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## **BANK SPECIFIC FACTORS AND ASSET QUALITY OF LISTED DEPOSIT MONEY BANKS IN NIGERIA**

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### **Abstract**

*This study examined the effect of bank specific factors on asset quality of listed deposit money banks in Nigeria. Asset quality was proxied by nonperforming assets whereas the independent variables include Return on Asset, Interest Income Spread, Income Diversity and Credit Growth Rate. The study used a correlation research design for which data were collected from the published annual financial reports and accounts of the studied DMBs listed in Nigeria for seven years ((2012-2018) and analyzed using multiple regression analysis with the aid of STATA software. The population consisted of the 14 listed DMBs on the Nigerian stock exchange as at 31<sup>st</sup> December, 2018, whereas as a result of applying a filter, the sample size was 13 listed DMBs. The outcome of the study revealed that ROA has a negative and significant effect on Asset Quality of listed DMBs in Nigeria. While Income Diversity and Interest Income Spread have a favorable and considerable impact on DMB Asset Quality in Nigeria. Credit Growth Rate, on the other hand, had a favorable but negligible influence on Asset Quality of Nigerian listed DMBs. The study concludes that management of listed DMBs in Nigeria should aim to balance their profit pursuit with better asset quality, based on the data. Furthermore, in order to enhance the asset quality of DMBs, the study suggests that management should always guarantee that other investments outside of their lending/financial intermediation business are kept to a minimum or not prioritized at all.*

**Keywords:** Asset Quality, Return on Assets, Interest Income Spread, Income diversity, Credit Growth Rate.

### **1. Introduction**

The monetary strength of an economy rests on the firmness and flexibility of its banking arrangement. Financial sector stability, on the other hand, is contingent on financial institutions having reasonably good asset quality that will in turn help in achieving profitability. Failure to therefore ensure an unwavering financial system can result to financial risk that may lead to crisis when the market is not liquid. The significance of stable monetary institution can be well comprehend as a result of worldwide economic crisis of 2008, which brought about the total failure of the world financial system (Swamy, 2015).

The financial crisis caused an unforgettable memory for most businesses globally. Financial institutions were not insusceptible from the financial crisis because money is their stock in trade that they trade in form of deposits mobilization from countless sources and offer same to a diverse set of economic managers in forms of loans and advances (Abata, 2014). This money creation practice of banks needs adequate quality asset for the purpose of going concern,

firmness, progress and development as well as to maximize the wealth of the firms in both the short and long run of the business process (Sharafeddine, 2015)

Asset quality, according to Abata (2014), is an element of bank administration that entails assessing a business entity's assets in order to determine the degree of the level and magnitude of credit risk associated with its procedures. In the financial industry, asset quality is linked to the quality of loans issued by the financial institution, and the quality of loans is measured by Nonperforming Assets (NPA), which includes outstanding loans and follow-up loans (Etale, Ayunku & Etale, 2016). Swamy, (2015) stated that regulation and supervision, accounting and auditing quality, and the quantity of continuous reorganization of fragile loans all influence the degree at which asset quality gauges' genuine performance in banks. Bank-specific elements are those that are unique to the procedures of financial institutions, and they are referred to in a variety of ways. It's only reasonable for banks to try to lend with care on the one hand while increasing profitability on the other.

While several studies have been carried out to examine the effect of bank-specific factors and macroeconomic variables on asset quality as proxied by Nonperforming assets in both developed and developing nations (for example, Owoputi Adeyefa & Kayode, 2014; Badar & Yasmin, 2013; Gesu, 2014; Ofori-Abebrese, Pickson & Opore 2016), there is hardly any consistency in results. The study is based on internal factors alone while previous researches were on both internal and external factors. Hence, it appears hard to extrapolate the effects of previous studies to the content of Nigeria for the fact that findings are mixed, unclear and very difficult to generalize.

This inconsistency in findings may be linked with the method of data analysis used by diverse researchers as well as variance in economic conditions in these countries where the banks carry out its operations. In response to the ever occurring problem of increase in NPAs that has defied all possible solutions worldwide. This study will therefore, throw more light on the issue. Consequently, the objective of the study is to examining the effect of bank-specific factors on ASQ of Listed DMBs in Nigeria. In view of this, it is hypothesized that there is no significant effect of bank specific factors on asset quality of listed DMBs in Nigeria. The study covered a sample of DMBs listed on the Nigerian Stock Exchange from the period of 2012 to 2018.

