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The Link between Macroeconomic Variables & Non-Performing Loans in Deposit Money Banks in Nigeria (1981-2020)

Osuji Emmanuel A
Lecturer, Department of Financial Management Technology,
Federal University of Technology Owerri, Nigeria
Nwankwo Dike
Lecturer, Department of Financial Management Technology,
Federal University of Technology Owerri, Nigeria
Obieche Precious Nkechi
Lecturer, Department of Financial Management Technology,
Federal University of Technology Owerri, Nigeria
Nwoko Mercy
Lecturer, Department of Financial Management Technology,
Federal University of Technology Owerri, Nigeria

Abstract:
This study examined the effect of selected macroeconomic variables namely interest rate, exchange rate and inflation rate on Non-Performing Loans (NPLs)of Commercial banks in Nigeria for the period 1981 to 2020. Secondary data sourced from the Central bank of Nigeria statistical bulletin were used to estimate an Ordinary Least Squares (OLS) model. Results show that all the causal variables were jointly significant with an R^2 value of over 87%. Also, all the independent variables showed a positive relationship with the dependent variable.
However, while interest rate and exchange rate had a statistically significant relationship with the response variable, inflation rate did not show any statistically significant relationship. Based on the findings, the study recommends that the monetary authorities should formulate and implement better policies for interest and exchange rate management in order to curtail increses in the level of NPLs in the banking sector and hence, save the critical banking sector from credit and attendant liquidity crisis.

Keywords: Interest rate, inflation rate, exchange rate, non-performing loans

1. Introduction

The need for a study on macroeconomic risk in the country cannot be overemphasized given the steady increase in non-performing loans (NPLs). The increasing level of NPLs is an indication of a vulnerable banking sector and a worrisome sign to bank authorities and regulators (Farhan et al 2012). Meanwhile, economic growth is impossible without a sound financial system and an efficient banking industry is necessary for the stability and growth of an economy (Gertrude 2016). Again, there is a link between the banking industry and the macro economy as any shock absorbed by the economy whether as a result of its openness or its macroeconomic policies will also affect the banking industry.

1.1. Statement of the Problem

Loans and advances have been identified as the main asset that generate profit for banks and as a direct consequence of this, they happen to be the first asset that receives any macroeconomic shock due to the transferred risk from the economy (Casstro 2013). Again, Casstro (2013), noted that banking crises may also arise when banks are overwhelmed with liquidity problems occasioned by increases in the level of non-performing loans. Hence, there is need to examine the general performance of banks' credit portfolio amid a highly volatile macroeconomic environment.

1.2. Research Objective

The general objective of this study is to investigate the effect of macroeconomic risks on non-performing loans in Nigeria's banking sector. However, the specific objectives are;

- To ascertain the extent to which inflation affects non-performing loans in the Nigerian banking sector.
- To ascertain the impact of exchange rate on non-performing loans in the Nigerian banking sector.
- To determine the effect of interest rate on non-performing loans in the Nigerian banking sector.

1.3. Research Questions

To achieve the research objectives, our study will seek answers to the following research questions

- To what extent does inflation affect non-performing loans in the Nigerian banking sector?
- To what extent does exchange rate affect non-performing loans in the Nigerian banking sector?
- To what extent does interest rate affect non-performing loans in the Nigerian banking sector?

1.4. Research Hypotheses

In order to answer the aforementioned research questions and also to achieve the research objectives, our study will test the following hypotheses.

- H_{01}There is no significant relationship between inflation and non-performing loans in the Nigerian banking sector.
- H_{02}There is no significant relationship between exchange rate and non-performing loans in the Nigerian banking sector.
- H_{03}There is no significant relationship between interest rate and non-performing loans in the Nigerian banking sector.

