NON-PERFORMING LOANS SYNDROME AND DEPOSIT MONEY BANKS' PERFORMANCE IN NIGERIA: AN AGGREGATED APPROACH.

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Abstract

The study examined the relationship between non-performing loans and Deposit Money Banks' performance in Nigeria. The study adopted non-performing loans, lending rate and loan-to-deposit ratio as the explanatory variables while return on equity served as the dependent variable. The study adopted an aggregate approach by employing the Pooled Ordinary Least Squares (POLS) technique and investigated the effect of non-performing loans on the financial performance of two Deposit Money Banks (DMBs) for the period 2005 to 2015. Findings revealed that both non-performing loans and loan-to-deposit ratio have significant impact on DMBs performance in Nigeria while lending rate has no significant effect on the performance of DMBs in Nigeria. The study recommends that the Deposit Money Banks should sustain the ongoing policy of publishing the names of loan defaulters in at least two national newspapers in order to curb the rising incidence of non-performing loans and enhance the financial performance of the DMBs in Nigeria.

Keywords: Non-performing loans, DMBs performance, Return on equity and loan-to-deposit ratio.

INTRODUCTION
Background to the Study

Banks focus on achieving three major objectives namely profitability, growth in assets and increased customer base. These three major objectives are classified into short term and long term objectives. While one could readily argue that the banks' short term objective was increased profitability, its long term objective could be identified as both growth in assets and increased customer base. Sadly, the lopsided pursuit of the short term objective (increased profitability) has beclouded the long term objectives (growth in assets and increased customer base) and this has caused a lot of distortions to the banking industry (Inekwe, 2013). A critical example of the consequence of greed and the quest to make immediate profit by the commercial banks is the Global Financial Crisis (GFC) with its foundation in the United States of America. It happened that for the banks in US to achieve its short term objective of increased profitability, they created too much money too quickly. They did this by granting too many loans within a short time and eventually the debts became unpayable. At the point that the borrowers could not repay their loans, the banks found themselves going bankrupt and the effect of bankers' greed in America spread across the global markets leading to what became referred to as the 'global financial crisis' (Roland, Petr & Anamaria, 2013).

In Nigeria, the rising incidence of non-performing loans has become a dilemma to the banking industry. It has remained the major reason giving for the failure of most banks in Nigeria. Non-performing loans (NPLs) has often been attributed to a situation where bank managers give out unsecured loans to themselves, family members and cronies without recourse to banking industry specified rules (Aremu, Suberu & Oke, 2010). In 2010, only three (3) out of twenty-four (24) banks declared profit while eight (8) banks were identified as being in 'grave' situation. This was due largely to capital inadequacy and risk assets depletion associated with non-performing loans. To remedy this situation, the Central Bank of Nigeria mandated most banks in Nigeria to shore up their capital base in order to meet the CBN regulatory directive (CBN, 2010). Undoubtedly, the increasing spate of NPLs in the Nigerian banking space has gotten to the point that it can be likened to a disease (syndrome) due to the lasting scare it has created in the minds of the banking population (Kanu & Isu, 2014). There are always rumors of one bank or the other trying to 'fold' (in local parlance) or the CBN taking over the management of one bank or the other. When these rumors

come, they come with a reverberation because so many have lost their savings through the failure (closure) of some banks in the past. One may then argue rightly that these rumors may have a damaging effect on the Nigeria banking industry in terms of performance and sustainability. To substantiate this argument, the study investigated the effect of non-performing loans on the performance of Deposit Money Banks (DMBs)
in Nigeria with particular focus on the post-consolidation era.

Statement of the Problem
Often when the rumors of banks' spread, the Central Bank of Nigeria has always come out to quell such rumors and assure Nigerians that the banking industry in Nigeria is robust and strong. Most importantly, the concerned banks come out to promise their customers that there was no cause for alarm and that their banks' performance was not in any way jeopardized. With these denials and reassurances, one then wonders whether the increasing cases of non-performing loans actually have any effect on the performance of the Deposit Money Banks (DMBs) in Nigeria.