The study adds to the literature available in Nigeria on nonperforming asset and establishes the joint effect of bank specific factors on asset quality in Nigeria, The study will be of assistance to industry regulators and policymakers in identifying those specific factors which, if not properly handled can result to increase in the level of NPAs in financial sector and to ensure strict compliance with regulations on such variables. The study will as well assist the management of the banks to understand which bank-specific factor has either negative / or positive effect on the quality of their assets, which will enable them to know the variables of the internal specific factors should be given much consideration during the credit review, selection and approval by the management and board credit committee. The study will also be useful to the potential investors to understand the internal specific factors that can affect the quality of bank assets if not correctly managed and which will at the end lead to poor performance. Lastly, the findings from the study would help to shape the directions of future researchers through its recommendations and by taking advantage of its limitations.

The paper is in five parts. Section two reviews the literature and discusses the theoretical framework of the study. In section three, we state the methodology used, describe our sample

and variables used in analysis. In section four, we provide the empirical results and discuss the findings. Section five contains our concluding remarks as well as recommendations.

## **2.1 Literature Review**

Several studies have empirically investigated the bank-specific factors determinant of nonperforming assets. For instance, Kadioglu, Niyazi & Nurcan (2017) studied the influence of asset quality on the profitability on listed banks in Turkey for the period 2005- 2016. The study used panel regression method to a quarterly data set. The study used 1809 observations from 55 Banks and documented a significant inverse relationship between bank profitability proxied by ROA and asset quality proxied by nonperforming loans.

Mbella and Magloire (2017) also studied the degree to which bank-specific variables influence the performance of Afriland First Bank in Cameroon for the period of 2006 -2016. The critical internal variables identified in the study were management efficiency capital adequacy, asset quality, liquidity management and returned on the asset. They used GMM estimation and confirmed that asset quality has a negative and significant effect on ROA for the period. The study recommended that the bank should avoid hazardous investments in the future. However, findings from a single bank cannot be generalized.

Mondal (2016) reviewed the sensitivity of non-performing loan determinants in the Bangladeshi Banking Industry. Empirical evidence of the potential impact of macroeconomic and internal factor variables on loan decline was documented. The study covered 22 commercial banks in Bangladesh for the period 2005-2014. The study used GDP, inflation, the spread of the banking sector's interest income and unemployment rate as independent variables and Nonperforming loans as dependent variable. The study shows that NPL is adversely affected by the increase in interest income.

Kamunge (2013) examined the effects of interest income spread on the level of Nonperforming loans by commercial banks in Kenya. The study made use of explanatory research design to establish if the causal relationship between interest income spread and level of nonperforming loans exist. The population of the study were 43 commercial banks for the period 2008- 2012. Independent variable was bank-specific factors proxied by interest income spread, debt collection cost and credit appraisal cost while the dependent variable was Nonperforming loans. Secondary data source was used to gather relevant information to reach the research objective. The result shown that Log interest income spread positively significant in explaining the level of nonperforming loans. The study, therefore, suggested that banks should be encouraged to carry out regular training programme for credit staff. The regulators of the banks too, should apply stringent regulations on interest rates charged by banks. However, the study carried out before the implementation of International Financial Reporting Standards (IFRS).

Bayar (2019) carried out an investigation on asset quality of an emerging Market Economies for the period 2000-2013. Dynamic data estimator for the GMM panel system was used. The used unemployment, public, economic growth, inflation, general government borrowing net income (total income) (income diversity), institutional development, credit growth, regulatory asset to risk-weighted assets, return on assets, non-interest income) as independent variables while loans was used as dependent variable. The outcome of study revealed that the effect of income diversity on NPL was adverse.

Jena, Mohapatra & Wong (2017) studied whether managers are only responsible for nonperforming loans in banks in India for the period 2006-2015. The study used binomial multivariate panel logistic regression and 92 banks were. Bank specific factors proxy by lousy management, bank size, diversification of income, ownership, loan size and regulatory variable proxy by capital adequacy ratio and provision, the macro-economic variable was also proxy by a credit to GDP ratio were used as independent variables while dependent was quality of loan asset proxy by Nonperforming asset ratio. The study found that diversified sources of income are negatively significant to nonperforming assets. India economy appeared to be more advance than ours. In contrary to the above studies, Chaiporn (2016) studied the association between bank credit growth and NPLs in a deflationary economy in Japan for the period 1993-2013. The study used panel OLS regressions and two-step GMM regressions for the sample of 82 publicly listed commercial banks. The study used deposit ratio, Operating risk, Bank credit growth, Liquidity, profitability proxy by ROA as independent variables and nonperforming loan ratio as the dependent variable. The study found that nonperforming loans are positively correlated with income diversification. However, the period of study is considered old.