2. Literature Review

2.1. Conceptual Literature

2.1.1. Macroeconomic Risk

This refers to risk associated with economic aggregates or macroeconomic variables. They include;

- Inflation Risk: This is also called purchasing power risk and it is the chance that the cash flows from an investment won't be worth as much in the future because of changes in purchasing power due to inflation.
- Exchange Rate Risk: is a risk that exists when a financial transaction is denominated in a currency other than that of the base currency of the company or the borrower. Exchange rate risk exists when the foreign subsidiary of a firm maintains financial statements in a currency other than the reporting currency of the consolidated entity. The risk is that there may be an adverse movement in the exchange rate of the denomination currency in relation to the base currency before the date when the transaction is completed. Investors and businesses exporting or importing goods and services or making foreign investments have an exchange rate risk which can have severe consequences.
- Osako et al (2003), argued that constant variation in the foreign exchange market framework which was ostensibly aimed at creating better market efficiency, only succeeded in creating instability in the market. Thus, making bank loans volatile.
- Interest Rate Risk: interest rate is the opportunity cost of not holding money but rather giving it out as loans or advance. This implies that if money is made available as loan to someone in need, the latter pays the principal an additional amount for using the money based on agreed percentage for the duration.
- Interest rate risk is the chance that an unexpected change in interest rates will negatively affect the value of an investment due to monetary authorities regulating nominal interest rate to achieve desired macroeconomic objective.

2.1.2. Bank Loans

A loan is an amount of money advanced to a business or a person which has its principal and interest payable in the future as scheduled in the loan policy. According to Ozurumba (2016), a loan is a written or oral agreement for a temporary transfer of an asset (usually cash) from its owner (the lender) to a borrower who promises to return it according to the terms of the agreement, usually with interest for its use. Since loans are for profitable ventures, it is expected that the lender also participates in the profit sharing by incorporating an interest in the loan repayment. Due to the possibility of default by the borrower, the lender requests for collateral which he is entitled to sell in order to recoup his money. Also, according to Onyiriuba (2009), a loan is a money that a bank lends a borrower to have the use of as a credit facility on condition that they pay it back with interest to the bank at an agreed future date.

2.1.3. Bank Loans as Risky Assets

Bank loans are regarded as risk assets because the money advanced as loans by the banks belong to depositors and risk arises in the sense that in case of massive default, depositors' monies may not be available on demand. Also, a rise in real lending rates increases the real value of borrower's debt and makes debt servicing more expensive thereby exposing them to a higher chance of default.

The subject matter of risk and uncertainty assume considerable importance in determining business success or failures. According to Pandey (2009), risks arises because we cannot anticipate the occurrence of possible future events with certainty and consequently, any predictions about future cash flow expectations cannot be one hundred percent correct. The above highlights the fact that banking is regarded as high-risk business.

2.1.4. Non-Performing Loans

Non-Performing loans arise from the extension of credit facilities to customers (Inekwe, 2010). According to Kanu and Hamittan (2014), NPLs are default loans which banks are unable to profit from. These loans have not expired but it is uncertain that the borrowers would repay their principal and interest obligation as and when due. A general standard for classifying a loan as non-performing is when obligations related to the loan become over 90 days due and the bank

considers that the obligor is unlikely to pay its credit obligations in full, without recourse by the bank to actions such as realizing security.

This exposes banks constantly to credit risk due to the possibility that the borrower will default. Usually, banks try to minimize credit risk in their portfolio using the Cannons of good lending which are the 5Cs of Character, Capital, Capacity, Condition and Collateral (Onyia and Oleka 2000). Despite the above method of evaluating credit in the banking industry in Nigeria, a lot of its loans and advances end up as NPLs. Consequently, Pandey (as cited by Ayodele, 2010), believe that bad debts do occur and despite the risks and losses, banks cannot afford zero lending since a greater proportion of their earnings come from interest earned on loans and advances.

2.2. Theoretical Review

2.2.1. Theory of Asymmetric Information
The theory of asymmetric information which was developed by Stightz and Weiss (1981), states that it is very hard to isolate or filter good borrowers from bad borrowers due to information inadequacies. This theory explains the situation where not all the parties involved in a transaction have adequate as well as relevant information. Asymmetric information problems arise from incomplete information available to the lender and conversely full information available to a borrower regarding a transaction (Sheefeni, 2015). Banks are confronted with information inadequacies or problems when extending loans to prospective borrowers, to the extent that the borrowers are more informed than the banks. As a result, banks approve loans that turn out to be unprofitable (Khatib, 2010) as cited by (Theresa 2017).

