

An Evaluation of the Effect of Non-Performing Loans on the Financial Performance of Listed Deposit Money Banks: Evidence from Nigeria

Author's Details: Chukwuma C. Ugwu (Ph.D.)¹, Soje Benedict² Lilian N. Aikpitanyi³

^{1, 2, 3} Department of Accounting, Federal University Wukari, Nigeria
ucollins98@yahoo.com

Abstract

This study evaluated the effect of non-performing loans on the financial performance of deposit money banks in Nigeria for the period 2015-2019. The study employed correlation and ex-post facto research designs. Descriptive statistics and multiple regressions were used for data analysis. Secondary data were used, which were extracted from the Central Bank of Nigeria statistical bulletin, Nigeria Deposit Insurance Corporation and the Audited Annual Reports of the listed deposit money banks in Nigeria. The results of the study show that substandard loans and doubtful loans had a statistically negative significant influence on return on assets, while lost loans had an insignificant negative effect on performance (return on assets). These results show that a high level of non-performing loans would reduce the financial performance of banks in the long run in Nigeria. The study therefore recommended that credit reporting agencies and supervising authorities should be strengthened in order to reduce the high level of non-performing loans in deposit money banks in Nigeria as this will go a long way in improving their financial performance. The implication of this finding is that if the high level of non-performing loans in deposit money banks is not checked, it will threaten the existence of some of these banks in the future.

Keywords: Non-performing loans, Deposit Money Banks, Financial Performance

Background of the Study

Deposit Money Banks (DMBs) by their nature are the most relevant financial institution in many developing and fast developing economies around the world. The reason for this assertion according to Ozurumba (2016) is that they encourage and mobilize savings and also channel such savings into productive investments through their high network of offices. They also make these deposits so mobilized accessible to prospective borrowers in the form of loans for investment purposes. These loans may be in the form of overdraft, loan and advances, business funding and so on.

Banks in granting loans to prospective borrowers should ensure that such loans have at least a high liquidity quotient, appropriate maturity structure and above all minimum risk (Akpan, 2013). In a situation where a customer fails to pay back or the loan goes bad or becomes a bad debt, such a situation is not healthy for the bank because it threatens the commercial activity of the bank. An increase in the level of gross non-performing loans poses a great risk to banks, the financial sector and the economy at large. Equally, failure to manage down non-performing loans over a long period gradually affects the profitability of commercial banks (Kaaya and Pastory, 2013).

They serve as intermediaries between borrowers and savers. In the process of lending, new money is created by banks through the deposit lending multiplier effect. Based on this, deposit money banks are able to influence the level of the money stock, the allocation of the fund, the direction and use of resources in the economy. The major source of income to a financial institution is the interest accruing from loan advanced to customers. The inability of customers whether corporate organizations or individuals to pay their loans as scheduled has contributed immensely to the ongoing global financial crisis. Currently the biggest problem facing banks in Nigeria is the increasing rate of non-performing assets that have to be provided for in the financial institutions income statement or written off thereby impacting the performances of the banking sector.

Kargi (2011) noted that credit creation is obviously the main income-generating activity of banks even though it exposes the banks to credit risk. The Basel Committee on Banking Supervision (2001) defined credit risk as to the possibility of losing the outstanding loan partially or totally, due to credit events (default risk).

According to Ahmad and Ariff (2013), they observed that most banks in Nigeria and other economies such as Thailand, Indonesia, Malaysia, Japan and Mexico experienced a high level of Non-Performing Loans (NPLs) and a significant increase in credit risk during financial and banking crisis, which resulted in the closing down of several banks in Indonesia and Thailand. The negative effect of credit risk and non-

performing loans on banks' performance and the economy in general has made the issue of Non-performing loans a global issue and of great importance in the last decades. According to Hou and Dickinson (2007), many types of research on the causes of bank failures found that asset quality is a very significant predictor of insolvency, and that failing bank institutions always have a high level of Non-performing loans prior to failure. Therefore, in managing the lending portfolio to attain the desired results, the bank should give adequate attention to the above factors.

In Nigeria, the banking industry has been faced with various significant changes in the amounts of financial assets it holds in the past years. Both internal and external factors have affected the amounts of loans that have been issued in the banking industry. This in return has geared an increase in the non-performing loans. Central Bank of Nigeria prudential guidelines (2010) requires licensed banks to periodically review their credit portfolio continuously, at least once a quarter and that any loan that falls within the various criteria should be classified as non-performing; where interest or principal is due but unpaid for 90 days or more and interest payment equals to 90 days, interest or more have been capitalized, rescheduled or rolled over in to a new loan. Thus they classified non-performing loans into three categories namely, substandard, doubtful and lost (Central Bank of Nigeria, 2010). Bad loans are facilities whose repayment is not in accordance with agreed terms and are in arrears.

