



## Effect of Non-performing Loans on the Performance of the Nigerian Commercial Banks

Otitodilinna Nkemjika  
University of Nigeria, Nsukka

Publication Process	Date
Received	October 16th, 2020
Accepted	October 24th, 2020
Published	October 30th, 2020

### ABSTRACT

*This examined the effect of non-performing loans on the performance of the Nigerian Commercial Banks. Specifically, the study focused on three objectives guided by three hypotheses. This study employed ex-post facto research design. The population of the study included the 24 commercial Banks in Nigeria. Using convenience sample technique, two different banks was selected for the study. Data used for the study was obtained from CBN Statistical Bulletin, 2016. The Simple regression model and descriptive analysis was used to analyze the data accordingly. After subjecting each hypothesis under test, findings revealed that non-performing loans has significant effect on the profitability of commercial banks in Nigeria and there is no significant relationship between non-performing loan and GDP. It was concluded however that non-performing loan has a weakening effect on the profitability of the commercial banks in Nigeria.*

**Keywords:** Non-performing Loans; Commercial Banks; Nigeria

## Introduction

Non-performing loans are those risk assets not generating income. As a first step, loans are often considered to be non-performing when principal or interest on them is due and left unpaid for 90 days or more. Loan classification and provision entails much more than simply looking at amounts overdue.

Adekunde (2014) argued that the non-performing loans are one of the major causes of the banks distress. To be successful in the long run, banks need to keep the level of bad loans at a minimum so they can still earn a profit from extending new loans to customers. In spite of the 1952 Banking Ordinance, the Nigerian banking sector has experienced a number of bank failures; with non-performing loans becoming the precursor to eventual bank failures in Nigeria. Non-performing loans are those loan facilities which borrowers often have difficulties repaying (Udeke, 2014).

Bola (2014) explained NPLs as bad debts whose recovery is highly doubtful because they are not being serviced as required. In the banking system, the bad loan problems consist of a stock component (old debt) that is not performing and a flow component (new lending) that may become non-performing. Loans are not necessarily annual events but happen at different periods of the year and are often affected by seasonal performance of economy but importantly by short term inflation, lending rates, level of risk where the economy is not doing well.

The health of a bank is not reflected by the size of its balance sheet but by the return of its assets; thus, earning power is an important indicator of bank performance.

The fact that a lot of institutional bodies like the Economic and Financial Crimes Commission (EFCC) and the Independent Corrupt Practices and other Related Offences Commission (ICPC) have been associated in the past to investigate and checkmate the activities of Nigeria Commercial Banks to prevent it from further collapse of liquidation, yet nothing reasonable has been achieved. It is on this point that a researcher shall dive into research to find and identify the problems and provide possible solutions.

In this study, we will focus on the impacts of non-performing loans on performance of commercial banks in Nigeria.

## Statement of the Problem

Non-performing loan in commercial banks in Nigeria is a problem that is as old as the existence of commercial banks in Nigeria. This problem has caused untold havoc to the economic development of the commercial banks in Nigeria.

Kassim (2012) suggested that some causes of Non-performing Loans (NPLs) include: poor management, lack of sound credit policy, inadequate credit analysis, errors in documentation, and undue emphasis on profitability at the expense of loan quality, fraudulent practices, political instability, abnormal competition, policy and regulatory inconsistencies, weak real sector, political and social influence on bank operators.

Also, bankers should not be left out of the blame because banks in Nigeria charge high interest rates on loans. When loans are granted to customers, banks charge numerous interests as determined by them. The accumulation of these interests is often higher than the initial amount (principal) borrowed. This usually increases the loan portfolio as well as the volume of bad loans. Again, management after granting loan to customers accept certain percentage as gratification, which may result in insufficient funds to execute the intended business and at the end of the day, management may not have moral standing to ask forth full refund of the money borrowed (Adepodo, 2015).