2.2.2. Life Cycle Consumption Theory
According to Louis, et al (2011) as cited by Farhan et al (2012), low-income borrowers have higher default risks than high income earners due to increased risk of unemployment and being unable to pay loan obligations. Furthermore, banks charge higher rates to riskier clients. If a high rate is charged to those borrowers who have a substandard record to repay the loans, it will lead to increases in the level of NPL. Accordingly, the probability of default depends on the current income and unemployment rate, which actually is associated with the insecurity of the future income and lending rates.

2.2.3. Moral Hazard Theory
This theory was developed by Alam and Jahan (1999) and was later advanced by Berger and De Young (1997). The essential argument of this theory is that small banks in terms of capital are inclined in raising their earnings by advancing loans to unqualified borrowers thereby increasing loan portfolio risk. Consequently, there will be an increase in the level of NPLs. This practice displayed by low capitalized banks qualifies moral hazard since these banks understand that they are not adequately capitalized and still decide on increasing portfolio risk (Theresa 2017). This moral hazard inducement by bank management leads to taking unwarranted risk and soaring the amount of NPLs. According to the moral hazard hypothesis, NPLs increases when capitalization of banks decreases (Theresa 2017).

2.3. Empirical Review
Several studies have been carried out on the macroeconomic factors affecting NPLs. Fofack (2005), examined some countries in Sub-Saharan Africa and came to conclusion that real interest rate, economic growth, and exchange rate significantly affect NPLs.

Similarly, Tarron et al (2009), studied the determinants of NPLs in the Malaysian banking sector using a panel dataset and empirical results supported the view that macro-factors such as the real effective exchange rate and growth in real GDP impact significantly on the level of NPLs.

Furthermore, Louis et al (2011) in Ferhan (2012), made use of dynamic panel data methods to investigate the determinants of NPLs in the Greek banking sector from 2003 to 2009. The study concluded that macroeconomic variables such as the unemployment rate, the real GDP growth rate, public debt and lending rates impact significantly on NPLs.

Also, Agung (2001), did a study on the macroeconomic determinants of NPLs in Brazil from 1994 to 2004. The variables included inflation rate, real GDP growth, real interest rates, and the nominal exchange rate. Results show a positive and significant relationship between the regressors and the response variable.

In addition, Ariff and Mariset, (2001), examined the macroeconomic determinants of non-performing loans in Cyprus using quarterly data from 2001 to 2014. Results show a long run relationship between non-performing loans and the log of gross domestic product, interest rate and inflation rate. The results for Granger causality found unidirectional causality from interest rate to non-performing loan in the long run. Moreover, there was a unidirectional causality running from all the macroeconomic determinants to non-performing loans in the short run. The results of the impulse response functions revealed that all the macroeconomic determinants played a role in determining non-performing loans.

In reality, there exists a plethora of empirical literature about the subject matter and we intend to further highlight a few more.

Salas and Saurina (2002), in their study found a negative relationship between GDP growth and the NPL ratio while unemployment had a positive impact on NPLs in the Spanish banking industry over the period 1985-1997. Again, Khemraj and Pasha (2009), investigated the determinants of NPLs in Guyana from 1994 and 2004 and found an inverse relationship between GDP and the volume of NPLs. In another study by Farhan *et al.,* (2012), it was established that growth in GDP had a significant negative relationship with NPLs while unemployment had a significant positive relationship with these loans.

Amuakwa-Mensah and Boakye-Adjei (2015), researched on the macroeconomic determinants of NPLs in Sub-Saharan Africa and concluded that the growth of real GDP per capita, the previous year's inflation and the real effective exchange rate are the only macroeconomic factors that affect NPLs significantly in the Ghanaian banking industry.

In Nigeria, Murumba (2013), examined the relationship between real GDP and Non-performing loans for the period 1995-2009 using the Pearson Product Moment Correlation Coefficient and time series analysis and found that there was a significant and positive relationship between real GDP and Non-performing loans in the Nigerian banking industry. Again, Chude et al (2014), in their study found that there is a long run relationship between non-performing loans and economic growth in Nigeria.