Hisham, Muhammad & Chaudhry (2014) examined the quantitative study of bank-specific and social factors of Nonperforming Loans of the Pakistani banking sector. The study used primary data. The study obtained 150 observations from 12 banks selected from all banks that were operating in Pakistan and registered before the fiscal year 2012-2013. The study made use of quantitative methodology as research methodology. The independent variables were bank-specific factors proxy by rapid credit growth, monitoring, interest, risk assessment and social factors while the dependent variable was Nonperforming loans. The study found that bank-specific factor proxy by rapid credit growth has a significant effect on Nonperforming Loans. However, the study was carried out for two periods; therefore, the result of the study may not be reliable to generalize.

Latif, Coleman & Andoh (2014) examined asset quality in a crisis period in Ghana. The study used a generalised method of moment's estimations applied to 25 banks listed in Ghana stock exchange for the period 2005-2010. Banking structure, bank size, interest spread, loan growth, income diversity and macro-economic determinants were used as an independent variable while asset quality used dependent variable. The study found that loan growth is positively significant to the persistence in the increase in Nonperforming Assets. However, the period of study is considered old.

Pallavi & Leonardo (2016) analyzed how nonperforming loans (NPLs) of Indian banks behave through the cycle. The sample of annual data of 72 banks obtained for the period 2000-2014. The study used the Generalized Methods of Moments (GMM) panel regression methodology. Lagged Nonperforming loan ratio used as the dependent variable. The bank-specific factors proxy by credit growth, secured loans share, priority loans shares, non-interest income ratio (Income diversity) also used as independent variables. The study found that an increase of one percentage point in lending growth is associated with an NPL increase over the overall advances (NPL ratio) of 4, 3% over time. However, in case public as well as private banks with a more reactive response to changes in their interest and business cycle, a pro-cyclical risk-taking response to credit growth is present. The study duration, however, was long since certain factors had occurred. Therefore, from the above literature, ROA, INTINS, INDIV, and CGR have been identified as bank-specific factors variables that have a strong relationship with NPLs.

Muriithi (2013) looked into the reasons for nonperforming loans in Kenyan commercial banks. Nonperforming loans are frequently linked to bank collapse and financial problems in Kenyan commercial banks. For the period 2008-2012, the study used a Descriptive Design and used both multiple regression models using secondary data to investigate the link between the causes of nonperforming loans in Kenyan commercial banks. As independent variables, interest rates, inflation, and loan growth were employed. The dependent variable was a nonperforming loan. SPSS was used to analyze data from 43 banks in the study's population. The survey discovered that commercial non-performing loans are on the rise. Non-performing loans held by Kenyan commercial banks were shown to be adversely linked with loan growth in the research. As a result, the study concluded that banks require robust regulations to limit the quantity of loans they hold. However, because the research period was so long ago, many things would have changed.

The theories underpinning this study are competition fragility and stability theories. Numerous scholars have been pondering on the connection between banking competition and asset quality for years. Koetter, Kolari and Spierdijk (2012), offers proof that there are two mostly debated theories concerning banking rivalry and its asset quality and very significant of these discussions started mainly after global financial disaster of 2007. These theories are known as competition fragility and competition stability. Consequently, rivalry in banking industry has been one the most argued issues of all time. As this can be termed by the fact that too strong rivalry among financial institutions has negative effect on market supremacy and returns on asset which as a result leads to management of the financial institutions making risky decisions. Hoggarth, Sorensen, & Zicchino, (2005) therefore suggests that banks with market influence (in a concentrated industry) earn better profits.

On the other hand, other school of thought suggests that competition stability theory that encourages better banking stability as a result of ever increase competition in financial sector. The description of this theory is like interest rates flexibility which the bank can decrease or increase as a result of strong competition. Also in order to reduce ethical threat and adverse selection problems, banks can give more loans by shrinking default rates of loans which ensures the stability of banks. According to Koetter et al, (2012). Although, one of the main aims of the financial liberalization rules is to advance the competitiveness of financial markets in developing economies. Too much interest rates can bring about moral hazard problem by mounting non-performing loan ratio of banks. Other earlier papers looked at the relationship between the banks and borrowers also.