Central Bank of Nigeria prudential guideline (2010) classified advances into three categories:

The first being the substandard loans which are loans overdue for more than 90days but less than 180days, the second category is the doubtful loans which are loans overdue for more than 180days but less than 360days and finally, the third category which is the lost loans-these are loans overdue for more than 360days.

Deposit money banks play an important role in the development and growth of Nigeria. The principal function carried out by deposit money banks is to ensure that there is an adequate flow of money to service deficit sectors of the economy and facilitates the movement of funds among the economic unit. This financial intermediation is usually from the area of surplus to the area of deficit or needs (Ufot, 2004). Arising from the importance of Deposit Money Banks to the economic development of Nigeria, this study becomes imperative "An Evaluation of the Effect of Non-Performing Loans on the financial Performance of Listed Deposit Money Banks: Evidence from Nigeria".

Objective:

The banking industries in most economies are not really doing very well, some are closed down while some are merged with another and not very many are coming up. One school of thought; Kargi (2011) noted that credit creation is obviously the main income generating activity of banks even though it exposes the banks to credit risk while another; Ahmad and Ariff (2013), observed that most banks experienced a high level of Non-Performing Loans (NPLs) and significant increase in credit risk, which resulted in the closing down of several banks. The objective of this study is to evaluate the effect of non-performing loans on the financial performance of deposit money banks in Nigeria with particular interest on the effect of substandard loans, doubtful loans and lost loans on the financial performance of deposit money banks in Nigeria. Financial performance is measured as the ratio of return on the asset over an accounting period. This ratio is expected to be high and positively associated with global indicators. In Nigeria which is the study environment, the return on assets is not reflecting the expectations of the global world. Here the multiple regression was used to analyze the effect of non-performing loans on the financial performance of deposit money banks in Nigeria. Yearly data generated from annual reports and accounts of the sampled Deposit Money Banks listed on the NSE between 2015 and 2019.

Conceptual Framework:

The study looks at the conceptual issues associated with the study and as a result discusses the concept of non-performing loans and the concept of financial performance.

Concept of Non-Performing Loans

Non-performing loans are those financial assets from which banks no longer receive interest and or installment payments as initially booked. They are non-performing loans because they cease to generate income for the bank. Choudhury (2002) noted that non-performing loans are not a multi-class concept because they can be classified into different varieties usually based on the duration they have been overdue.

They are viewed as a typical by-product of a financial crisis. Woo (2000), also observed that non-performing loans are not the main product of the lending function but rather an accidental occurrence of the lending process, one that has enormous potential to deepen the severity and duration of the financial crisis and to complicate macro-economic management.

Bernanke *et al.*, (1991), hold the view that non-performing loans can bring down investors' confidence in the banking system, piling up unproductive economic resources even though depreciations are taken care of, and impeding the resource allocation process. In a bank-centered financial system, nonperforming loans can further thwart economic recovery by shrinking operation margin and eroding the capital base of the banks to advance new loans. This is sometimes referred to as the credit crunch (Bernanke *et al.*, 1991). In addition, non-performing loans, if created by the borrowers willingly and left unresolved, might act as a contagious financial malaise by driving good borrowers out of the financial market.

Muniappan (2002) asserts that a bank with a high level of non-performing loans is forced to incur carrying costs on non-income yielding assets that not only strike at profitability, but also at the capital adequacy of a bank, and in consequence, the bank faces difficulties in augmenting capital resources.

Non-performing loans are those loans that are not being serviced as per the loan contracts and expose the banks to potential loss (Central Bank of Nigeria Annual Report, 2008). A loan is said to be non-performing when a customer (individual or corporate) is unable to pay interest or repay the principal as at the agreed date. This has been classified into three categories according to the Central Bank of Nigeria Prudential Guideline, (2010): one of which is the substandard loans; which are loans that are overdue for more than 90days but less than 180days; the second is the doubtful loans; which are loans overdue for more than 180days but less than 360days and the third is the lost loans; these are loans overdue for more than 360days.

Concept of Financial Performance

A firm's financial performance is of importance to investors, stakeholders and the economy at large. Investors are interested in the returns for their investment. A business that is performing well can bring better rewards to their investors. The financial performance of a firm can increase the income of its staff, rendering quality products or services to its customers and creating more goodwill in the environment it operates. A company that has good financial performance can generate more returns which can lead to future opportunities that can in turn create employment and increase the wealth of people.

The ability of an organization to achieve success in financial performance is dependent on its ability to manage its financial matters efficiently. Ismaila, (2011), believed that there is evidence of a positive relationship between financially linked activities such as maintenance of sound financial records, planning, procurement of external and professional financial advice, and successful financial performance.

Suleiman (2013), in his view, noted that a firm's financial performance is the result of a company's assessment or strategy on how well a company accomplished its goals and objectives. It provides a deductive measure of how well a company can use assets from business operations to generate revenue. A company's performance is its ability to achieve its target objectives from its available resources (Rahul 1997). Van Horn (2005) defined financial performance as a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. Measuring of firms' financial performance is one of the strategic management functions aimed at satisfying the interest of shareholders and other stakeholders in a company. The firm's performance appraisal involves a periodic and systematic evaluation of its operations to determine the achievements of the firm's objectives.