Also, Somoye (2010), studied the macroeconomic determinants of non-performing loans in Nigeria using data from 1982-2015.The results from the study showed a strong positive relationship between non-performing loans and selected macroeconomic variables in the short run including Money supply (MOS) and Gross Domestic Product (GDP). Another study by Ogechi et al (2016), on the macroeconomic determinants of non-performing loans in Nigeria, using data for the period 2005 to 2014 concluded that only lending rate, money supply, GDP, and unemployment rate affects NPL in Nigeria.

This study intends to select some relevant macroeconomic variables based on the aforementioned literature for model selection and analysis in order to test our research hypotheses, answer the research questions and achieve the research objectives. They include the inflation rate, interest rate and official exchange rate.

3. Research Methodology

3.1. Data Collection, Model Specification and Method of Analysis

The nature of data for this research work is secondary and covers all deposit money banks in Nigeria whose audited annual accounts are published. To overcome the difficulty of collating data from individual banks, audited financial reports of the banks and data were collated from the annual accounts and publications of the Nigerian Deposit Insurance Corporation (NDIC) and the Central Bank of Nigeria (CBN) Statistical Bulletin.

3.2. Model Specification and Method of Data Analysis

Our study will employ the Ordinary Least Squares method of Regression for model estimation and data analysis. The general regression equation is of the form:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots \beta_n X_n + \mu$$

where:

Y = Dependent Variable (NPLs)

X = Independent Variables (the various explanatory and control variables)

B_0 = Constant

$\beta_1, \beta_2 \cdots \beta_n$ = are model coefficients

μ = Error Term

However, the functional and mathematical forms of our model are respectively stated below

$$LOGNPLs = f (LOGINF, LOGINT, LOGEXC)$$

$$LOGNPL = \beta_0 + \beta_1 LOGINF + \beta_2 LOGINT + \beta_3 LOGEXC$$

where:

LOGNPL = The Log of Non-performing Loans

LOGINF = The Log of Inflation Rate

LOGINT = The Log of Interest Rate

LOGEXC = The Log of Exchange Rate

B_0, β_1, β_2 and β_3 are the model parameters.

μ = Error term.

4. Empirical Analysis

4.1. Data Presentation

YEAR	NPL (₦)	INF (₦)	INT (₦)	EXC (₦)
1981	12,567,000,000.00	0.208	0.06	0.6100
1982	13,458,000,000.00	0.077	0.08	0.6729
1983	15,429,000,000.00	0.232	0.08	0.7241
1984	2,015,000,000.00	0.178	0.10	0.7649
1985	25,431,000,000.00	0.074	0.10	0.8938
1986	34,528,000,000.00	0.057	0.10	2.0206
1987	47,060,000,000.00	0.113	0.13	4.0179
1988	6,978,000,000.00	0.545	0.13	4.5367
1989	10,427,000,000.00	0.505	0.19	7.3916
1990	11,905,000,000.00	0.074	0.19	8.0378
1991	12,817,000,000.00	0.13	0.15	9.9095
1992	18,816,000,000.00	0.0446	0.18	17.2984
1993	32,858,000,000.00	0.572	0.26	22.0511
1994	43,933,000,000.00	0.57	0.14	21.8861
1995	57,800,000,000.00	72.80	0.14	81.20
1996	72,400,000,000.00	0.30	0.14	81.20
1997	75,000,000,000.00	0.11	0.14	82.00
1998	63,300,000,000.00	0.01	0.14	84.00
1999	94,800,000,000.00	0.01	0.18	93.95
2000	111,590,000,000.00	0.01	0.14	102.10
2001	135,740,000,000.00	0.19	0.14	111.93
2002	196,050,000,000.00	0.12	0.19	121.00
2003	260,190,000,000.00	0.14	0.16	129.50
2004	350,830,000,000.00	0.15	0.15	133.50
2005	368,760,000,000.00	0.18	0.13	132.15
2006	225,080,000,000.00	0.01	0.12	128.65
2007	387,990,000,000.00	0.01	0.88	125.83
2008	2,508,000,000,000.00	0.10	0.98	118.57
2009	2,922,800,000,000.00	0.12	0.74	147.30
2010	1,077,600,000,000.00	0.14	0.61	148.30
2011	360,070,000,000.00	0.11	0.92	151.80
2012	286,090,000,000.00	0.12	0.12	155.50
2013	324,100,000,000.00	0.09	0.12	155.50
2014	343,190,000,000.00	0.08	0.12	156.50
2015	4,860,885,561,710.00	0.09	0.11	191.80
2016	12,815,064,117,210.00	0.16	0.14	253.4923
2017	14,750,138,790,000.00	0.17	0.14	305.7901
2018	366,175,045,300.00	0.14	0.13	250.3608
2019	343,590,345,000.00	0.156667	0.136667	269.8811
2020	15,315,564,557,223.00	0.155556	0.135556	275.344

