisals should be carried out before disbursements of these loans.

Kolapo et al. (2012), in their study on credit risk and commercial bank performance in Nigeria, a survey was carried out on 5 banks for a period of 11 years, between 2000 and 2010 using ROA to measure performance and using total loan and advances, non-performing loans and provisioning for loan loss as measures of credit risks. It was concluded that when non-performing loans are increased by a 100%, the profitability reduces by 6.2%, same goes for loan loss provision, when increased by a 100%, profitability is reduced by 0.65%. Meanwhile increase in total loans and advances increased the profitability by 9.6%. They therefore recommended that there should be an increase in credit analyses to reduce bad loans since it is obvious that loans were a source of income which will increase profitability when they are performing.

Prakash and Poudel (2012), in their study on commercial banks in Nepal, sought to investigate on the impact of credit risk management on financial performance. Here, 31 banks were surveyed for a period of 11 years and default rate and capital adequacy rates were analysed using correlation and regression analyses. It was discovered that the highest factor affecting financial performance of banks was the rate of default. It was recommended that banks should develop strategies which will reduce credit risk exposure and strategies that will increase profitability.

Boahene et al (2012) researched the profitability of banks as affected by credit risk in Ghana. The study covered a five-year period, between 2005 and 2009. The result showed that there were high credit risks and the profits posted by the banks were still high, revealing a positive and significant relationship between the variables.

Kargi (2011), investigated on how credit risk impacted on performance of banks in Nigeria. Data was gotten from the annual reports of the banks from 2004-2008. The findings revealed that there was a significant negative relationship between credit risk management and profitability. It was concluded that the level of loans, advances and non-performing loans affected the profitability of the banks, leading to risk and illiquidity.

Owojori et al (2011) in their work made effort to show that the inability to get back loans repayment from customers led to the liquidation of most banks and some loans which were given to company directors, relatives to directors or other similar situations was a major factor that led to loans not being paid back and this eventually led to the liquidation of banks.

Al-Khouri (2011) carried out a study where the effect of specific risk characteristics on the banking environment on banks performance was measured for the period of 1998-2008. The research was carried out for banks operating in six Gulf Cooperation Council (GCC)

countries. A total of 43 banks were measured, using regression analysis. The results showed that three different types of risks which are capital, liquidity and credit risks affects the performance of banks, using return on asset in measuring profitability while liquidity risk only was found to affect profitability when the dependent variable was return on equity.

Hays, et al (2010), in identifying banks that are efficiently run against those that are not efficiently run, used efficiency ratios to measure the performance of banks. A linear multivariate discriminant model was used in identifying variables that differentiate high and low risk banks. The result showed that for banks to survive, they should pay attention to return on average assets.

Kithinji (2010), assessed commercial banks in Kenya, to see the impact credit risk management has on profitability. Data on credit levels, non-performing loans and after-tax profits were collated for a 5-year period, 2004-2008. It was concluded that the profits made by the commercial banks was not influenced by credit levels and non-performing loans but other variables.

Gisemba (2010) examined the relationship between the financial performance of SACCOS, Nairobi and risk management practices. It was discovered that SACCOS adopted several approaches in assessing risks before giving out loans to their customers to reduce loss of funds. The approaches include screening of borrowers, risk analysis techniques, use of collateral etc. It was concluded from the research that credit co-operative societies must reduce defaulters and manage risks effectively to be able to increase return on assets of the organisations.

3.0 Methodology

3.1 Research Design

A quantitative research approach was used. The population for the study is all the deposit money banks listed on the Nigerian Stock exchange floor as of 31st December 2014. The data covered the period 1980 to 2014 and was gotten from the Central Bank of Nigeria Statistical Bulletin and the Nigerian Stock Exchange fact book.

3.2 Model Specification

Following the model proposed by Adeusi et al, (2013) and Iwedi and Onuegbu (2014) with modifications, we estimate our regression model as shown below;

There are two models:

$$ROA=f(PL, NPL, LLP, LA,) \dots\dots\dots (1)$$

$$ROA = a_0 + a_1PL+a_2NPL+a_3LLP+a_4LA\dots\dots\dots (2)$$

The error term is introduced to account for other indices.

$$ROA= a_0 +a_1PL+ a_2NPL +a_3LLP+a_4LA + e\dots\dots\dots(3)$$

Where;

a_0 - a_4 = coefficients

PL represents the ratio of performing loan to loans and advances

NPL represents the ratio of non-performing loans to loans and advances

LLP represents the ratio of loan loss provisioning to loans and advances

LA represents the ratio of loans and advances to total deposit

ROA= return on Assets of Commercial Banks

The a priori expectations of the independent variable are as follows.

$$a_1, a_2, a_3, a_4 < 0$$

4.0 Data Analysis Technique

In testing the hypotheses, the Econometric Views package was used. The test carried out include the test for stationarity using unit root test, test for co-integration using Johansen's test and the Granger causality test which was used to test for directional relationship between the variables.