Furthermore, directors of banks often grant "ghost loans" to themselves to enrich their businesses without any intention to pay the loan. According to Okpara (2013) observes that directors tend to misuse their privileged positions to obtain unsecured loans which, in some cases are in excess of their banks' statutory lending limits and this is in violation of the provisions of the lending policy of banks. Over the years, there are cases of Bank directors approving loans for their friends and relatives in situations of insufficient information, thus increasing the potential of non-performing loans. In addition, some banks grant interest waivers on non-performing insider-credits without obtaining approval from the CBN. Some researchers maintained that non-performing loans led to the deterioration of bank assets, capital as well as their profitability and also led to bank distress.

NPLs are a credit risk to commercial banks and it is the risk of loss resulting from failure of borrowers to meet their payment obligations. These loans have tended to caused financial instability in the Nigerian Commercial Banks and have sometimes resulted in the outright failure of banks' projects.

Hence, the study will examine effects of non-performing loans on the performance of the Nigerian Commercial Banks.

### Objectives of the Study

The main objective of this study is to examine the effect of non-performing loans on the performance of the Nigerian Commercial Banks.

Specific Objectives:

- i. To ascertain the effect of non-performing loans on the profitability of commercial banks in Nigeria.
- ii. To determine the effect of non-performing loans on the liquidity of commercial banks.
- iii. To examine the trend of non-performing loans in commercial banks performance in Nigeria

### Research Questions

In order to achieve the above stated objectives, the following research questions have been developed to guide the study.

- i. How far has non-performing loans affected commercial banks profitability?
- ii. To what extent has non-performing loans influence commercial banks liquidity?
- iii. Is there any significant relationship between non-performing loans and Real GDP?

### Research Hypothesis

The following hypotheses will be stated in null form;

- i. H01: Non-performing loans has no significant effect on the profitability of commercial banks in Nigeria.
- ii. H02: Non-performing loans has no significant effect on liquidity of commercial banks in Nigeria.
- iii. H03: There is no significant relationship between non-performing loan and GDP.

### Theoretical Framework

#### Loan Pricing Theory

Banks cannot always set high interest rates. Banks should consider the problems of adverse selection and moral hazard since it is very difficult to forecast the borrower type at the start of the banking relationship (Stiglitz and Weiss, 2013). If banks set interest rates too high, they may induce adverse selection problems because high-risk borrowers are willing to accept these high rates. Once these borrowers receive the loans, they may develop moral hazard behaviour or so-called borrower moral hazard since they are likely to take on highly risky projects or investments (Chodecai, 2014). From the reasoning of Stiglitz and Weiss, it is usual that in some cases we may not find that the interest rate set by banks is commensurate with the risk of the borrowers.

#### Firm Characteristics Theories

These theories predict that the number of borrowing relationships will be decreasing for small, high-quality, informational opaque and constraint firms, all other things being equal (Godlewski and Ziane, 2014). Robert and Gary (2011 cited in Hamisu (2014).) state that the most obvious characteristics of failed banks is not poor operating efficiency, however, but an increased volume of non-performing loans. Non-performing loans in failed banks have typically been associated with regional macroeconomic problems. DeYoung and Whalen (2012 cited in Hamisu (2014) observed that the US Office of the Comptroller of the Currency found the difference between the failed banks and those that remained healthy or recovered from problems was the caliber of management. Superior managers not only run their banks in a cost-efficient fashion, and thus generate large profits relative to their peers, but also impose better loan underwriting and monitoring standards than their peers which result to better credit quality, Hamisu (2014).

### **Theories on Management Accounting**

From the point of view of management accounting, bank asset quality and operating performance are positively related. If a bank's asset quality is inadequate (e.g. the loan amount becomes the amount to be collected), the bank will have to increase its bad debt losses as well as spend more resources on the collection of non-performing loans. This increase in non-performing loans in the banking industry can be due to external events, such as adverse situation in economic activities (Berger and DeYoung, 2014, refers to it as bad luck hypothesis). When banks list the loan amount for collection, banks will incur extra operating costs from non-value-added activities to handle and supervise the collection process. These non-value-added activities consist of constantly tracking the debtor's financial status, being cautious of the collateral value, discussing the amortization plan, paying expenses for contract negotiation, calculating the costs to withhold, deposit and dispose of collateral at the time the loans become non-payable.