Research Objectives
The broad objective of the study was to examine the relationship between non-performing loans (NPLs) syndrome and Deposit Money Banks' (DMBs) performance in Nigeria. The specific objectives of the study were to:
   (i)   Investigate the impact of non-performing loans on return on equity of Deposit Money Banks in Nigeria.
   (ii)   Investigate the effect of lending (interest) rate on return on equity of Deposit Money Banks in Nigeria.
   (iii) Determine the effect of loan-to-deposit ratio on return on equity of Deposit Money Banks in Nigeria.

EMPIRICAL LITERATURE AND THEORETICAL FRAMEWORK
Empirical Literature
Kassim (2002) investigated the influence of non-performing loans on the profitability of banks in Nigeria. Data were collected from the annual reports and financial statement of accounts of the selected banks for the period 2004 to 2008. Financial ratios were used as measures of bank performance and the incidence of non-performing loans were used as the independent variables. The study employed descriptive, correlation and regression techniques. Findings revealed that non-performing loans has a significant impact on the profitability of Nigerian banks. The study also indicates that levels of loans and advances, non-performing loans and deposits have inverse relationship with profitability of Nigerian banks. . Kithinji (2010) examined the impact of credit risk management on the profitability of commercial banks in Kenya. Credit, level of non-performing loans served as the independent variables while banks' profit served as the dependent variable. Data for the study covered the period 2004 to 2008. Findings revealed that credit and non-performing loans do not have significant effect on the profits of Kenyan banks.
Epure and Lafuente (2012) analyzed the relationship between non-performing loans and banks' profitability in Costa-Rica from 1998 to 2007. The study employed a descriptive analysis as the empirical tool and findings showed that non-performing loans affected efficiency and return on assets. Thus, indicating a negative relationship between the two variables. On the other hand, capital adequacy ratio had a positive effect on net interest margin. Felix and Claudine (2008) evaluated the relationship between bank performance and non-performing loan. Return on equity and Return on assets served as the dependent variable. However, ratio of non-performing loans to total loan served as the independent variable. Findings revealed that non-performing loan to total loans ratio has a negative relationship with both return on equity (ROE) and return on assets (ROA). Ahmad and Ariff (2007) investigated the factors that determine credit risk management in emerging and developed economies. The study employed the Ordinary Least Squares (OLS) and findings revealed that increase in loan loss provisions was a strong determinant of profitability of the banks in both the emerging and developed markets. Khalid (2012) investigated the effect of asset quality on

profitability of private banks in India. The study employed the multiple regression analysis as the analytical tool. Findings showed that a bad asset ratio has a negative relationship with bank performance in India. Findings further revealed that the more careful the banks are in granting loans to their customers, the lower the incidence of non-performing loans and the higher the performance of the banks in India. On his own part, Charles (2013) investigated the effect of non-performing loans and capital adequacy ratio on the financial performance of commercial banks in Nigeria. The study employed the regression analysis methodology and findings showed that capital adequacy ratio has a significant positive impact on banks' performance. However, non-performing have a negative impact on banks' profitability in Nigeria. Ahmed, Takeda and Shawn (1998) evaluated the relationship between loan loss provision and non-performing loans. The study revealed that loan loss provision affected non-performing loans significantly and positively. Hence, as loan loss provisions increase, credit risk increases and banks' performance is adversely affected.

Theoretical Framework
Moral Hazard Theory
The theory was postulated by Bester (1994) and anchors on the premise that moral hazards lead to non-performing loans' accumulation as witnessed in the banking sector. Moral hazard refers to risks associated with a party to a transaction providing misleading information about its assets, credit capacity in a desperate effort to get the desired loan or earn excess profit through the loan it grants. The risk here is double-edged as it may come from the lender or the borrower. In a situation where the bank (lender) hides charges associated with the loan from the borrower in order to cajole him into borrowing may result in moral hazard. This is against the backdrop that the borrower soon realizes that the loan terms are not favorable to him and may become unable to serve such loan or even repay back. This leads to the incidence of non-performing loans. On the other hand, the borrower may not disclose to the bank his true financial status, liabilities and other needed information in a desperate bid to secure the loans. When the loans are granted, the bank may realize that it has been fooled and that the borrower cannot satisfy the conditions of the loans and this leads to repayment failures (non-performing loans). All these may lead to increased risks and the accumulation of non-performing loans in the banking industry.