4.1 Results and Discussion

The decision rule for the Augmented Dickey-Fuller test (ADF) was that the absolute value of the ADF-statistic should be greater than the absolute values of the test critical values.

4.1.1: Unit Root Test (Test for Stationarity)

Table 4.1: ADF unit root test results

Differenced Variables	ADF-statistic	Test Critical Values			Order of Integr ation	Prob.
		1%	5%	10%		
D(ROA)	-8.934524	-3.646342	-2.954021	-2.615817	I (1)	0.0000
D(NPL)	-7.454150	-3.653730	-2.957110	-2.617434	I(1)	0.0000
D(PL)	-6.266427	-3.646342	-2.954021	-2.615817	I(1)	0.0000
D(LLP)	-5.392106	-3.646342	-2.954021	-2.615817	I(1)	0.0001
D(LA)	-3.888702	-3.661661	-2.960411	-2.619160	I(1)	0.0187

Source: Author's Computation using E-VIEWS

The results above of the Unit root test shows all study variables integrated at their first difference. The result is accepted because the absolute value of the ADF statistic is higher than the test critical values.

4.1.2: Analysis of Co-integration

Table 4.2: Results of Johansen's Co-integration

Date: 01/24/16 Time: 19:19				
Sample (adjusted): 1982 2014				
Included observations: 33 after adjustments				
Trend assumption: Linear deterministic trend				
Series: NPL, PL, LLP, LA, ROA				
Lags interval (in first differences): 1 to 1				
Unrestricted Co-integration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.628043	72.90933	69.81889	0.0277
At most 1	0.389668	40.27309	47.85613	0.2129
At most 2	0.312478	23.97925	29.79707	0.2013
At most 3	0.266092	11.61543	15.49471	0.1763
At most 4	0.041717	1.406185	3.841466	0.2357

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level	
* Denotes rejection of the hypothesis at the 0.05 level	
**MacKinnon-Haug-Michelis (1999) p-values	

Source: Author's Computation using E-VIEWS

Using Johansen test of Co-integration to test for long-run relationship, with rejecting the null hypothesis if the critical value is less than the Trace Statistic as the decision rule, the co-integration results reported in Table 4.2 above shows that the null hypothesis that states that there is no co-integration between the variables is not rejected.

It reveals that the dependent and independent variables have no co-integrating relationship. We therefore conclude that there is no long run relationship between the ratio of non-performing loans to loans and advances (NPL), the ratio of loan loss provisioning to loans and advances, the ratio of performing loans to loans and advances and ratio of loans and advances to total deposits and the return on assets of the Deposit Money Banks from 1980-2014.

In testing the stated hypotheses in chapter one, we carried out an Ordinary Least Square Regression analysis at the level of stationarity of the study variables.

4.1.3: Short Run Regression Analysis

Table 4.3: ESTIMATES OF THE OLS REGRESSION ANALYSIS

Dependent Variable: D(ROA)				
Method: Least Squares				
Date: 01/25/16 Time: 11:47				
Sample (adjusted): 1981 2014				
Included observations: 34 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.002042	1.107198	0.001845	0.9985
D(NPLLA)	7.927173	14.20825	0.557928	0.6240
D(PLLA)	0.004591	5.080323	0.000904	0.9993
D(LLLA)	-16.15826	19.31156	-0.836715	0.6014
D(LADEP)	0.115267	0.352851	0.326674	0.7463
R-squared	0.536214	Mean dependent var		0.016314
Adjusted R-squared	0.472244	S.D. dependent var		6.134468
S.E. of regression	6.432924	Akaike info criterion		6.695788
Sum squared resid	1200.093	Schwarz criterion		6.920253
Log likelihood	-108.8284	Hannan-Quinn criterion		6.772337
F-statistic	2.483876	Durbin-Watson stat		1.964997
Prob(F-statistic)	0.009174			

Source: Author's Computation using E-VIEWS

The Ordinary Least Square Regression analysis results (Table 4.3) show that the independent variables together account for 47.22% changes in the dependent variable. The Durbin-Watson statistics at 1.96 is within the acceptable range and shows no presence of auto correlation. The associated F-Statistic value of 2.483876 is significant, which confirms a good line of fit.