Financial performance can be measured using profitability measures such as Return on Equity (ROE) and Return on Assets (ROA). Profitability measures are important in measuring the extent to which a business can generate profits from the factors of production.

Theoretical Framework

This study will be anchored on loan pricing theory and Credit Rationing Theory:

Loan Pricing Theory

Olokoyo (2011) argued that banks cannot always set their interest rates high in order to earn maximum interest income. They should consider the problems of adverse selection and moral hazard since it is very difficult to forecast the type of borrower at the start of the banking relationship. Such borrower may give misleading information about his financial status or credit capacity or even has a hidden incentive to take

risks that are unusual in an attempt to earn a profit before the contract settles. Chodechai, (2004), also noted that adverse selection problems might result from high interest rate settings by banks because high-risk borrowers are willing to accept these high rates. Once these borrowers receive loans, they may develop moral hazard behavior since they are likely to take on highly risky projects or investments. This theory underpins this study because in an efficient financial system, it is required that there should be enough evidence that the prospective borrower will be able to repay.

Credit Rationing Theory

This theory suggests that lending institutions based on the prevailing interest rates and available collateral or substitutes for collaterals to control the amount of credit they give out to borrowers. Decision making by lenders to either lend or not to lend is conditional on the kind of collaterals the borrowers present to them. To avoid riskier investment and the chances of the borrowers not fulfilling their credit obligations, lenders give out loans at low interest rates. The provision of loans based on other alternatives to collateral provides borrowers with an avenue of defaulting from repaying their loans since their relationship with the lender is not as strong when collateral is involved. The credit rationing theory suggests that the interest rate is very significant in determining the amount a financial institution will be willing to lend and determine the ability of the borrower to repay the loan.

Empirical Review:

Credit risk is a serious threat to the performance of banks; therefore, various researchers have examined the impact of credit risk on banks in varying dimensions. Credit risk management greatly influences or prevents the failure of a bank. This is because the failure of a bank is influenced to a large extent by the quality of credit decisions and thus the quality of the risk assets. Credit risk management provides a leading indicator of the quality of banks' credit portfolio (McNaughton, 1994). Felix and Claudine (2008) investigated the relationship between bank performance and credit risk management. It could be inferred from their findings that return on equity (ROE) and return on assets (ROA) both measuring profitability were inversely related to the ratio of nonperforming loans to a total loan of financial institutions thereby leading to a decline in profitability.

Kargi (2011) evaluated the impact of credit risk on the profitability of Nigerian banks. Financial ratios as measures of bank performance and credit risk were collected from the annual reports and accounts of sampled banks from 2004-2008 and analyzed using descriptive, correlation and regression techniques. The findings revealed that credit risk management has a significant impact on the profitability of Nigerian banks. It concluded that banks' profitability is inversely influenced by the levels of loans and advances, non-performing loans and deposits thereby exposing them to great risk of illiquidity and distress.

Ahmad and Ariff (2013) examined the key determinants of the credit risk of deposit money banks on emerging economy banking systems compared with the developed economies. The study found that regulation is important for banking systems that offer multi-products and services; management quality is critical in the cases of loan-dominant banks in emerging economies. An increase in loan loss provision is also considered to be a significant determinant of potential credit risk. The study further highlighted that credit risk in emerging economy banks is higher than that in developed economies.

Ozurumba B. A. (2016) studied the impact of Non-performing Loans on the Performance of Selected Commercial Banks in Nigeria covering the period 2000 – 2013. It specifically determined the effect of non-performing loans, provision for loan loss and loans and advances on the performance of banks measured by Return on Assets and Return on Equity. The study utilized secondary data obtained from the annual report and accounts of the selected banks for the period under study. The data were analyzed using the ordinary least square method and ratio analysis. Among his findings in the study include that return on asset and return on equity have an inverse relationship with non-performing loans and loan loss provision respectively while they are positively related to loans and advances. He therefore concluded that the effects of non-performing loans on Commercial Banks' performance is negative and cannot be underestimated, and poses a fundamental danger to the very existence of the Banks as corporate business entities. His recommendation was that banks should maintain high credit standards while the Apex Bank and other regulatory agencies should maintain high surveillance on banks' credit operations.

Etale, Ayunku and Etale (2016); investigated the relationship between non-performing loans and bank performance in Nigeria for the period 1994-2014. In their study, they employed the ADF Unit Root test,

descriptive statistics, and multiple regression techniques to analyze data collected for the study. Their results showed that Bad Loan and Doubtful Loan had a statistically negative significant influence on Return on Capital Employed, while Sub-standard Loan had a statistically negative insignificant impact on Return on Capital Employed. Their findings show that a high level of non-performing loans would reduce the performance of banks in the long run in Nigeria. As a result of the above findings, they recommended that credit reporting agencies and supervising authorities should be strengthened in order to reduce the high level of non-performing loans in the banking sector of Nigeria.