The costs include winning the trust from management and the public, preserving the banks from being rated poor as a consequence of external affairs, declining deposits because of a loss in credibility, and extra costs to monitor loan quality. Furthermore, higher future costs are generated by the ignorance of the problems from other operations when the loan quality issues grab the attention of the senior management. This escalation in cost, in turn, deteriorates bank efficiency.

On the other hand, Berger and DeYoung (2014) argued that bad management of the banking firms will result in banks inefficiency and affects the process of granting loans. The banks' management might not thoroughly evaluate their customers' credit application due to their poor evaluation skills. In addition, the problem of asymmetric information between lenders and borrowers further complicates the matter. Besides that, the management might not be efficient in managing loan portfolios. Consequently, this leads to lower credit ratings for the approved loans and high probability of default resulting in higher non-performing loans. Therefore, banks' inefficiencies might lead to higher non-performing loans.

### **Bank Risk Management Theory**

It was developed by David H. Pyle University of California and it was used to study why risk management is needed, and outlines some of the theoretical underpinning of contemporary bank risk management, with an emphasis on market and credit risks or non-performing loans. This theory indicates that credit and market risks have an effect directly or indirectly on the bank's survival. As applied to this study, this theory holds that researcher would expect the independent variables credit risk indicators to influence or explain the dependent variable which are banks profitability because without effective and efficient credit risk management, banks profitability, liquidity, solvency is unthinkable (David, 2014).

### **Empirical Review**

Chan (2010) carried a study on Bank Efficiency and Non-Performing Loans in Malaysia and Singapore. The objective of this paper was to investigate the relationship between non-performing loans and bank efficiency in Malaysia and Singapore. To achieve the objective, cost efficiency was estimated using the stochastic cost frontier approach assuming normal-gamma efficiency distribution model proposed by Greene (2013). The cost efficiency scores were then used in the second stage Tobit simultaneous equation regression to determine the effect of non-performing loans on bank efficiency. The results indicate that there is no significant difference in cost efficiency between banks in Singapore and Malaysia although banks in Singapore exhibit a higher average cost efficiency score. The Tobit simultaneous equation regression results clearly indicate that higher non-performing loan reduces cost efficiency. Likewise, lower cost efficiency increases non-performing loans. The results also support the hypothesis of bad management proposed by Berger and DeYoung (2012) that poor management in the banking institutions results in bad quality loans, and therefore, escalates the level of non-performing loans.

Ezeji (2010) carried out a study on the Effect of Commercial Banks' Non-Performing Loans on Banks' Performance in Nigeria. This research work investigated the effect of commercial banks' non-performing loans on bank performance in Nigeria. The overall objective of the study is to determine the effects of commercial banks' non-performing loans on bank performance in Nigeria. Three research questions and three research hypotheses were raised. Frequency tables, percentages, weighted-mean and z-test were adopted for data analysis. The research was conducted using primary data obtained from a well-structured questionnaire. The questionnaire was structured based on the research objectives, which include; to evaluate the effect of loan default and bank liquidity, ascertain the extent of relationship between loan default and banks operational efficiency as well as examine the relationship

between loan default and commercial bank distress. From the analysis it was established that; there is a positive relationship between credit risk and liquidity risk in banks. Liquidity risk and credit risk jointly affect bank profitability. Non-performing reduces return on assets, lead to credit crunch, makes it difficult for bank to expand their working capital. High level of non-performing loans is an indicator of poor bank performance among others. The researcher recommended that commercial banks should develop credit procedures, policies and analytical capabilities for handling bad debts, strategize on how to attract and retain more deposits so as to further improve on their lending performance, ensure good planning which encompasses budgeting, reviews and incentives, and formulate critical, realistic and comprehensive strategic and financial plans. There should be closer consultation and cooperation between commercial banks and the regulatory authorities.