The estimation results show that no significant relationship exists between the variables for the study. The probability coefficients associated with the independent variables are all greater than 0.05 level of significance thus indicating an insignificant relationship with the dependent variable. Haven carried out the short run regression analysis, the test for causality using Pair-Wise Granger Causality Test will be undertaken.

4.1.4: Analysis of Causality

Table 4.4: RESULTS OF PAIR-WISE GRANGER CAUSALITY TESTS

Pairwise Granger Causality Tests			
Date: 01/25/16 Time: 11:44			
Sample: 1980 2014			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
D(NPLLA) does not Granger Cause D(ROA)	32	0.48158	0.6230
D(ROA) does not Granger Cause D(NPLLA)		0.36577	0.6970
D(PLLA) does not Granger Cause D(ROA)	32	0.31561	0.7320
D(ROA) does not Granger Cause D(PLLA)		0.07409	0.9288
D(LLLA) does not Granger Cause D(ROA)	32	0.92720	0.4079
D(ROA) does not Granger Cause D(LLLA)		1.54586	0.2314
D(LADEP) does not Granger Cause D(ROA)	32	1.26446	0.2986
D(ROA) does not Granger Cause D(LADEP)		1.93491	0.1639

Source: Author's Computation using E-VIEWS

Table 4.4 showed results of Pair-wise Granger Causality tests revealing no evidence of causal relationship between the study variables (using 0.05 level of significance). The associated probability coefficients are greater than 0.05 level of significance which indicates no evidence of causal relationship among the study variables.

4.2 Test of hypotheses

Ho1: There is no statistically significant relationship between the ratio of Non-performing Loans to Loans and Advances and Return on Assets.

From the results obtained from the ordinary Least Square Regression analysis, the estimates show that the probability coefficient of relationship between the ratio of Non-Performing Loans to Loans and Advances and Return on Assets is 0.6240, which is greater than 0.05 level of significance. The decision rule is do not reject the null hypothesis if the probability co-efficient is greater than 0.05 and reject if otherwise. The results shows that a positive relationship exists between the ratio of non-performing loans to loans and advances and the return on assets, however the relationship is insignificant. We, therefore, do not reject the null hypothesis and make a conclusion that there is no significant relationship and Advances and Return on Assets from 1980 and 2014.

Ho2: There is no statistically significant relationship between the ratio of Performing Loans to Total Loans and Advances and Return on Assets.

The Ordinary Least Square results estimate shows a positive and insignificant relationship between the ratio of Performing Loans to Total Loans and Advances and Return on Assets. Going by our decision rule, we do not reject the null hypothesis because the calculated probability estimate is 0.9993 which is greater than 0.05 level of significance. In conclusion,

there is an insignificant relationship between the ratio of performing loans to total loans and advances and return on assets.

Ho3: There is no significant relationship between the Ratio of Loan Loss Provision to Loans and Advances and Return on Assets.

The Ordinary Least Square Regression analysis estimates show a negative and insignificant relationship between the Ratio of Loan Loss Provisioning to Loans and Advances and Return on Assets. This is seen from the estimates where the probability coefficient is 0.6014 for relationship between the Ratio of Loan Loss Provision to Loans and Advances and Return on Assets. This is greater than 0.05 level of significance. With a decision rule of not rejecting the null hypothesis if the probability coefficient is greater than 0.05, we conclude that there is no significant relationship between the Ratio of Loan Loss Provisioning to Loans and Advances and Return on Assets for the period of the study.

Ho4: There is no statistically significant relationship between the Ratio of Loans and Advances to Total Deposits and Return on Assets.

The ordinary Least Square Regression analysis shows a positive and insignificant relationship between the Ratio of Loans and Advances to Total Deposits and Return on Assets. The probability coefficient is 0.7463 and is greater than 0.05 level of significance. Therefore, we do not reject the Null Hypothesis and conclude that there exists an insignificant relationship between the Ratio of Loans and Advances to Total Deposits and Return on Assets for the study period.