Omitogun, Olanrewaju & Alalade (2016), investigated loans default and returns on assets in Nigeria banks, using the data of five banks for a period of five years (2010-2014), they adopted the ordinary least squares (OLS) regression techniques to check the relationship between loan default and returns on assets (ROA). Findings in the study show that a positive and significant relationship at a 5% level of significance exists between loan default and returns on assets, and a negative and significant relationship at a 10% level of significance exists between loans and advances and returns on assets in Nigerian banks. They recommended that banks in Nigeria should enhance their capacity in credit analysis and loan administration, while the regulatory authority should pay more attention to banks' compliance to relevant provisions of Bank and other Financial Institutions Act (1991) and prudential guidelines.

Taiwo et al (2017); examined the effect of credit risk management on the performance of Nigeria's Deposit Money Banks (DMBs) and Bank lending growth over the period of 17 years (1998 –2014). They employed the multiple linear regression models for data analysis using time series data obtained from the CBN Statistical bulletin and World Bank. It was found from their result that sound credit management strategies can boost investors and savers confidence in banks and lead to a growth in funds for loans and advances which leads to increased bank profitability. Their result also revealed that credit risk management has an insignificant impact on the growth of total loans and advances by Nigerian Deposit money banks. They study therefore recommended in their study that Deposit Money Banks in Nigeria should strictly adhere to their credit appraisal policies which ensures that only credit worthy borrowers have access to loanable funds. Banks are to ensure that funds are allocated to borrowers with decent to high credit ratings.

E I-Maude, Abdul-Rehman & Ibrahim (2017), examined the determinant of non-performing loans in Nigerian deposit money banks over the period of 5 years (2010 to 2014) using a sample of 10 banks out of 15 quoted by the Nigerian Stock Exchange (NSE) on a cross sectional basis. The study adopted non-survey research design and secondary data was used, generated from the bank's annual reports and accounts, Central Bank of Nigeria (CBN) and Nigerian Stock Exchange fact book respectively. The data were analysed using descriptive statistics, correlation coefficient and multiple regressions. Their findings reveal a significant positive relationship between Non-Performing loans and Loan to deposit and Bank size; whereas the relationship between capital adequacy ratio and Inflation reveals an insignificant positive relationship; whereas Return on asset had an insignificant negative relationship with the rate of non-performing loans. Based on the findings, they recommended that CBN for policy purposes should frequently assess the lending habit of deposit money banks in Nigeria. Finally, strengthening the securities market will have a positive impact on the general improvement of the banking institutes' thereby increasing the effectiveness of the financial sector.

Kingu, Macha & Gwahula (2018), examined the impact of Non-performing loans on the bank's profitability using information asymmetry theory and bad management hypothesis. They adopted the causality research design in their study using panel data (2007 to 2015) of 16 commercial banks in Tanzania. They employed Descriptive statistics and multiple regression analysis estimation methods. Likewise, Ordinary Least-Squares (OLS) regression technique was also used. They also considered the Fixed Effects (FE) and Random Effects (RE) assumptions. It was found that the occurrence of non-performing loans is negatively associated with the level of profitability in commercial banks in Tanzania. It was also found from their study that an increase in non-performing loans is associated with a decrease in ROA. The results extend further the information asymmetry theory and bad management hypothesis. One of the major recommendations in the study is that bank managers need to thoroughly scrutinize client data and information during the credit analysis stage so as to reduce information asymmetry. Equally, management needs to invest in robust credit information systems; thus, to reduce informational gaps and increase access to complete, accurate and reliable information concerning borrowers.

Nyarko-Baasi (2018); investigated the effect of non-performing loans on the profitability of four of the major banks listed on the Ghana Stock Exchange (GSE). The study employed a panel regression analysis to establish the relationship between credit risk and profitability within a data span of 2006 to 2015 and adopted the Hausman's test of fixed effects and Correlated Random fixed-effects models. It was found from the result that the non-performing loan ratio negatively affects the profitability of banks but the rate of capital adequacy ratio revealed a significant positive relationship with profitability. Bank Size equally showed a positive relationship with profitability while the R² explained 89 % of the variations on the profitability performance of the banks. Among the recommendations from the study is that managers of banks are to comply strictly with the rules that regulate the operations of banks in Ghana especially on the issue of capital adequacy ratio and also that banks should also be cautious on the rate they expand since bank size can equally affect the fortunes of banks.

