European Journal of Accounting, Auditing and Finance Research
Vol.10, No. 3, pp.31-41, 2022
Print ISSN: 2053-4086(Print),
Online ISSN: 2053-4094(Online)

CREDIT RISK AND PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

Ozigbo A. Sylvester
Department of Banking and Finance
Delta State University of Science and Technology, Ozoro

Ekane Rapheal Ogagaoghene
Department of Banking and Finance
Delta State University of Science and Technology, Ozoro

Citation: Ozigbo A. Sylvester and Ekane Rapheal Ogagaoghene (2022), Credit Risk and Performance of Deposit Money Banks in Nigeria, *European Journal of Accounting, Auditing and Finance Research*, Vol.10, No. 3, pp.31-41

ABSTRACT*: The research focuses on the impact of credit risk on the performance of deposit money banks in Nigeria. It covers the period between 2000 and 2020 .Secondary data sourced from the Central Bank of Nigeria and annual reports of the selected banks were utilized for the study. Ordinary Least Square estimation technique which is compatible with the multiple regression method was also adopted .It was discovered that capital adequacy and non-performing loan were not statistically significant in influencing the changes in bank performance, while loan loss provision as well as loan and advances were significant to changes in bank performances with in the period of the study. It was therefore recommended that the regulatory authority should ensure that banks are focused on their primary role of supplying needed funds for the real sector to finance their investment. Also, Deposit money banks should be encouraged to reduce their service charges. This is the only way their impact can be felt as one of the drivers of economic growth in Nigeria.*

KEY WORDS: Loan overhang, pre-provision profit, liquidity-profitability trade off, deposit mobilization

INTRODUCTION

In pre-colonial era of Nigeria, businesses were less anchored on borrowed funds. It was a period mostly characterised by buying and selling within the neighborhood. In such arrangement buyers and sellers could assess each other within a short time interval. Then came the era of colonialism which started with the advent of the Royal Niger Company. This period saw the expansion of trade in Nigeria. The expansion signaled the accelerated use of currencies and the various commodity Board were on hand to buy in bulk from local producers. This later metamorphosed to increased economic activities in Nigeria. The increased in economic activity had to be matched by modern business practices which led to the establishment of commercial banks to support the high volume of commerce.

of course with commercial activities assuming a higher dimension, commercial banks as it were started playing their traditional roles, one of which is the granting of loans and advances to eligible loan seeker to further strengthen the financial system. However the granting of loans and advances was not without some pitfalls. One of the challenges is credit risk. Credit risk can be defined as the exposure of depositors' money to a danger or chance of loss. Simply put credit risk can be seen as the probability of losing the depositors money in the course of executing a loan contract (Ozigbo, 1996). This risk is very pronounce in many financial institutions today due to uncertainty which envelopes the business world. It therefore beholves the banker to ensure that the depositors' money is well safe guarded. Since the economy cannot grow without credit facilities, modern banking is therefore configured to incorporate safety nets, and control mechanisms to absorb such shocks which are inevitable.

According to the Central Bank of Nigeria, since the recapitalization of Nigerian banks, risks asset quality has continued its modest improvement as non-performing to total loan ratio has continued to decline. According to Kolapo et al (2012) the main ideology of credit risk management strategies may take the following form: They include formation of a clear structure, delegation of powers, discipline and communication at all level and holding people accountable. Therefore a sound credit risk management framework becomes a panacea for profitability enhancement and also a guarantee for survival as a going concern. It is a well-known fact that deposit money banks are exposed to multiplicity of risk such as interest rate risk, exchange rate risk, political risk, market risk, operational risk, liquidity risk, credit risk etc.

According to Garba & Muhammed (2014), non-performing loans and bad debt have significant negative effect on performance of banks in Nigeria, while secured loan ratio and bank performance was positively related. The motive of this study is therefore to contribute to the debate by expanding the time series data to include current ones that were not hitherto captured by earlier researchers. In view of this, the major objective of the study is to empirically investigate the impact of credit risk on bank performance in Nigeria. Other specific objectives include to:

- determine whether capital adequate ratio affect deposit money banks in Nigeria.
- find out the effect of loan and advances ratio on the performance of deposit money banks
- examine the effect of bank size on the performance of deposit money banks
- evaluate the impact of non-performing loan ratio on the performance of Deposit money banks in Nigeria.

HYPOTHESES:

Ho_1: There is no significant relationship between capital adequacy ratio and performance of deposit money banks in Nigeria.

Ho_2: There is no significant relationship between loan and advances ratio and performance of deposit money banks in Nigeria.