Adverse Selection Theory
Just as the name implies, adverse selection theory leaves the banks with options of either increasing interest rate and choosing only a handful borrowers who may still want to borrow despite the high interest rate or reducing interest rate and having large number of borrowers. In either of these options, the banks are still exposed to high risks. This is against the backdrop that either of these categories of borrowers could still default and end up accumulating the non-performing loans in the banking industry. The adverse selection theory is premised on two key assumptions: (i) lenders (banks) cannot distinguish between borrowers and the level of risks associated with them (ii) that loan contracts are limited. This theory also favours this study because if information are freely shared among the banks, it becomes easy to know the true credit status of each applicant whether local applicant or foreign applicant. With this, non-performing loans would be greatly reduced in the banking industry in Nigeria.

RESEARCH METHODOLOGY
Research Design
The study adopted the ex-post facto research design which is against the back drop that the study examined the relationship between the Non-performing loan syndrome and Deposit money factor in Nigeria.

Therefore, the study tends to establish the relationship between the dependent and independent variables using an existing data. To that extent, the study is primarily a cause effect study and as such the ex-post facto research design is the most appropriate research design to be applied. (Osuala, 2010).

Area of Study
Nigeria; it occupies a land mark of 923,768sqkm instituted in the Western part of Africa. Nigeria is a nation with population of 160,471 000 (UN, 2011). Nigeria also has a 20 deposit money banks that are fully operational.

Nature and Sources of Data
The study adopted secondary data sourced from the Central Bank of Nigeria statiscal bulletin (CBN),Vol 16, December 2015 data used in the study are secondary in nature, since they already exist and gotten from the source quoted above

Model Specification
The study anchors on both moral hazard theory and adverse selection theory which calls for clear-cut information among the banks in order to identify the status and credit-worthiness of borrowers as the only means of reducing the incidence of non-performing loans in the banking industry. Kassim (2012) specified a model for the effect of non-performing loans on the performance of commercial banks in Nigeria as:

$$ROA = \beta_{0t} + \beta_1 NPL/TL + \beta_2 LP/TL + \beta_3 TL/TA + \mu \quad \ldots\ldots\ldots. (1)$$

Where
ROA= Return on assets (proxy for banks' performance)
$\beta_1 - \beta_3$ = Slope coefficient
β_0 = Intercept
NPL/TL = Non-performing Loans – Total Loans ratio
LP/TL = Loan Provisions – Total Loans ratio
TL/TA = Total Loans – Total Assets ratio
μ = error term
In line with Kassim (2012) with modifications, the model for the study was specified as:

$$ROE = \int (NPL, INTR, LDR) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots. (2)$$

Where
      ROE = Return on Equity (proxy for DMBs performance)
      NPL = Non-performing Loans
      INTR = Interest (lending) Rate
      LDR = Loan-to-deposit Ratio
      $\int$ = functional relationship notation
Transforming equation (2) into its econometric linear from, the model can be specified as:

$$ROE = \beta_0 + \beta_1 NPL + \beta_2 INTR + \beta_3 LDR + \mu \ldots\ldots\ldots\ldots\ldots (3)$$

Where
      β_0 = Intercept (constant) term
      $\beta_1 - \beta_3$ = Coefficient parameters of the explanatory variables
      μ = Stochastic error term
By a priori, $\beta_0 > 0$, $\beta_1 > 0$, $\beta_2 > 0$ and $\beta_3 < 0$

Description of Variables
(i) Dependent variable

Return on Equity (ROE)
Return on equity measures the degree of profitability or performance of the Deposit Money Banks. Return on equity is described in the study as:
ROE = Ratio of net income and shareholders' equity
(ii) Independent Variables

Non-performing Loan (NPL)

Non-performing loan measures the loans (debt) owed the banks which are not been serviced adequately neither are the borrowers ready to repay them. Non-performing loans are described in the study as:

NPL = Substandard Loan + Doubtful Loan + Lost Loan

Interest Rate (INTR)

Interest rate captures an external factor that affects DMBs performance. Spending the interest rate as it has to do with lending was considered. Interest rate in the study was described as:

INTR = Interest (lending) rate figures on annual basis.