Akinselure and Akinola (2019); examined the impact of credit management on the financial performance of deposit money banks. The study extracted data from thirteen (13) deposit money banks in Nigeria while considering variables such as loan losses ratio as a proxy for the independent variable (Credit management) and used return on equity and return on assets as proxies for the dependent variable (Profitability). They adopted the multiple regression analysis for data analysis. The result of the analysis shows that credit management has a significant relationship with the profitability of the deposit money banks. Based on this result, the study recommended that the management of banks should develop a good strategy to ensure that the loan facilities are repaid as when due, so as to reduce the problem associated with a delay in servicing loans which have a directly proportional effect on the profitability of these banks.

Sazzad and Nishat (2019); Investigated the impact of non-performing loan ratio, capital adequacy ratio and provision maintenance ratio on the return on asset (ROA) of all banks in Bangladesh based on the last twenty-one years data. The study also investigated the root causes and adverse effects of the non-performing loan using secondary data collected from the annual reports of Bangladesh Banks. The study adopted the Ordinary Least Square (OLS) method and Vector Auto Regression (VAR) model. The finding from their results reveals that there are different directional short-run causality exists between variables and the OLS regression analysis confirms that two independent variables; non-performing loan ratio and provision maintenance ratio are statistically significant to the dependent variable; return on asset (ROA). They recommended among others that collateral collected against loans should regularly be checked whether it has sufficient value or legal ownership so that no delay occurs while selling them for recovery and also that bank official should properly maintain loan documentation and collect sufficient data of borrower from time to time and update them in a regular fashion.

Okoh, Inim & Idachaba (2019), examined the effect of Non-Performing Loans on the financial performance of commercial banks in Nigeria between the periods of 1985 to 2016 employing the multiple regression techniques. Data were collated from the Central Bank of Nigeria (CBN) statistical bulletin and Nigeria Deposit Insurance Corporation (NDIC) publications for various years. They found that Non-Performing Loans to Total Loans ratio (NPL/TLR) and Cash Reserve Ratio (CRR) showed a statistically negative significant effect on Return on assets (ROA). They equally found that a high level of non-performing loans would reduce the financial performance of commercial banks in Nigeria. As a result of the above findings, they recommended that the regulatory authorities in Nigeria should create and support an environment where commercial banks in Nigeria can have strong risk management practices.

As discussed above many scholars in their studies have tried to show and discuss the effect of non-performing loans on the financial performance of deposit money banks, however, these views are not enough for policymakers to rely on; we need empirical support of any policy can be adopted within the Nigeria banking environment so as to assist the banking industries in managing their credit facilities efficiently. This paper has become part of the series of studies analyzing the effect of non-performing loans on the financial performance of deposit money banks in Nigeria so as to provide a clue on contending issues and fill some research gaps.

METHODOLOGY

The research design employed for this research is correlational and ex-post facto designs. The design for the study is appropriate because it assists in evaluating the effect of non-performing loans on the financial performance of DMBs in Nigeria. The general objective of this correlational and ex-post facto research

design is to gain insight and generate a new idea. The ex-post facto research design was used because the events have already occurred and variables not manipulated. Multiple Regression technique was also adopted as the tool of analysis as it is most appropriate for the study and because of its ability to use multiple independent variables to estimate their effect on a single dependent variable. The OLS method adopted in this study is a parametric statistical test that is based on a number of assumptions, the violation of which could affect the reliability of the results. The regression model was used because it assumed linearity and normality and it ascertains the effect of the independent variables on the dependent variable. Yearly data were generated from annual reports of the sampled Deposit Money Banks listed on the NSE for a five year period (2015-2019). The model is therefore specified as:

$$ROA_{it} = \beta_{0it} + \beta_1SUL_{it} + \beta_2DOL_{it} + \beta_3LOL_{it} + \beta_4LCR_{it} + \beta_5AQR_{it} + \epsilon_{it}$$

Where:

ROA = Return on Assets

SUL = Substandard loans

DOL = Doubtful loans

LOL = Lost loans

LCR = Liquidity coverage Ratio

AQR = Assets Quality Ratio

β_0 = intercepts autonomous variable.

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = the regression coefficients of the independent variable

it = time for intercepts

Results:

Table 1: Descriptive Statistics

Variables	Mean	Std. Dev.	Minimum	Maximum
ROA	2.7013	3.82375	-3.37	22.65
SUL	5.7382	8.64547	.00	48.65
DOL	8.8265	15.00697	.00	72.82
LOL	24.6977	26.87731	.00	111.55
AQR	8.8313	14.69694	.01	76.46
LCR	40.8284	93.40888	.02	589.25

Source: SPSS Output.

Table 4.1 presents the descriptive statistics for the dependent and explanatory variables. From the table, return on assets has a minimum and maximum values of -3.37 and 22.65, respectively and the mean value of 2.7013 as well as the standard deviation value of 3.82375. The standard deviation of 3.82375 signifies that the data deviate from the mean value from both sides by 3.82375 implying that there is a wide dispersion of the data from the mean because standard deviation is higher than the mean value.