Wangai et al, (2012) conducted a study on the Impact of Non-Performing Loans on Financial Performance of Microfinance Banks in Kenya. These researchers opined that all over the world financial institutions face massive risk on non-performing loans. As a result of the foregoing, financial institutions are obliged to review their lending policies. In Kenya, the lure of maximizing profitability has been alleged to increase credit risk and the potential for non-performing loans. The aforementioned loans negate profitability of financial institutions and as such the initial object of maximizing profitability by employing relaxed conditions when awarding credit facilities defeats the very goals of financial institutions. This study aimed to establish the effect of non-performing loans on financial performance of microfinance banks (MFBs) in Kenya. The study was conducted in microfinance banks in Nakuru town, Kenya. It was guided by one independent variable (credit risk) and financial performance as the dependent variable. A descriptive research design was adopted. The target population constituted the 66 credit and management staff of the aforementioned microfinance banks. A census survey was employed which implies that there was no sampling. A structured questionnaire was used to collect data from the respondents. A pilot study was conducted prior to undertaking the main study. The aim of pilot testing the instrument was to verify the instrument's reliability and validity. The study sought to determine both the content validity of the instrument. The reliability was tested using the Cronbach alpha. The collected data was analyzed both descriptively and inferentially. Descriptive analysis sought to present the opinions of the respondents regarding all the study constructs. On the other hand, inferential analysis enabled making deductions pertinent to non-performing loans and financial performance of microfinance banks under study. The research findings were presented in form of descriptive and inferential statistical tables. It was established that, credit risk significantly affected financial performance of MFBs in Nakuru town. The credit risk negated the MFBs' financial performance. It was deduced that, increase in credit risk would significantly reduce the MFBs' financial performance. It is anticipated that the study findings and the recommendations hereof, will enable financial institutions particularly microfinance banks to formulate and implement more appropriate strategies to mitigate non-performing loans in order to enhance their financial performance. It is recommended that, potential borrowers should be critically analyzed to assess their credit worthiness before they are awarded loans. It is recommended that, researchers can embark on studies to investigate the financial implication of nonperforming loans in other financial institutions in Kenya such as saving and credit cooperative societies.

Hamilton O. Isu (2014) carried a research work on The Rising Incidence of Non-Performing Loans and the Nexus of Economic Performance in Nigeria: an Investigation. The researcher found out that the introduction of Structural Adjustment Programme (SAP) in Nigeria in the 1980's; the financial system has witnessed excessive liberalization. Community Banks which were the main stay of the financial system have transformed to Microfinance Banks (MFB) resulting from the uncontrolled collapsed of these institutions. The Central Bank of Nigeria (CBN) very recently introduced reforms meant to curb the high incidence of bank failures in the country that required the introduction of minimum capital requirement for the establishment of commercial Banks and MFBs. After some years of experiments, it was obvious that the reforms put in place were not adequate to stem the tide of bank failures. It was as a result of this that the Apex Bank (Central Bank of Nigeria) increase the minimum capital requirement for commercial banks to N25b (\$160,000). Many Banks could not meet this new capital requirement and were faced with the option of been merged with other stronger banks or allowed themselves to be completely taken over by other banks. From researches done on the performance of banks, it has been proven that banks tend to do very well when the economy is also doing very well. It is on this basis that this work has been undertaken to confirm this assertion or otherwise confirm that non-performing loans tend to increase when the economy slacks into a recession. The study found that increase in non-performing loans impacted negatively on the Gross Domestic Product in Nigeria and that increase in lending rate and inflation rate cause non-performing loans to increase. The implication of this study is that Central bank should introduce policies that can have moderating effects on inflation and lending rates. Governments should pay their loans on time and insider abuse should be eliminated from the

financial system. Above all, banks should know their customers before granting loans to them, in fact adhering strictly to the 5C's of credit in modern banking practice.