4.3 Discussion of findings

Over the years study on the relationship between credit risk management and corporate performance of banks in Nigeria has attracted the interest of many scholars, although their empirical result varies in terms of uniformity. The study findings show that of the four independent variables tested, only Ratio of Loan Loss Provision to Loans and Advances (LLLA) exhibited a negative relationship with corporate performance proxy by annual Return on Assets (ROA). This is in line with a priori expectation. This implies that an increase in Ratio of Loan Loss Provision to Loans and Advances (LLLA) will cause a decrease in annual Return on Assets (ROA). This agrees with the study carried out by Kolapo, et al (2012) that there exists a negative relationship between the ratio of loan loss provisioning to loans and advances and the Return on assets of banks in Nigeria. The other variables, which are the Ratio of Non-Performing Loans to Loans and Advances (NPL), Ratio of Performing Loans to Loans and Advances (PL), and Ratio of Loans and Advances to Total Deposits (LA) show a positive relationship with annual Return on Assets (ROA). This does not support the a priori expectation of negative coefficients. The implication of these relationships is if any of the independent variables is increased, then the Return on Assets (ROA) of the banks will increase. Kargi (2011) carried out research which supports the findings from this study that a positive relationship exists between the ratio of performing loans to loans and advances and the return on assets and there is a positive relationship between the ratio of loans and advances to total deposits and the return on assets of banks in Nigeria. This study, on the other hand, reveals that there exists a positive relationship between the ratio of non-performing loans to loans and advances and the return on assets of deposit money banks in Nigeria. This is different from the result carried out by Kargi (2011) in respect to ratio of non-performing loans to loans and advances and Return on Assets but in line with the study carried out by Kithungi, (2010) that NPL did not have a negative effect on profitability and so other variables were responsible for reduction in profitability of banks.

The study being quantitative and explanatory brought to bear the effect of management of credit risk and the performance of deposit money banks in Nigeria. A multiple regression model was employed to evaluate the relationship between the variables, which generated a mixed result. The Ratio of Non-Performing Loans to Loans and Advances (NPLLA) has a positive relationship with annual Return on Assets (ROA) with a coefficient of 7.927 from the ordinary least squares test. This relationship is not significant as the probability coefficient of 0.6240 is higher than the selected 0.05. The Ratio of Performing Loans to Loans and Advances (PL) also has a positive relationship with annual Return on Assets (ROA) with a coefficient of 0.0045. This relationship is not significant as the probability coefficient of 0.9993 is higher than the selected 0.05 level. Also, Ratio of Loans and Advances to Total Deposits (LADEP) has a positive relationship with Annual Return on Assets (ROA) with a coefficient of 0.1152. This relationship also is not significant as the probability coefficient of 0.7463 is higher than the selected 0.05 level. Conversely, the Ratio of Loan Loss Provisioning to Loans and Advances (LLP) exhibited a negative relationship with annual Return on Assets (ROA) with a coefficient of -16.158. This relationship is also not significant as the probability coefficient of 0.6014 is higher than the selected 0.05 level.

5.0 Conclusion

The results from the test carried out showed from the co-integration test showed that there was no long run relationship between the variables and showed stationarity at first difference. This therefore stopped us from running an error correction model. The result of the relationship between the ratio of loan loss provision to loans and advances (LLA) and the return on assets (ROA) was negative which was supported by the a priori expectation. All the other independent variables failed to agree with the a priori expectation by showing a positive relationship to Return on Assets.

According to Marhal & Onyeakachi (2014), credit risk management has a major constraint to the performance of banks and to the bank operations due to availability of deposit, while Olumide et al. (2015), mentioned that it was due to customer retention and shareholder patronage.

In conclusion, there needs to be a re-appraisal within the banking sector to research and find out what other factors are responsible for the fluctuations in the return on assets of deposit money banks in Nigeria, this is because the study revealed that only one independent variable impacted the return on assets negatively and the relationship was insignificant. This means other factors not mentioned in this study could be responsible for the fluctuations on the return on assets.

5.1 Recommendation

The following recommendations are made with the idea that if they are implemented, they will raise the confidence of depositors and increase the creation of credit by the banks, and this will ensure the funds are directed to investments that will generate income by reducing default rates.

1. The government should ensure credit measures and procedures are developed so banks could be checked to reduce rate of collapse. This will make the populace have more confidence in the banking industry.
2. Interest on deposits should be increased to attract more deposit from depositors. This will enable banks to leverage opportunities for more credit to businesses.
3. There should be enlightenment programs for the populace to avail them of the credit guidelines and procedures which will enable them to understand channelling the

credit availed to the appropriate investment and increase their ability to payback as at when due.

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