The table also shows that the mean of substandard loans of the sampled firms is 5.7382 with a standard deviation of 8.64547, and minimum and maximum values of .00 and 48.65 respectively. This implies that the performance of the firms in terms of substandard loans is on average 5.7382, and the standard deviation value indicates that the substandard loans of the sampled firms deviate from the mean value from both sides by 8.64547, implying that there is significant dispersion of the data from the mean because the standard deviation is higher.

More so, the table shows that the mean of the doubtful loans of the firms is 8.8265 with a standard deviation of 15.00697. The minimum and maximum values are 0.030 and 72.755 respectively. This implies that doubtful loans of the sampled firms are on average 8.8265, and the standard deviation value indicates that the value deviates from the mean from both sides by 15.00697, implying that there is significant dispersion of the data from the mean because the standard deviation is larger.

Furthermore, the table shows that the mean of the lost loans of the firms is 24.6977 with a standard deviation of 26.87731. The minimum and maximum values are 0.00 and 111.55 respectively. This implies that loan loss of the firms is on average 24.6977. The standard deviation indicates that the value of the firms' loan lost deviates from the mean value from both sides by 26.87731. This implies that there is significant dispersion of the data from the mean because the standard deviation is higher.

Also, the table portrays that the assets quality ratio has an average value of 8.8313 with a standard deviation of 14.69694. The minimum and maximum values are 0.01 and 76.46 respectively. The standard deviation indicates that the value of the assets quality ratio of the firms deviates from the mean value from both sides by 14.69694. This further implies that there is widely dispersed data from the mean because the standard deviation is large.

Finally, the table shows that the mean liquidity coverage ratio of the firms is 40.8284 with a standard deviation of 93.40888. The minimum and maximum values are 0.03 and 589.25 respectively. This implies that the liquidity coverage ratio of the sampled firms is on average 40.8284, and the standard deviation value indicates that the value deviates from the mean from both sides by 93.40888, implying that there is significant dispersion of the data from the mean because the standard deviation is larger.

Table 2: Correlation matrix

Variables	ROA	SUL	DOL	LOL	AQR	LCR
ROA	1					
SUL	0.269 (0.047)	1				
DOL	0.563 (0.000)	0.793 (0.000)	1			
LOL	0.286 (0.037)	0.645 (0.000)	0.582 (0.000)	1		
AQR	-0.017 (0.457)	0.280 (0.040)	0.011 (0.474)	-0.060 (0.357)	1	
LCR	0.074 (0.325)	0.028 (0.433)	-0.033 (0.419)	-0.041 (0.400)	-0.103 (0.266)	1

Source: SPSS Output

The correlation matrix explains the degree of relationship between the dependent and independent variables of the study as well as the independent variables among themselves. The above table reveals that substandard loans and doubtful loans of the firms are positively and strongly correlated with return on assets. The values of 0.269 and 0.563 of the variables indicated p-values of 0.047 and 0.000 which is significant at 5% and 1% respectively. Lost loans are weakly and positively correlated with return on assets with a value of 0.286 indicating a p-value of 0.0037 which is significant at 5%. In contrast, assets quality ratio has a negative relationship with returns on assets while liquidity coverage ratio has an insignificant positive relationship with return on assets.

The relationship of the independent variables among themselves indicates that substandard loans, doubtful loans, lost loans, assets quality ratio and liquidity coverage ratio are positively correlated among themselves.

Table 3: Regression Results

Variables	Coefficient	Std. Error	T-Values	P-Values	Tolerance	VIF
CONSTANT	1.001	0.803	1.246	0.221		
SUL	-0.306	0.117	-2.603	0.014	0.234	4.276
DOL	-0.261	0.058	4.524	0.000	0.321	3.117
LOL	-0.021	0.025	0.847	0.403	0.518	1.929
AQR	0.048	0.039	1.228	0.228	0.718	1.392
LCR	0.005	0.005	0.880	0.385	0.982	1.018

Source: SPSS OUTPUT

$$R^2 = 0.358; \text{ Durbin-Watson} = 1.394$$

The result shows that substandard loans have a significant negative effect on the financial performance of deposit money banks in Nigeria. This can be observed from the value of beta the coefficient of -0.306 with a p-value of 0.014 indicating that the p-value is statistically significant at 5%. This implies that substandard loans significantly affect the return on assets.

The result also revealed that doubtful loans have a significant negative impact on the financial performance of listed Deposit money banks in Nigeria. This can be seen from the value of the beta coefficient of -0.261 with a p-value of 0.000 indicating that the p-value is statistically significant at 1%. This implies that doubtful loans have a significant effect on return on assets.

It is equally revealed from the result that, lost loans have an insignificant negative impact on the performance of listed Deposit money banks in Nigeria. This can be seen from the value of the beta coefficient of -0.021 with a p-value of 0.406 indicating that the p-value is not statistically significant. This implies that lost loans do not significantly affect the return on assets. Finally, the result shows assets quality

ratio and liquidity coverage ratio used in the study have a positive but insignificant correlation with performance.