Somoye, R.O.C. (2010) published a research study on the variation of risks on non-performing loans on bank performances in Nigeria. He argued that performances of banks within the context of Non-performing Loans (NPLs) the results show that earnings risk is most prevalent in explaining variations in non-performing loans followed by interest rate risk and monetary policy rate. The results are largely consistent with the results from the study on Non-performing loans (NPLs) conducted on Sub-Saharan African countries by Fofack (2005). The paper recommends that an Efficient Loan Appraisal Techniques (ELAT) consisting of conventional investment analysis and risk measurements be adopted and credit policy must be in line with the institutional objectives. The Basel accords need to be reviewed in the light of the current credit crunch.

In Turkey, Karabulut and Bilgin (2012) carried out a study with the purpose of examining the impact of the unlimited deposit insurance on Non-performing Loans (NPLs) and market discipline. They argued that deposit insurance program play a crucial role in achieving financial stability. Governments in many advanced and developing economies established deposit insurance schemes for reducing the risk of systemic failure of banks. The report shows that deposit insurance has a beneficial effect of reducing the probability of a bank run. However deposit insurance systems have their own set of problems. Deposit insurance systems create moral hazard incentives that encourage banks to take excessive risk. Turkey established an explicit deposit insurance system in 1960. Until 1994, the coverage was determined by a flat rate but in that date, Turkey experienced a major economic crisis. In April 1994, Turkish government had to establish an unlimited deposit insurance scheme to restore banking system stability. In conclusion, the study shows that unlimited deposit insurance caused a remarkable increase at Non-performing Loans (NPLs). What this means is that deposit insurance institutions established by monetary authorities must re-examine the current policy of blanket guarantee of deposits in the banking sector.

In Africa, Fofack (2013) investigated the determinants of non-performing loans in sub-Saharan Africa using correlation and causality analysis. The analysis was based on data drawn from 16 African countries (7 CFA and 9 non-CFA). The sub-panel of CFA countries includes: (1) Benin, (2) Cameroon, (3) Chad, (4) Cote d'Ivoire, (5) Senegal and (7) Togo. The sub-panel of non-CFA countries includes: (8) Botswana, (9) Cape Verde, (10) Ethiopia, (11) Kenya, (12) Malawi, (13) Rwanda, (14) South Africa, (15) Swaziland and (16) Zimbabwe. The sample selection was dictated by the scope of the database and availability of financial information on these countries. The data are provided on an annual basis end-of-period, between 1993 and 2002, included. The minimum length of the panel covers a period of 3 years for the shortest series (Chad and Rwanda), and up to 10 years for the longest series, producing an unbalanced panel. The correlation and causality analysis focuses on a number of macroeconomic and microeconomic (banking sector) variables.

At the macroeconomic level, the study investigates the correlation between non-performing loans and a subset of economic variables: per capita GDP, inflation, interest rates, changes in the real exchange rate, interest rate spread and broad money supply (M2). At the microeconomic level, it focuses on the association between Non-performing Loans (NPLs) and banking-sector variables. The key banking variables include return on asset and equity, net interest margins and net income, and inter-bank loans. These variables were chosen in the light of theoretical considerations and subject to data availability. Non-performing Loans (NPLs) are adjusted for specific provisions (non-performing loans as a proportion of loans loss provisions) to provide the basis for cross-country comparisons.

In the correlation analysis, the results showed a negative association between real GDP per capita and non-performing loans expressed as a percentage of loans loss provision. This implies that falling per capita income is associated with rising scope of Non-performing Loans (NPLs) to the extent that changes in per capita income is proxy for changes in economic growth. The negative association with non-performing loans may reflect the impact of cyclical output downturns on the banking sector; a result that is expected in the literature (Gonzalez-Hermosillo (1997)). The sign of the coefficient is consistent across state and private banks, though the magnitude of the correlation is stronger for state banks and financial institutions.