Techniques of Analysis

The study adopted the Pooled Least Squares (PLS) technique in order to determine the aggregate impact of non-performing loans on the performance of selected DMBs in Nigeria. The study thereafter made use of the inferential statistics such as t-statistic, F-statistic, R-squared statistic and Durbin-Watson in order to establish the effect of the independent variables on the dependent variable.

t-statistic

The t-statistic helps in establishing the impact of each of the independent variable of interest on the dependent variable. Where the probability value of an independent variable is less than the test significant level, we reject the null hypothesis and vice versa.

F-statistic

The F-statistic helps in determining whether the model formulated (specified) for a study is significant and reliable or not. Where the probability value of the F-statistic exceeds the test significant level, we say that the model is not significant.

R-squared

This helps in determining the percentage changes in the dependent variable which is as a result of changes in the dependent variable. The higher the R-squared, the higher the goodness of fit and thus the higher the explanatory power of the model.

Durbin-Watson statistic

This measures the degree of autocorrelation in a regression result. The closer the value of the Durbin-Watson is to 2, the more there is an indication of an absence of autocorrelation.

DATA ANALYSIS AND DISCUSSION OF FINDINGS

Data Analysis

Table 1: Pooled Ordinary Least Squares (POLS) result
Dependent Variable: LNROE
Method: Panel Least Squares
Date: 02/21/17   Time: 13:24
Sample: 2005 2015
Periods included: 11
Cross-sections included: 2
Total panel (balanced) observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	19.01802	8.659357	2.196239	0.0414
LNNPL	-0.172860	0.069046	-2.503584	0.0297
LNINTR	-2.566737	3.399404	-0.755055	0.4600
LNLDR	-1.470855	0.660151	-2.228051	0.0389

R-squared	0.597978	Mean dependent var	2.771979	
Adjusted R-squared	0.580975	S.D. dependent var	0.897349	

S.E. of regression	0.812101	Akaike info criterion	2.584582
Sum squared resid	11.87114	Schwarz criterion	2.782953
Log likelihood	-24.43040	Hannan-Quinn criter.	2.631312
F-statistic	6.546743	Durbin-Watson stat	1.815368
Prob(F-statistic)	0.038256		

Source: Researcher's computation using E-views 8.0

The Pooled Ordinary Least Squares (POLS) result was specified as:

$$LNGDP = 19.02 - 0.17\ LNNPL - 2.57\ LNINTR - 1.47\ LNLDR$$

Prob. Values   (0.0297)   (0.4600)   (0.0389)

Adjusted R-squared = 0.58

Prob. (F-statistic) = 0.038256

DW statistic = 1.82

The result shows that there is a negative and significant relationship between Deposit Money Banks' (DMBs) non-performing loans and return on equity (proxy for performance) in Nigeria. This result is not surprising and conforms to economic a priori expectation given that an increase in non-performing loans is expected to decrease the financial performance of DMBs. From the result, one percent increase in non-performing loans leads to 0.17 percent decrease in return on equity in Nigeria. The probability value of non-performing loans (NPL) (0.0297) is less than the test significant level (i.e. $P < 0.05$). Hence, we conclude that non-performing loans have a significant effect on financial performance of DMBs in Nigeria.

More so, the study reveals that there exists a negative and insignificant relationship between lending (interest) rate and DMBs financial performance in Nigeria. This result concurs with economic a priori expectation because the higher the lending (interest) rate charged by the banks, the lower the demand for loans and the higher the performance of the banks. From the result, one percent increase in lending (interest) rate leads to deposits lead to 2.57 percent decrease in DMBs performance (proxied by ROE) in Nigeria. The probability value of lending (interest) rate (0.4600) is greater than the test significant level (i.e. $P > 0.05$) and with this we can conclude that lending (interest) rate does not have significant impact on DMBs performance in Nigeria.