Table 1: Non-Performing Loans, Inflation Rate, Interest Rate and Exchange Rate Data
SOURCE: CBN Statistical Bulletin 2020

YEAR	LOGNPL	LOG EXC	LOGINF	LOGINT
1981	23.25434	-0.4943	-1.57022	-2.81341
1982	23.32284	-0.39616	-2.56395	-2.52573
1983	23.45951	-0.32283	-1.46102	-2.52573
1984	21.42389	-0.26801	-1.72597	-2.30259
1985	23.95923	-0.11227	-2.60369	-2.30259
1986	24.26504	0.703394	-2.8647	-2.30259
1987	24.57469	1.390759	-2.18037	-2.04022
1988	22.66603	1.5122	-0.60697	-2.04022
1989	23.06766	2.000344	-0.6832	-1.66073
1990	23.20022	2.084155	-2.60369	-1.66073
1991	23.27404	2.293494	-2.04022	-1.89712
1992	23.65797	2.850614	-3.11002	-1.7148
1993	24.21546	3.093362	-0.55862	-1.34707
1994	24.50593	3.085852	-0.56212	-1.96611
1995	24.78025	3.085852	4.287716	-1.96611

YEAR	LOGNPL	LOG EXC	LOGINF	LOGINT
1996	25.00547	3.085852	-1.20397	-1.96611
1997	25.04075	3.085852	-2.20728	-1.96611
1998	24.87115	3.085852	-4.60517	-1.96611
1999	25.27504	4.529297	-4.60517	-1.7148
2000	25.4381	4.626004	-4.60517	-1.96611
2001	25.63401	4.717992	-1.66073	-1.96611
2002	26.00164	4.795544	-2.12026	-1.66073
2003	26.28468	4.862572	-1.96611	-1.83258
2004	26.58357	4.894104	-1.89712	-1.89712
2005	26.63341	4.883915	-1.7148	-2.04022
2006	26.13972	4.857108	-4.60517	-2.12026
2007	26.68425	4.834956	-4.60517	-0.12783
2008	28.55051	4.775477	-2.30259	-0.0202
2009	28.70356	5.003142	-2.12026	-0.30111
2010	27.70576	5.01262	-1.96611	-0.4943
2011	26.60956	5.036053	-2.20728	-0.08338
2012	26.37957	5.059422	-2.12026	-2.12026
2013	26.50432	5.058226	-2.40795	-2.12026
2014	26.56155	5.066086	-2.52573	-2.12026
2015	29.21224	5.264136	-2.40795	-2.20728
2016	30.18164	5.535333	-1.83258	-1.96611
2017	30.3227	5.722899	-1.77196	-1.96611
2018	234321.76	234321.76	234321.76	234321.76
2019	234321.76	234321.76	234321.76	234321.76
2020	234321.76	234321.76	234321.76	234321.76

Table 2: Natural Logarithm of the NPL, EXC, INF and INT Rate
Author's Computation