### **3. Research Methods and Model Specification**

The study utilizes a correlational research design to solve the study problem. The population of this study consists of all Nigerian Deposit Money Banks that enjoy first-tier listing on the Nigerian Stock Exchange (NSE) as of December 31<sup>st</sup>, 2018, a total number of fourteen (14) banks enjoy first-tier listing on the Nigerian Stock Exchange and thirteen (13) banks were used as sample based on the filter that was used. That's all the banks must have all the data within the study period. The data for the study was extracted mainly from secondary sources; specifically, annual reports and accounts. Panel data regression technique was used because the data are both time series and cross sectional.

**Table 1:** Variable measurement; the variables of the study are measured as follow:

Variables	Proxies	Type	Measurement	Sources
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ASQ	Non-performing assets	Dep.	NPLs/total loans	Rathria, Yohanes, Kevin & Robertus (2018), Abata (2014).
ROA	Profitability	Indep.	Annual earnings/Total assets	Rajan(1994), Berger&DeYoung(1997),
INTINCS	Interest income spread	Indep	Net Int. Income/Total income	Salas&Saurina,(2002),Ugoani,(2015)
INCDIV	Income diversity	Indep	Non-int. Income/ Total income	Ghosh (2003), Rathria et al., (2018)
CGR	Credit growth	Indep	[Gross loan(t)-Gross loan(t-1)]/Gross loan(t-1)	Ahmad & Bashir(2013), Rathria et al., (2018).
FSZ	Total asset	Control	Natural logarithm of total assets	Alexandri & Santoso (2015), Tehula & Olana, (2014)

Source: Compiled by Author 2021

### 3.1. Model Specification

To examine the bank specific factors that have effect on asset quality, a multiple linear regression model is recognized. This model captures the effect of bank specific factors on asset quality .The model was adopted from the work of (Warue, 2013) shown in the equation;

$$ASQ_{it} = \alpha + \beta_1 ROA_{it} + \beta_2 INTINS_{it} + \beta_3 INCDIV_{it} + \beta_4 CGR_{it} + \beta_5 BSZ_{it} + \varepsilon_{it}$$

Where:  $\alpha$  = constant represent the value of NPAs when all other explanatory variables held constant,  $\beta_1 - \beta_5$  =Coefficient of the explanatory variables  $\varepsilon$  = error term

ASQ = Asset Quality (Proxy by Nonperforming assets) as our dependent variable  
 ROA<sub>it</sub>= Return on Asset of bank i at time t, as our independent variable  
 INTINS<sub>it</sub> = Interest Income Spread of bank i at time t, as our independent variable  
 INCDIV<sub>it</sub>= Income Diversity of bank i at time t, as our independent variable  
 CGR<sub>it</sub>= Credit growth rate of bank i at time t as our independent variable  
 BSZ<sub>it</sub> = Bank size bank i at time t as our independent variable

### 4.1 Data presentation and Analysis

In this section, results from the various tests conducted for the sampled banks were presented, analyzed and interpreted. The hypotheses formulated for the study were tested to determine the effect of bank specific factors on asset quality.

**Table 2: Summary of Descriptive Statistics**

Variables	Mean	Std. Dev.	Min	Max	Obs.
ASQ	5.545	5.740	0.969	35.438	91
ROA	1.603	1.943	-9.532	6.154	91
INTINCS	43.882	8.938	24.277	65.598	91
INCDIV	5.423	5.069	0.072	26.424	91
CGR	-1.746	116.062	-1088.45	68.605	91
BSZ	9.128	0.333	8.195	9.695	91

**SOURCE: STATA OUTPUT 2019**

From the descriptive statistics in table 2, the mean value of ASQ is 5.5, with a standard deviation of 5.74; maximum and minimum values of 35.4 and 0.97 per cent respectively. This implies that on average ASQ of listed DMBs which measures the proportion of a bank’s loan portfolio that is active and yielding interest is approximately 5.5 percent and the standard deviation of 5.74 percent signifies wide variation in the data set. This is corroborated by the wide range given by minimum and maximum of 0.97 percent and 35.5 percent respectively. The range is high and should be a concern for regulators of the DMBs.