The study also investigates the association between non-performing loans (NPLs) and, domestic credit, broad money supply (M2) and inflation. Though the magnitude of the coefficient of correlation between inflation and Non-performing Loans (NPLs) is low, the sign is negative; unexpected rise in inflation under cyclical downturns is likely to negatively affect the performance of the banking sector and recovery of loans to private operators and investors. In the extreme case, the study shows that hyper-inflation may erode banks assets and equity and weaken banks



position through the interest rate channel. However, the magnitude of the coefficient is relatively low, and may reflect the general context of declining inflationary pressures in the nineties, especially in the sub-panel of CFA countries. The results also show a positive association between real exchange rate appreciation and Non-performing Loans (NPLs). The magnitude of this association is particularly strong in the sub-panel of CFA countries, which underwent a devaluation of their currency in the early nineties. This direction is not consistent throughout the sample, however. This relationship is ambiguous for the sub-panel of non-CFA countries. In spite of its magnitude, the coefficient associated with these countries has a negative sign.

At the microeconomic level, the correlation analysis shows a negative association between non-performing loans and most banking variables, including return on asset and equity, total deposit, net interest, margin and net income. This result is consistent for most countries in the sub-panel of CFA and non-CFA countries and between state and privately-owned banks. For instance, the coefficient of correlation between return on asset and Non-performing Loans (NPL) higher in absolute terms for private banks and state banks. A coefficient of correlation suggests that about 60 per cent of variations in the scope of Non-performing Loans (NPLs) are explained by changes in return on assets.

However, a correlation analysis does not necessarily imply causation. In the causality analysis, the Granger-Causality test was applied to the sample of countries. At the macroeconomic level, results revealed that inflation, real interest rate, growth rate of GDP per capita are causal to non-performing loans across most sub-Saharan countries. However, in few countries like Botswana, inflation and real interest rate are not particularly significant and do not appear to cause non-performing loans. For these countries, the dynamics of Non-performing Loans (NPLs) is best explained by the growth rate of GDP. At the microeconomic level, measures of profitability (net interest margins and returns on assets) play a key role in explaining the causal link between non-performing loans and banking sector variables. In particular, net interest margin is significant across the sub-panel of CFA and non-CFA countries, and Granger-causes Non-performing Loans (NPL) at one and in some cases up to two lags. This variable is significant at 1percent level. Other key microeconomic determinants of Non-performing Loans (NPLs) include "equity over total liquid assets" and inter-bank loans over total assets. These variables are shown to Granger-cause Non-performing Loans (NPLs) in a number of countries, including Botswana, Cameroon, Cote d' Ivorie, Mali and South Africa.

### Research Methodology

The research design for the study will be ex-post facto. This research design is chosen because the researcher has no control over the exogenous variable and whatever happens occurred before the research. Furthermore, ex-post facto design is used when researcher is trying to examine the cause and effect of the relationships that exist between two variables. The population size for this study is made up of All Grocery Stores in Enugu Metropolis. This study will be focusing on Pentagon Supermarket, Enugu and Roban Stores with a total population of 25 Staff members.

Time series secondary data will be used in the study and the data will be sourced from the financial statement of commercial bank in Nigeria. The population of this study will comprise of the twenty-four (24) commercial banks in Nigeria. Convenience sample techniques will be used in selecting the two different banks (First Bank of Nigeria plc and Union Bank of Nigeria Plc) for the study.

Objective one which is to ascertain the effect of non-performing loans on the profitability of commercial banks in Nigeria and objective two which is to determine the effect of non-performing loans on the liquidity of commercial banks in Nigeria will be analyzed with simple regression model and objective three which is to examine the trend between non-performing loans and commercial banks performance in Nigeria will be analyzed with descriptive analysis.