There is an overall significance value of 0.001 in the result which indicates a significant relationship at 0.1% level, what this implies is that the regression model is fitted and that the fluctuations in the performance of listed deposit money banks Nigeria is significantly affected by non-performing loans. The Durbin Watson was used to test the autocorrelation in the residuals regression analysis. The Durbin-Watson is at 1.394 which indicates positive autocorrelations among the variables and the sample.

Discussion of findings

Table 3 above is the result of the evaluation of the effect of non-performing loans on the financial performance of deposit money banks in Nigeria. From the result, substandard loans, doubtful loans and lost loans which are the variables of interest had negative signs from the result and as a result satisfied the a priori signs; the economic implication of the result is that every one percent increase in substandard loans, doubtful loans and lost loans will lead to 30.6%, 26.1% and 2.1% reduction in return on assets respectively. Economic theory posits that the higher the non-performing loans the lower the return on assets, this is in conformity with the submission of Kingu, Macha & Gwahula (2018), that an increase in non-performing loans is associated with a decrease in ROA. The value of the Coefficient of Determination is 0.440 approximately, showing that the independent variables included in the model explained 44% of the changes in the dependent variable within the study period. The result also shows that substandard loans and doubtful loans were found to be the major determinant of the financial performance of deposit money banks in Nigeria because both have a significant negative relationship with financial performance (ROA). It equally found lost loans to have an insignificant negative relationship with financial performance. The analytical outcome of this result is, therefore, in conformity with the submissions of many other researchers in the same field of study; such researchers like; Ozurumba (2016), Etale, Ayunku & Etale (2016), E l-Maude, Abdul-Rehman & Ibrahim (2017) and Okoh, Inim & Idachaba (2019); all had their submissions that return on asset is negatively related with non-performing loans. But in contrast with the submission of Omitogun, Olanrewaju & Alalade (2016), whose study showed a positive and significant relationship between loan default and returns on assets, and a negative and significant relationship between loans and advances and returns on assets.

CONCLUSION

This study was conducted to evaluate the effect of non-performing loans on the financial performance of listed deposit money banks in Nigeria. The correlation research design was used in measuring the relationship between the variables of the study. Data was collected from the annual reports and accounts of the sampled banks using multiple regressions for the analysis.

The study found a significant negative relationship between the dependent and the independent variables which shows that the independent variables negatively affect the financial performance of listed deposit money banks in Nigeria. The implication of these results is that any increase in the volume of non-performing loans would reduce the profitability of deposit money banks in the long run in Nigeria. The study therefore recommends that credit reporting agencies and supervising authorities be empowered to ensure that the high level of non-performing loans in the banking sector is reduced.

REFERENCES

- i. Ahmad, S., & Ariff, A. (2013). *Liquidity Risk and Performance of Banking System*. *Journal of Financial Regulation and Compliance*, 20(2) , 182-195
- ii. Akpan, U. A. (2013), *Relevance of the Asset Management Corporation of Nigeria (AMCON) to the Non- Performing Loans of Deposit Money Banks*; *International Journal of Economics, Business and Finance* Vol. 1(8), PP: 249 -261. Available online at <http://ijebf.com/> 249
- iv. Akinsele O. P. and Akinola T. A. (2019); *Impact of Credit Risk Management on Profitability of Selected Deposit Money Banks in Nigeria*; *International Journal of Economics, Commerce and Management*, United Kingdom; ISSN 2348 0386 Vol. VII, Issue 9, September 201 9 <http://ijecm.co.uk/>