The study shows that there exists a negative and significant relationship between loan-to-deposit ratio and DMBs performance in Nigeria. From the result, one percent increase in loan-to-deposit ratio leads to 1.47 percent decrease in return on equity (proxy for performance) in Nigeria. The probability value of loan-to-deposit ratio (0.0389) is less than the test significant level (i.e. $P < 0.05$). Thus, we conclude that loan-to-deposit ratio has a significant impact on DMBs performance in Nigeria.

The coefficient of determination (Adjusted R-squared) shows that 58 percent of the variations in DMBs performance in Nigeria are due to changes in non-performing loans (NPLs), lending (interest) rate and loan-to-deposit ratio. Therefore, the remaining 42 percent of the variations in DMBs performance in Nigeria are due to other factors not included in the model. The probability of the model being insignificant (Prob.F-statistic) equals 0.038256 and this is less than the test significant level (0.05). This indicates that the model adopted in the study is reliable as well as significant. Finally, the Durbin-Watson statistic (1.82) lies within the permissible region being that the Durbin-Watson statistic is very close to 2 (i.e. $2 \leq DW < 4$). Interestingly, the Durbin-Watson statistic is greater than R-squared and this confirms that the regression result obtained in the study is not spurious.

Discussion of Findings

First, the result shows that there a negative and significant relationship between non-performing loans and performance of Deposit Money Banks (DMBs) in Nigeria. This outcome concurs with economic a priori expectation and indicates that as the incidence of non-performance loans increase among the banks, the performances of the banks are adversely affected. This finding corroborates Charles (2013) which found a negative and significant relationship between non-performing loans

and commercial banks' performance in Nigeria. Perhaps, this finding may be attributed to the growing incidences of non-performing loans in the Nigerian banking sector which has negatively undermined the powers of the banks to grant more loans. With lesser loan transactions, the profits the banks would have made if they had given out more loans are reduced thereby reducing their performance.

Second, the result shows that there exists a negative and insignificant relationship between lending (interest) rate and Deposit Money Banks' (DMBs) performance in Nigeria. This outcome is in tandem with economic theory and indicates that the higher the interest (lending) rate, the lesser the attraction to borrow from the banks and the lower the performance of the banks. This finding corroborates Ogunbiyi and Ihejirika (2014) that established a negative relationship between lending (interest) rate and DMBs performance in Nigeria. This relationship may be attributed to the high lending rate inherent in the Nigerian banking sector which has obviously become a disincentive to borrowers. As the volume of credit transactions decrease, the financial performance of the banks is adversely affected. However, the insignificant impact of lending rate on DMBs performance in Nigeria may not be unconnected with the possibility of borrowers to seek for alternative means of funding rather than borrowing from the banks.

Finally, the study revealed that a negative and significant relationship exists between loan-to-deposit ratio and performance of DMBs in Nigeria. This outcome may be attributed to the high appetite of the DMBs towards taken unnecessary risk (especially when managers grant loans to themselves, their friends, relatives and cronies) which often reduces their performance instead of increasing it. If the loan-to-deposit ratio is too high, the bank becomes vulnerable to any sudden changes in its deposit base. This finding corroborates Ndukwe (2013) which argued that the loan-to-deposit ought not to be too low or too high in order to sufficiently create interest bearing assets and in order to have sufficient liquidity respectively.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS
Summary of Findings
The major findings of the study are summarized as:

(i)   There is a negative relationship between non-performing loans and Deposit Money Banks' performance in Nigeria.
(ii)   Non-performing loans has a significant effect on DMBs performance in Nigeria.
(iii)   There is a negative relationship between lending (interest) rate and Deposit Money Banks' performance in Nigeria.
(iv)   Lending (interest) rate has a significant effect on DMBs performance in Nigeria.
(v)   There is a negative relationship between loan-to-deposit ratio and DMBs performance in Nigeria.
(vi)   Loan-to-deposit ratio has a significant effect on DMBs performance in Nigeria.