### Model Specification

Thus, i specify the following model for hypothesis one;

$$ROA = F(NPL) \dots\dots\dots 3.1$$

$$ROA = b_0 + b_1NPL + U_t \dots\dots\dots 3.2$$

Where;

ROA = Return on asset as a proxy for profitability

NPL = Non-performing Loans

Ut = error terms

b0 – b1 = parameter estimate

Thus, i specify the following model for hypothesis two;

LR = F(NPL).....3.3

LR= b0+b1NPL+Ut.....3.4

Where;

LCB= Liquidity ratio

NPL= Non-Performing Loan

B0= Intercept

B1= Parameter estimate

Ut= Error term

#### DATA PRESENTATION

**Table 1** Necessary Data for Analyses

Year	NPL	ROA	GDP	LR
<b>2006</b>	225.08	0.59	8.210965	62.19
<b>2007</b>	387.99	5.92	6.828398	61.98
<b>2008</b>	463.49	3.94	6.270264	44.3
<b>2009</b>	2,922.80	-9.28	6.934416	44.45
<b>2010</b>	1,077.66	3.91	7.839739	51.77
<b>2011</b>	360.07	0.04	4.887387	69.29
<b>2012</b>	286.09	2.62	4.279277	68.01
<b>2013</b>	321.66	2.15	5.394416	50.63
<b>2014</b>	354.84	2.29	6.309718	53.65
<b>2015</b>	649.17	2.18	2.652694	58.18

*Source: NDIC Annual Report, 2006 to 2015 and CBN Statistical Bulletin, 2016*



## DATA ANALYSES

**First Model**  $ROA = b_0 + b_1CIT + \mu$

**Table 2 Model Summary**

Equation 1	Multiple R	.827
	R Square	.683
	Adjusted R Square	.644
	Std. Error of the Estimate	2.462

**Table 3 ANOVA**

		Sum of Squares	Df	Mean Square	F	Sig.
Equation 1	Regression	104.702	1	104.702	17.275	.003
	Residual	48.487	8	6.061		
	Total	153.189	9			

**Table 4 Coefficients**

		Unstandardized Coefficients		Beta	t	Sig.
		B	Std. Error			
Equation 1	(Constant)	4.377	1.052		4.161	.003
	NPL	-.004	.001	-.827	-4.156	.003

## Interpretation

The R of .827 above shows that there exists a strong positive relationship between NPL and ROA as the R is close to 1. The R-square of .683 shows that 68.3% of the variation in ROA is influenced by the explanatory variable (NPL). The ANOVA table shows that the model fit is very significant ( $.003 < .05$ ), hence valid for prediction. The intercept of 4.377 shows the value of ROA when the explanatory variable is constant (equal to zero). The slope of -.004 shows that at every percentage increase in NPL, ROA will decrease by 0.4%. Substituting the values of the parameters in the model will be  $ROA = 4.377 - 0.004NPL + 2.462$ .

## Decision

Non-performing loans has no significant effect on the profitability of commercial banks in Nigeria.

The p-value on which basis we can reject the null hypothesis that non-performing loans has no significant effect on the profitability of commercial banks in Nigeria is .003. Since the p-value  $< .05$ , the researcher therefore rejects the null hypothesis and conclude that non-performing loans has significant effect on the profitability of commercial banks in Nigeria

**Second Model**  $LR = b_0 + b_1NPL + \mu$

**Table 5 Model Summary**

Equation 1	Multiple R	.548
	R Square	.301
	Adjusted R Square	.213
	Std. Error of the Estimate	7.935

**Table 6 ANOVA**

		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	216.556	1	216.556	3.439	.101
	Residual	503.702	8	62.963		
	Total	720.258	9			

**Table 7 Coefficients**

		Unstandardized Coefficients		Beta	t	Sig.
		B	Std. Error			
Equation 1	(Constant)	5.634	.747		7.539	.000
	NPL	.001	.001	.224	.649	.534

### Interpretation

The R of .548 above shows that there exists a fairly positive relationship between NPL and LR as the R is close to 1. The R-square of .301 shows that 30.1% of the variation in LR is influenced by the explanatory variable (NPL). The ANOVA table shows that the model fit is non-significant (.101 > .05), hence not sufficient for prediction. The intercept of 60.675 shows the value of LR when the explanatory variable is constant (equal to zero). The slope of -.006 shows that at every percentage increase in NPL, LR will decrease by 0.6%. Substituting the values of the parameters in the model will be  $LR = 60.675 - 0.006NPL + 7.935$ .