Furthermore, the table shows that ROA ranged from -9.5 to 6.2 percent with an average of 1.6 percent. Interest Income Spread has minimum and maximum of 24.3 and 65.5 percent with an average of 43.9 percent. Income Diversity has minimum and maximum of 0.07 and 26 percent with an average of 5.4 percent all suggesting wide variations in the data set. However, amongst the independent variables credit growth rate has the steepest variation with minimum and maximum values ranging from -1088.4 to 68.6 percent with an approximate average of -1.75 percent.

**Table 3: Correlation Matrix**

Variables	ASQ	ROA	INTINCS	INCDIV	CGR	BSZ
ASQ	1.0000					
ROA	-0.2539	1.0000				
INTINCS	0.2900	0.0626	1.0000			
INCDIV	0.1451	0.0471	-0.0731	1.0000		
CGR	0.0329	0.5967	-0.1551	0.0937	1.0000	
BSZ	-0.2250	0.5497	0.1446	-0.0712	0.2622	1.0000

**SOURCE: STATA OUTPUT, 2021**

From the correlation matrix in table 3, the INTINCS, INCDIV and CGR are positively correlated with ASQ of listed DMBs in Nigeria. The consequence is that, these variables moved in the same direction with ASQ. On the other hand, ROA and BSZ shows a negative correlation which means that it moves in the opposite direction with the ASQ.

Similarly, the result indicates that there is positive relationship between INTINCS and other independent variables while there is negative correlation between INCDIV and INTINCS, CGR and INTINCS. In addition, the table shows that there is no presence of possible multicollinearity among the independent variables because the highest relationship among the variable is 60% which is far lower than the threshold of 80% as propounded by (Gujarati & Dawan, 2009).

**Residual Tests:**

A multicollinearity test was conducted to show that there is no existence of exact linear relationship among some or all the explanatory variables in the regression model as shown by the mean variance inflation factor (VIF) of 1.47 and the tolerance value for all the variables are less than one which implies that there is absence of multicollinearity because all variables have VIF values less than 10, with tolerances greater than 0.10 for all variables (rule of thumb).

The Breusch-Pagan / Cook-Weisberg test was used to determine the existence of heteroscedasticity in the research. The Chi-square statistic was 48.78, and the p-values were 0.0000. As a result, the null hypothesis of constant variance was rejected, whereas the alternate

hypothesis of non-constant variance was accepted since the p-value was statistically significant at 1%. The existence of heteroscedasticity, on the other hand, was adjusted using a modified Wald test for GroupWise heteroscedasticity.

Hausman specification test was conducted to choose between the fixed and the random effect models. The chi-square value of 86.04 was produced with a p-value of 0, 0000. It means that the variation between different entities is supposed to be fixed and unrelated to the independent variables in the model. The result of the fixed-effect model was considered suitable for analysis. However, the result of the heteroscedasticity test earlier conducted shows that the homoscedastic assumption is not met. Hence, the regression result was subjected to a further test where cross-sectional time-series Feasible Generalized Least Square regression (FGLS) to take care of the heteroscedasticity problem.

**Table 4: FGLS Regression Result**

Variables	Coefficient	Z- value	P>(Z)
ROA	-1.304	-2.57	0.010
INTINCS	0.261	3.90	0.000
INCDIV	0.171	2.09	0.036
CGR	0.019	1.57	0.117
BSZ	-2.235	-0.86	0.389
Constant	15.692	0.71	0.477
Wald Chi2:	37.01		
R-square	0.2935		
Prob.	0.0000		
Hetest	48.78	0.000	
Hausman:	86.04	0.000	

**Source: STATA OUTPUT, 2019**

From the results in Table 4, it can be observed that the  $R^2$  of the model is 0.2935 which means that 29.4% of the total variations in Asset Quality of the listed DMBs in Nigeria is as a result of the bank-specific factors. Also, the Wald Chi2 of 37.01 is significant at 1% indicating that the model of the study is well fitted.