Conclusion
This study investigated the nexus between non-performing loans and Deposit Money Banks' (DMBs) financial performance in Nigeria. In order to achieve this broad objective, the study adopted data from two Deposit Money Banks (DMBs) namely First Bank Plc and GTB representing the old and relatively new banks respectively. Non-performing loans data were collected from the annual reports of the selected banks to serve as one of the independent variables; bank lending rate and loan-to-deposit ratio (which were external factors to the banks) were also chosen as the control variables and also part of the independent variables. However, the return on equity (ROE) of the selected banks served as the dependent variable. Employing the Pooled Ordinary Least Squares (POLS), the study revealed that non-performing loans and loan-to-deposit ratio have significant effect on the performance of the DMBs. On the other hand, the study showed that lending (interest) rate does not have significant effect on the performance of the DMBs in Nigeria.

Recommendations

Based on the findings of the study, the following recommendations are made:

(i) The DMBs should sustain the policy of the Central Bank of Nigeria in publishing the names of loan defaulters in at least two widely read national newspapers in order to further expose the defaulters and curb the rising incidence of NPLs in the banking industry in Nigeria.

(ii) Deposit Money Banks' (DMBs) should work towards reducing the lending (interest) rate in order to make banks credits more accessible thereby enthrone increased performance of the DMBs in Nigeria.

(i) Unnecessary risk-taking by bank managers and top echelon directors of the banks should be discouraged in granting loans especially when dealing with their friends, relatives and cronies.

References

Ahmad, N. H., & Ariff, M. (2007). Multi-country study of bank credit risk determinants. *International Journal of Banking and Finance*, 5(1):135-152

Ahmed, A. S., Takeda, C., & Shawn, T. (1998). Bank loan loss provision: A reexamination of capital management and signaling effects. Working Paper, Department of Accounting, Syracuse University, 1-37.

Aremu, O. S., Suberu, O. J., & Oke, J. A. (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

Bester, H. (1994). Collateral, default risk and relationship lending: An empirical study on financial contracting.

CBN (2010). Central Bank of Nigeria Annual Reports, Abuja: Central Bank of Nigeria.

Charles, O. K. (2013). Impact of credit risk management and capital adequacy on the financial performance of commercial banks in Nigeria. *Journal of Emerging Issues in Economics, Finance and Banking,* Arab Infortech, FZLLC.

Epure, M., & Lafuente, I. (2012). Monitoring bank performance in the presence of risk. Barcelona GSE Working Paper Series, 61.

Inekwe, M. (2013). The relationship between real GDP and non-performing loans: Evidence from Nigeria (1995-2009). *International Journal of Capacity Building in Education and Management,* 2(1):1-7

Kanu, C., & Isu, H. O. (2014). The rising incidence of non-performing loans and the nexus of economic performance in Nigeria: An investigation. *European Journal of Accounting Auditing and Finance Research,* 2(5):87-96.

Kassim, A. J. (2002). Risk asset management in financial institutions: Banks' experience. Union Digest, 7(1)(2), December, Union Bank of Nigeria.

Khalid, A. C. (2012). The impact of asset quality on profitability of private banks in India: A case study of JK, ICICI, HDFC and YES banks. *Journal of African Macroeconomic Review*, 2(1).

Kithinji, A. M. (2010). Credit risk management and profitability of commercial banks in Kenya. Thesis submitted to the School of Business, University of Nairobi, Kenya.

Ndukwe, O. C. (2013). Understanding monetary policy series: Banking system liquidity. Central Bank of Nigeria (CBN), Monetary Policy Department, 10th Anniversary Commemorative Edition. Abuja: Central Bank of Nigeria.

Ogunbiyi, S. S., & Ihejirika, P. O. (2014). Interest rates and Deposit Money Banks' profitability nexus: The Nigerian experience. *Arabian Journal of Business and Management Review*, 3(11):133-148.

Roland, B., Petr, J., & Anamaria, P. (2013). Non-performing loans: What matters in addition to the economic cycle? Working Paper Series, 1515. Frankfurt: European Central Bank.