4.1.1. Analysis of Data and Interpretation.

Variables	ADF value	Critical value at 0.05 level	Order of Integration
LOGNPL	-6.022218	-2.948404	Stationary at First difference
LOGINF	-5.953016	-2.945842	Stationary at Level
LOGINT	-6.724300	-2.948404	Stationary at First difference
LOGEXC	-3.303326	-2.951125	Stationary at First difference

Table 3: Stationarity Test
Source: Extract from Result of Stationarity Test

4.1.2. Regression Test

Dependent Variable: LOGNPL Method: Least Squares Sample: 1981 2020 Included Observations: 39				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
INF	0.011304	0.011098	1.018546	0.3158
INT	1.342330	0.554063	2.422705	0.0211
EXC	0.023187	0.001709	13.57026	0.0000
C	23.25872	0.212337	109.5367	0.0000
R-squared	0.871648	Mean dependent var		25.51216
Adjusted R-squared	0.859979	S.D. dependent var		2.105812
S.E. of regression	0.787981	Akaike info criterion		2.463120
Sum squared resid	20.49016	Schwarz criterion		2.637273
Log likelihood	-41.56772	Hannan-Quinn criter.		2.524517
F-statistic	74.70162	Durbin-Watson stat		1.503818
Prob(F-statistic)	0.000000			

Table 4: OLS Result
Source: Researcher's E-views 10 Result

The result obtained from the regression of the model is presented below:
LOGNPL= 23.25872 + 0.011304*LOGINF + 1.342330*LOGINT + 0.023872*LOGEXC
        The result shows that inflation rate, interest rate and exchange rate have a positive relationship with Non-performing loans (NPLs) respectively. This means that a percentage increase in inflation rate will lead to a 0.011

percentage increase in NPL while a similar percentage increase in interest rate will result in a 1.34% increase in NPL. Also, the response variable will increase by 0.023% following a percent increase in exchange rate.

4.1.3. Test of Hypotheses

The decision rule is to reject the null if the p-value associated with each model parameter is less than 5%. Given the research hypotheses which for the purpose of convenience have been reproduced below,

- H_{01} There is no significant relationship between inflation and non-performing loans in the Nigerian banking sector.
- H_{02} There is no significant relationship between exchange rate and non-performing loans in the Nigerian banking sector.
- H_{03} There is no significant relationship between interest rate and non-performing loans in the Nigerian banking sector.

We see that we cannot reject H_{01} but we can conveniently reject the other two hypotheses. This shows that interest and exchange rates are statistically significant while inflation rate is not significant at the 0.05 level.

4.1.4. Joint Significance and Goodness of fit

Also, the F statistic and its critical values show overwhelming evidence that all the causal variables are jointly significant.

Finally, with an R^2 and adjusted R^2 value of over 85% the results show that the estimated model has a good fit on the data and given the result from the model above, we believe that the model is reliable and could be used to make informed decisions.

5. Conclusion and Recommendations

5.1. Conclusion

This study investigated the effect of macroeconomic variables on non-performing loans of the banking industry in Nigeria for the Period 1981 to 2020. The results of our analysis show that interest rate and exchange rate have a positive significant relationship with NPL while inflation rate showed a positive but insignificant relationship with the causal variable. Also, the variables were jointly significant with a high goodness of fit. Specifically, the result shows that about 87% of the systematic variation in the dependent variable have been explained by the explanatory variables.

5.2. Recommendations

Based on the findings of this research work, we recommended that the monetary authorities should formulate and implement better policies for interest and exchange rate management in order to curtail increses in the level of NPLs in the banking sector.