### Decision

Non-performing loans has no significant effect on liquidity of commercial banks in Nigeria.

The p-value on which basis we can reject the null hypothesis that non-performing loans has no significant effect on liquidity of commercial banks in Nigeria is .101. Since the p-value > .05, the researcher therefore fails to reject the null hypothesis and affirm that non-performing loans has no significant effect on liquidity of commercial banks in Nigeria.

**Third Model**  $GDP = b_0 + b_1NPL + \mu$

**Table 8 Model Summary**

Equation 1	Multiple R	.224
	R Square	.050
	Adjusted R Square	-.069
	Std. Error of the Estimate	1.749

**Table 9 ANOVA**

		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	1.289	1	1.289	.421	.534
	Residual	24.467	8	3.058		
	Total	25.756	9			

**Table 10 Coefficients**

		Unstandardized Coefficients		Beta	t	Sig.
		B	Std. Error			
Equation 1	(Constant)	5.634	.747		7.539	.000
	NPL	.001	.001	.224	.649	.534

### Interpretation

The R of .224 above shows that there is a weak positive relationship between NPL and GDP as the R is very far from to 1. The R-square of .050 shows that 5.0% of the variation in GDP is influenced by the explanatory variable (NPL). The ANOVA table shows that the model fit is non-significant (.534 > .05), hence not sufficient for prediction. The intercept of 5.634 shows the value of GDP when the explanatory variable is constant (equal to zero). The slope of -.006 shows that at every percentage increase in NPL, GDP will decrease by 0.6%. Substituting the values of the

parameters in the model will be  $GDP = 5. + 0.001NPL + 1.749$ .

### Decision

There is no significant relationship between non-performing loan and GDP.

The p-value on which basis we can reject the null hypothesis that there is no significant relationship between non-performing loan and GDP is .534. Since the p-value > .05, the researcher therefore fails to reject the null hypothesis and uphold that there is no significant relationship between non-performing loan and GDP.

### Summary of Finding

Having Subjected the Hypotheses under tests, the following findings were revealed:

1. Non-performing loans has significant effect on the profitability of commercial banks in Nigeria
2. Non-performing loans has no significant effect on liquidity of commercial banks in Nigeria
3. There is no significant relationship between non-performing loan and GDP

### Conclusion

The implication of the above finding holds that non-performing loan has a weakening effect on the profitability of commercial banks in Nigeria as shown by the slope of -.004 which shows the negative correlation between non-performing loan and commercial bank profitability. Hence non-performing loan is a phenomenon banks should not tolerate at all.

### Recommendations

Based on the findings, the researcher recommends the following

1. The need to strengthen supervision of banks by the Central Bank of Nigeria (CBN) and the Nigeria Deposit Insurance Corporation (NDIC) to prevent a sharp buildup of NPLs in the future;
2. Banks should maintain high credit standards while the Apex Bank and other regulatory agencies should maintain high surveillance on banks' credit operations;
3. Banks should collect and perfect all collaterals which are used for obtaining loans. The collateral should be more than the value of loan approved, in case of default;
4. That prudential supervision of banks be encouraged, as well as strengthening the activities of the Asset Management Corporation of Nigeria (AMCON) to deal with the problem of non-performing loans in the banking sector;
5. That the Internal Control Departments of banks be strengthened and empowered to adequately tackle the problem of high level of non-performing loans in banks.