From the table it can be seen that Return on Assets has a negative coefficient value of -1.304 and P-value of 0.010 which is significant at 5%. This signifies that a percentage increase in ROA will lead to a corresponding decrease in ASQ of listed DMBs in Nigeria by 1.304%. The implication of this, is that there is a negative effect between ROA and ASQ of listed DMBs in Nigeria which means that banks with higher profitability are proven to have lower NPAs. This may be because they can maintain suitable credit administration practices. On this basis, the study, therefore, rejects the null hypothesis of the study which states that return on assets does not have significantly effect on the asset quality of listed deposit money banks in Nigeria. This is in line with the findings of Bayar (2019), Kadioglu et al. (2017); Laxmi et al. (2017); Peric & Konjusak, (2017) and Godallawaththa & Ekanayake (2015), but is in contrast with the findings of Timothy (2018).

Also, from the results, interest income spread (INTINCS) has a coefficient value of 0.261 and p-value of 0.000 which is significant at 1%. The implication is that INTINCS positive effect on ASQ of listed DMBs in Nigeria which means that a percentage increase in INTINCS will bring about corresponding increase in ASQ of listed deposit money banks in Nigeria by 0.261 %. The

study therefore, rejects the null hypothesis which states that interest income spread does not significantly affect asset quality and accepts the alternate hypothesis, which states that interest income spread has a significant effect on the asset quality of listed deposit money banks in Nigeria. The findings are in line with that of Laxmi et al., (2017) Sheefeni (2016) and Kamunge (2013). Meanwhile, this result is in contrast with the findings of Mondal, (2016) and Chege, (2014). The finding that interest income spread affects the non-performing assets of banks in Nigeria may be attributable to the cost of loans charged on the borrowers.

Furthermore, the results show that income diversity (INCDIV) has a coefficient value of 0.171 and p-value of 0.036 which is significant at 5%. The implication is that there is a positive effect between INCDIV and ASQ of listed deposit money banks in Nigeria which means that a percentage increase in INCDIV will lead to a corresponding increase in ASQ of listed deposit money banks in Nigeria by 0.171 %. On this basis, the study, rejects the third hypothesis of the study which states that income diversity does not have a significant effect on the asset quality of listed DMBs in Nigeria. This is in line with the findings of Chaiporn, (2016), but in contrast with the findings of Bayar, (2019) and Jena et al., (2017) who found a significant but negative effect between INCDIV and ASQ.

Finally, the results show that, the coefficient of credit growth rate (CGR) has a value of 0.019 and p-value of 0.117 which is not significant at all levels of acceptance. While the coefficient implies that CGR has a positive effect on ASQ of listed DMBs in Nigeria which signifies that a percentage increase in CGR will have a corresponding effect of 0.018753% on the ASQ of listed DMBs in Nigeria, the fact that this is statistically not significant, means that we failed to reject the null hypothesis of the study which states that credit growth rate does not have a significant effect on the asset quality of listed deposit money banks in Nigeria. This finding is however in line with that of Chaiporn (2016), who found positive but statistically insignificant of CGR on non-performing asset after the onset of the global financial crisis. This is, in contrast with the findings of Rathria et al., (2018) and Muriithi, (2013).

## **5. Conclusion and Recommendations**

The study found evidence that return on asset plays a vital role in explaining changes in asset quality of deposit money banks in Nigeria. Therefore, the study concludes that profitability is a determinant of asset quality of listed DMBs in Nigeria. The study found evidence that Interest Income spread is one of the bank specific factors that has power to influence asset quality of deposit money banks in Nigeria. Hence, the study concludes that Interest Income spread is a determinant of asset quality of listed deposit money banks in Nigeria. The study recorded that Income diversity is also one of the bank specific factors that can influence asset quality of deposit money banks in Nigeria. Hence, the study concludes that Income diversity is a determinant of asset quality of listed deposit money banks in Nigeria. Lastly, the study provided documented evidence that credit growth does not have the capacity to influence the asset quality of listed deposit money banks in Nigeria. Therefore, the study concluded that credit growth is not a determinant of asset quality of DMBs in Nigeria.

As a result of the findings, the study recommends that the managements of listed DMBs in Nigeria should strive a balance between their profit pursuit and non-performing assets. This is because an aggressive pursuit of profit will affect the quality of the DMBs' asset. Also, the study recommends that the managements of the listed DMBs in Nigeria should regularly evaluate their customers and charge interest rates accordingly as unsuccessful interest rate policy can grow the

level of interest rates which will have effect on non-performing assets. The higher the rate of interest charge the more difficult it may become to pay back the loans. Finally, the study recommends that the managements of listed DMBs in Nigeria should always ensure minimal or not prioritizing other investments outside their business of lending / financial intermediation. As this will improve the quality of the DMBs assets.