- v. Basel Committee on Banking Supervision, (2001). *Risk Management Practices and Regulatory Capital: Cross-sectional Comparison*. Basel Committee on Banking Supervision.
- vi. Bernanke, B. S., Gertler, M., & Gilchrist, S. (1999). *The financial accelerator in a quantitative business cycle framework*. *Handbook of macroeconomics*, 1, 1341-1393.
- vii. Bernanke, B. S., Lown, C. S., & Friedman, B. M. (1991). *The credit crunch*. *Brookings papers on economic activity*, 205-247.
- viii. Central Bank of Nigeria (2010). *Prudential Guidelines for Deposit Money Banks in Nigeria* (available at www.cbn.gov.ng)
- ix. Choudhury, T. Ahmed & Kumar, A.B. (2002). *Loan Classification, Provisioning Requirement and Recovery Strategies: A comparative Study on Bangladesh and India*.
- x. El-Maude J.G., Abdul-Rehman A. & Ibrahim M. (2017), *Determinants of Non-Performing Loans in Nigeria's Deposit Money Banks*. *Journal of Society for Science and Education, Archives of Business Research*, Vol. 5 No. 1, 74-88.
- xi. Etale L. M., Ayunku P. E. and Etale E. L. M. (2016); *The impact of Non-performing Loans and Bank Performance in Nigeria*; *International Journal of Humanities and Social Science Invention*, ISSN (Online): 2319 – 7722, ISSN (Print): 2319 – 7714 www.ijhssi.org ||Volume 5 Issue 4 ||April. 2016 || PP.01-05
- xii. Felix, T.T. and Claudine, N.T. (2008). *Bank Performance and Credit Risk Management*. Unpublished Master Dissertation in Finance, University of Skovde.
- xiii. Hou, Y & Dickinson, D. (2007). *"The Non-Performing Loans: Some Bank-level Evidences, Research Conference on Safety and Efficiency of the Financial System*.
- xiv. Ismaila, B. (2011). *Financial performance measurement of manufacturing small and medium enterprises in Pretoria: a multiple exploratory case study*.
- xv. Kaaya, A. and Pastory, D (2013). *Credit Risk and Commercial Banks Performance in Tanzania: a Panel Data Analysis*. *Research Journal of Finance and Accounting*. ISSN 2222-1697 (Paper) ISSN 2222-2847, Vol.4, No.16 2013.
- xvi. Kargi, H.S. (2011): *Credit Risk and the Performance of Nigerian Banks*, ABU, Zaria.
- xvii. Kingu P. S., Macha S. & Gwahula R. (2018); *Impact of Non-Performing Loans on Bank's Profitability: Empirical Evidence from Commercial Banks in Tanzania*; *International Journal of Scientific Research and Management (IJSRM)*, Volume 06, Issue 01, Pages 71-79; 2018. Website: www.ijrm.in ISSN (e): 2321-3418
- xviii. Lyndon, M. E, Ayunku, P.E & Ebitare L. M. (2016). *The impact of Non-Performing Loans and Bank Performance in Nigeria*. *International Journal of Humanities and Social Science Invention*. 5(4): 1-5
- xix. Muniappan, G. P. (2002). *Indian Banking: Paradigm Shift–A regulatory point of view*. In *Address at the Bank Economist Conference, Kolkata January*. Vol. 14, p. 2002).
- xx. Nyarko-Baasi M. (2018); *Effects of Non-Performing Loans on the Profitability of Commercial Banks - A Study of Some Selected Banks on the Ghana Stock Exchange*; *Global Journal of Management and Business Research: C Finance*, Volume 18, Issue 2, Version 1.0 Online ISSN: 2249-4588 & Print ISSN: 0975-5853
- xxi. Okoh G., Inim E. V. & Idachaba O. I. (2019), *Effect of Non-Performing Loans on the Financial Performance of Commercial Banks in Nigeria*; *American International Journal of Business and Management Studies*, Vol. 1, No. 2; 2019 ISSN 2641-4937 E-ISSN 2641-4953
- xxii. Omitogun O., Olanrewaju D. & Alalade Y. S. A. (2016), *Loans Default and Return on Assets (ROA) In the Nigerian Banking System*; *International Journal of Economics and Financial Research*, ISSN(e): 2411-9407, ISSN(p): 2413-8533 Vol. 2, No. 4, pp: 65-73, 2016 URL: <http://arpgweb.com/?ic=journal&journal=5&info=aims>
- xxiii. Ozurumba B. A. (2016), *Impact of Non-Performing Loans on the Performance of Selected Commercial Banks in Nigeria*; *Research Journal of Finance and Accounting* www.iiste.org ISSN 2222-2847 (Online) Vol.7, No.16.
- xxiv. Rahul, K. (1997). *Strategic Assets Capital Structure and Firm Performance*. *Journal of Financial and Strategic Decisions* 10 (3) 23-24.

- xxv. Sazzad H. P. & Nishat T. (2019); *Impact of Non-Performing Loan on Profitability of Banks in Bangladesh: A Study from 1997 to 2017*; *Global Journal of Management and Business Research: C Finance*, Volume 19 Issue 1 Version 1.0 Online ISSN: 2249-4588 & Print ISSN: 0975-5853
- xxvi. Suleiman, A. (2013). *Capital Structure Effect on Firms Performance: Evidence from Saudi Listed Companies*.
- xxvii. Taiwo J. N.; Ucheaga, E. G.; Achugamonu, B. U.; Adetiloye, K.; Okoye, L. & Agwu, M. E. (2017); *Credit Risk Management: Implications on Bank Performance and Lending Growth*; *Saudi Journal of Business and Management Studies*, ISSN 2415-6663 (Print), ISSN 2415-6671 (Online) <http://scholarsmepub.com/>
- xxviii. Ufot, I. (2004). *The Nigerian Financial System and the Role of Central Bank of Nigeria*. Lagos: CBN Training centre
- xxix. Van Horne, J. C. (2005). *Fundamentals of Financial Management*, 6th Edition Prentice Hall International.
- xxx. Woo, D., (2000). "Two Approaches to Resolving Non-performing Assets during Financial Crisis." IMF working paper 00/33, March: 2-5.