6. References

i. Amuakwa M. and B. A. (2015). "The effect of risk management practices on the Financial performance of commercial banks in Ghana".(Doctoral dissertation).
ii. Agung, J., et.al, (2001), "Credit crunch in Brazil in the aftermath of the crisis:
iii. Facts, causes, and policy implications". Directorate of Economic Research and Monetary Policy, Bank of Brazil, March.
iv. Alam, N., and S.B. Jahan, (1999), Default culture in banking sector. Bank
v. Parikrama, 25(1), Dhaka, Bangladesh.
vi. Ayodele, O., Suberu, J., and Oke, J., (2010), "Effective credit processing and administration as a panacea for non-performing assets in the Nigerian banking system". Journal of Economics 1 (1), 53-56.
vii. Ariff, M. and Marisetty, V.B., (2001)," A new approach to modeling multi-country risk premium using panel data test method". Proceedings of MFS conference in Cyprus.
viii. Berger, A. N., & De Young, R., (1997), "Problem loans and cost of efficiency in commercial banks". Journal of Banking and Finance, 21, 849-870.
ix. Chude, A. N., & Udell, G. (2014). "non-performing loans and economic growth in Nigeria". Journal of Monetary Economics, 25(1),
x. Castro, M., and C. Harvey, (2013), "Banking in Africa: the impact of financial sector reform since independence". IMF World Economic and Financial Surveys.
xi. Salas, S., and Saurina J., (2000), "Credit growth, problem loans and credit risk provisioning in Spain". Working Paper No. 0018, Banco deEspana, October.
xii. (Farhan A., & Elena, C. (2012). "The role of banks in financial systems: Oxford handbook for banking"-210308, London, Fitzroy Dearborn.
xiii. Fofack, E., M, (2005), "Strategy in emerging economies". Academy of
xiv. Management Journal, 43(3), 249-267.
xv. Gertrude, Y. & Dickinson, D. (2016). "The non-performing loans: Some bank-level
xvi. Evidences". Research Conference on Safety and Efficiency of the Financial System, August.
xvii. Inekwe .F.(2010) "The Impact of Non-Performing Loans on the Performance of

xviii. Deposit Money Banks in Nigeria" Unpiblished Thesis, Department of Finance and Banking, University of Nigeria Nsukka.

xix. Kanu H. and Hamittan E. (2014), "An analysis of nonperforming loans, interest rate and inflation rate". World applied sciences Journal.

xx. Khemraj K. and Pasha G. (2009), "Banking industry consolidation:

xxi. Efficiency frontier approach". Working Paper, University of Guyana (Paper No. 163).

xxii. Murumba, E, (2013), "Factors that cause non–performing loans in commercial banks

xxiii. Onyiriuba M. E. Peter E (2009). "The Impact of Non-Performing Loans on Bank Performance in Nigeria". Department of Finance and Accountancy, Niger Delta University, Bayelsa State. International Journal of Humanities and Social Science Volume 5 Issue 4 ||April. 2016 || PP.01-05.

xxiv. Ogechi, R., and Shakiru, S. (2016), "A comparative study of Bank loans and Loan Performance: An explanatory investigation". Journal of Banking and Finance, 24, 55-69.

xxv. Onyia F. and Oleka, B. (2000), "Capital account liberalization": What option for developing economies? Central Bank of Nigeria Economic and Financial Review, 44(4) December.

xxvi. Osako D. and Richard E., (2003), "Management of Nigerian banks". The Guardian Newspapers, Tuesday, July 16.

xxvii. Ozurumba B.A (2016) "Impact of Non-Performing Loans on Selected Commercial

xxviii. Banks". Research Journal of Finance and Accounting www.iiste.orgVol.7, No.16.

xxix. Pandey, I. M. (2009), "Financial Management", 7th Edition Vikas Publishing.

xxx. Stiglitz and Weiss B. (1981), "Asymmetric Information, Financing Constraints and Investments

xxxi. Review of Economics and Statistics.

xxxii. Somoye, R., (2010), "The variation of risks on non-performing loans on banks in Nigeria". Indian Journal of Economics and Business, March.

xxxiii. Sheefeni, F.(2015)."Bad loans portfolio: the case of ADB"(Doctoral dissertation,

xxxiv. Institute of Distance Learning, Kwame Nkrumah University of Science and

xxxv. Technology Ghana.

xxxvi. Tarron, A. J. and Dahalan, G. (2009), "An ARDL approach to the determinants of non-performing loans in Islamic banking system in Malaysia". Arabian Journal of Business and Management Review 1(2).

xxxvii. Theresa, L., (2017), "Commercial bank net interest margins, default risk, interest rate risk, and off-balance sheet banking". Journal of Banking and Finance, 21(1), 55-87.