## **References**

- Abata, M. A. (2014). Asset Quality and Bank Performance: A Study of Commercial Banks in Nigeria. *Research Journal of Finance and Accounting* 5(18), 39-44.
- Ahmad, F., and Bashir, T. (2013). Explanatory Power of Bank Specific Variables as Determinants of Non- Performing Loans: Evidence from Pakistan Banking. *World Applied Science Journal*, 22, 1220–1231.
- Alexandri, M. B., and Santoso, T. I. (2015). Non-Performing Loan: Impact of Internal and External Factor (Evidence in Indonesia). *International Journal of Humanities and Social Science Invention*, 4(1), 87-91.
- Badar, M., and Yasmin J.A., (2013). Impact of Macroeconomic Forces on Nonperforming Loans: An Empirical Study of Commercial Banks in Pakistan. *WSEAS Transactions on Business & Economics*, 10(1) Nairobi.
- Bayar, Y. (2019). Macroeconomic, Institutional and Bank-Specific Determinants of Non-Performing Loans in Emerging Market Economies: A Dynamic Panel Regression Analysis. *Journal of Central Banking Theory and Practice*, 8(3), 95–110. <https://doi.org/10.2478/jcbtp-2019-0026>.
- Berger, A. N. and DeYoung, R. (1997), Problem Loans and Cost Efficiency in Commercial Banks, *Journal of Banking and Finance*, 21(6), 849- 870.
- Chaiporn, V. (2016) Deflation, Bank Credit Growth, and Non-Performing Loans: Evidence from Japan; E-SAAN Center for Business and Economic Research (ECBER), Faculty of Management Science, Khon Kaen University Faculty of Economics, Khon Kaen University, Muang, Khon Kaen 40002, Thailand.
- Chege, M. (2014) Effect of Interest Rates on Non-performing Loans in Commercial Banks in Kenya. Unpublished Masters. The University of Nairobi.
- Etale, L. M., Ayunku, P. E., and Etale, E. (2016). The impact of Non-performing Loans and Bank Performance in Nigeria. *International Journal of Humanities and Social Science Invention*, 5(4), 1-5.
- Gesu, G. (2014). Determinants of Nonperforming Loans: Empirical Study in Case of Commercial Banks in Ethiopia. A Published MSc Thesis, Jimma University. IMF, Annual report (2005).
- Ghosh, S. (2003). Determinants of Credit Risk in Indian State-owned Banks: An Empirical Investigation.
- Godallawaththa G.W.H. and Ekanayake E.M.N.N (2015) The impact of bank-specific and macroeconomic factors on non-performing loans in commercial banks; International Research Conference on Management and Finance, Faculty of Management and Finance, University of Colombo, At Colombo, Sri Lanka, 10, 133-160.
- Gujarati, D. and Dawan, C. (2015), Porter, McGraw- Hill Education, Washington, DC.
- Hisham U.H, Muhammad I, and Choudahry A. (2014) Quantitative Study of Bank-Specific and Social factors of Non-Performing Loans of Pakistani Banking Sector; Business School,

- Superior University, Lahore, Pakistan International Letters of Social and Humanistic Sciences. ISSN: 2300-2697, vol. 43, pp. 192-213.
- Hoggarth, G., Sorensen, S., and Zicchino, L. (2005). Stress tests of UK banks using a VAR approach Bank Engl. Working Paper, 282
- Jena S.K., Mohaptra S. and Wong W.K., (2017) Nonperforming Loans in banks – are managers only responsible? Hyderabad Telengana State , INDIA Wing-Keung Wong Department of Finance and Big Data Research Center , Asia University Taiwan. 1–19.
- Kadioglu E, Niyazi T. and Nurcan O. (2017) Effect of the Asset Quality on the Bank Profitability in Turkey; *International Journal of Economics and Finance*; vol. 9(7); 2017 ISSN 1916-971X E-ISSN 1916-9728 Published by Canadian Center of Science and Education.
- Kamunge, E. M (2013) The Effect of Interest Income Spread on the Level of Non-performing Loans of Commercial Banks in Kenya. Unpublished Master Thesis. The University of Nairobi.
- Koetter, M., Kolari, J., and Spierdijk, L., (2012). Enjoying the quiet life under deregulation? Evidence from adjusted lerner indices for U.S. Banks. *Review of Economics and Statistics*, 94, 462–480.
- Latif, A., Kyereboah-coleman, A., and Andoh, C. (2014). Asset quality in a crisis period: An empirical examination of Ghanaian banks. *Journal of Advanced Research*, 4(1), 50–62. <https://doi.org/10.1016/j.rdf.2014.03.001>
- Laxmi, Koju and Wang (2017) Macroeconomic and Bank-Specific Determinants of Non-Performing Loans: Evidence from Nepalese Banking System; *Journal of Central Banking Theory and Practice*, 2018, 3, 111-138 Received: 5 July 2017; accepted: 6 October 2017.
- Mbella M.E. and Magloire A.A, (2017). The Effect of Bank Specific Factors on the Performance of Afriland First Bank in Cameroon. *Journal of Business and Financial Affairs* 6: 305. DOI: 10.4172/2167-0234.1000305
- Mondal, T. (2016) Sensitivity of Non-Performing Loan to Macroeconomic Variables: Empirical Evidence from Banking Industry in Bangladesh. *Global Journal of Management and Business Research*, 16, 31-38.
- Muriithi, M. W. (2013). The causes of non-performing loans in. A Research Project Report, Ofori-Abebrese, G., Pickson, R. B., 12and Opare, E. (2016). The Effect of Bank Specific Factors on Loan Performance of HFC Bank in Ghana. *International Journal of Economics and Finance*, 8(7), 185. <https://doi.org/10.5539/ijef.v8n7p185>.
- Owoputi J.A, Kayode O.F and Adeyefa F.A., (2014). Bank specific, Industry-specific and macroeconomics determinant of bank profitability in Nigeria; *European Scientific Journal*. 10 (25).
- Pallavi C. and Leonardo G. (2016). *RBI WORKING PAPER SERIES Bank Lending and Loan Quality: The Case of India. December.*
- Peric, B. S., and Konjusak, N. (2017). How did rapid credit growth cause non performing loans in the CEE Countries? *South East European Journal of Economics and Business*, 12(2), 73–84. <https://doi.org/10.1515/jeb-2017-0019>.
- Rajan, R. (1994), “Why bank credit policies fluctuate”, *The Quarterly Journal of Economics*, Vol. 2 No. 109, pp. 399-441.
- Rathria R., Yohanes K., Kevin A., and Robertus S., (2018). Bank-specific Factors Affecting Non-Performing Loans in Developing Countries: Case Study of Indonesia. *The Journal of Asian Finance, Economics and Business* 5(2) 35–45. 10.13106/jafeb.2018.

- Salas, V., and Saurina, J., (2002) 'Credit risk in two institutional regimes: Spanish commercial and savings banks', *Journal of Financial Services Research*, 22(3), 203–224.
- Sharafeddine, R.I., (2015). The Economic Power of Money Creation; Doctoral Program of Economics Science, Faculty of Economics and Business, Jinan University, Lebanon.
- Sheefeni, J.P.S., (2016). The Effects of Interest Income Spread on Non-performing Loans in Namibia. *European Journal of Business, Economics and Accountancy* 4(5), 2056-6018
- Swamy, V. (2015). Modelling Bank Asset Quality and Profitability: An Empirical Assessment. Economics Discussion Papers, No 2015-27, Kiel Institute for the World Economy. <http://www.economics-ejournal.org/economics/discussionpapers/2015-27>.
- Tehula, T. A., and Olana, D. R. (2014). Bank-specific determinants of credit risk: Empirical evidence from Ethiopian banks. *Research journal of finance and accounting*, 5(7), 80-85.
- Timothy, A. J (2018) Effect of Non-Performing Loans on Bank Performance of Some Selected Commercial Bank in the Nigerian Banking Sector; *International Journal of New Technology and Research (IJNTR) ISSN: 2454 -4116*, 4, 11-17
- Ugoani, J. N. N. (2016). Nonperforming Loans Portfolio and Its Effect on Bank Profitability in Nigeria. *Independent Journal of Management & Production*, 7(2), 303–319. <https://doi.org/10.14807/ijmp.v7i2.406>
- Warue, B. N. (2013). The Effects of Bank Specific and Macroeconomic Factors of Nonperforming Loans in Commercial Banks in Kenya: A Comparative Panel Data Analysis. *Advances in Management and Applied Economics*, 3(2), 135–164.