ECRTD-UK: https://www.eajournals.org/
Journal level DOI: https://doi.org/10.37745/ejaafr.2013

Ho^3: There is no significant relationship between bank size and performance of deposit money banks in Nigeria
Ho_4: There is no significant relationship between non-performing loan ratio and the performance of deposit money banks in Nigeria.

LITERATURE REVIEW

To understand the concept of credit risk management, it is pertinent to briefly take a look at some basic theories in liquidity/profitability management. Some of these include:

- Commercial loan theory
- Liquidity-profitability trade off theory
- Anticipated income theory

Under the commercial loan theory, commercial banks are expected to grant only short term self-liquidating loans. Going by this theory, banks can only give out loans to traders who can retire such loans within a short tenor i.e. within the trading circle. Therefore loans are not to be extended to investors in real sector e.g. real estate and others whose gestation period span a long time.There is also the liquidity-profitability trade-off theory, where banks are expected to strike a balance between profitability and liquidity. Since the two cardinal objectives cannot be totally achieved simultaneously, a bank could chose to be very solvent and may have to pay a price of lesser profitability or vice versa. However with the new trends in banking where cost of transaction is always on the high side, banks might be able to make substantial investment with its funds and attract more customers with its attendant increased funds from charges which may enable the bank to remain a going concern and still boast of high profitability.

The last major theory of liquidity management is the anticipated loan theory. This theory places premium on the expected income of the borrower in planning the liquidity in the short term loan granted by the bank. Here, no attention is paid to the nature of the business the borrower is in to, or any collateral security required to hedge the loan. The major weakness is that in case of default or insolvency, the loan becomes totally bad.

Empirical Literature

Bordelean and Graham (2019) took a look at the effect of liquid asset on profitability of banks in USA and Canada. They found out that profitability is improved for banks that hold some liquid asset up to a particular threshold and after which it starts to decline. Also Idowu et al (2017) investigated the impact of liquidity management on financial performance of some listed deposit money banks in Nigeria, from 2007 to 2016. The outcome showed that liquidity management has a significant positive relationship with profitability while return on assets was found to be insignificant.

Journal level DOI: https://doi.org/10.37745/ejaafr.2013

Another researcher, Alshatti (2015) research into the effect of liquidity on profitability in thirteen deposit money banks in Jordan from 2005 to 2012. The result from the regression analysis showed that a positive relationship exist between quick, investment ratio and profitability while indirect relationship was obtained between capital liquidity ratios and profitability. Contributing to this debate, Pondel(2012) investigated the factors affecting commercial banks performance in Nepal for the period between 2001 and 2012 using linear regression technique. The result revealed a significant inverse relationship between performance of banks proxy by return on Asset and credit risk measured by default rate and capital adequacy ratio.

Also adding their contribution to the credit risk debate, Kolapo et al (2012) using panel data in studying the effect of credit risk on banks' performance used Return on Asset (ROA) as a proxy for performance. They found out that an increase in non-performing loans or loan losses provision reduces profitability (ROA) while an increase in total loan and advances enhances profitability. Achou and Tenguh (2008) carried out an investigation to ascertain how credit risk is managed by banks between 2001 and 2005. Utilising data from Qutar Central Bank. They discovered from the regression analysis that credit risk management and performance have significant relationship. They also found out that the ratio of Non-performing loans to total liabilities has significant negative association with profitability which was measured by return on assets (ROA) and return on equity (ROE).

Pondel (2012) examined some basic parameters relating to credit management with regards to profitability. Such parameters included: default rate, cost per loan asset, capital adequacy ratio. Using the financial reports of 31 banks for the period 2001 – 20011. It was discovered that all the ratios have inverse relationship on bank financial performance. Boahene et al (2012) studied the relationship between credit risk and profitability of Ghanaian banks. Non-performing loans rate, net charge off rate, and pre-provision profit was adopted as a percentage of net total loans and advances used as explanatory variables of credit risk. Other variables like bank size, bank growth, and hank debt were taken as control variables.

The result of this study based on the fixed effect model shown that non-performing loans rate, net charge off rate and the provision profit as a percentage of net total loans and advances have a positive relationship with bank profitability which is a proxy for performance. The result indicated that the Ghanaian banks received a higher profitability even though the credit risk was high. The result is at variance with the theory relied upon by previous studies, which revealed that the higher the credit risk, the lower the profitability of banks. However, the author of the study argued that, such profitability could be due to exorbitant interest rate as well as fees or commission charged by the banks. More studies is therefore suggested on this new argument since it is not in consonance with general concept that non-performing loans causes decrease in profitability.

METHODOLOGY

The research design for this study is the Archival documentary review or expost facto research design.This is due to the fact that the data used were already in existence and had affected the economy. Therefore the researcher does not have any control of the data. They were collected from the Central Bank of Nigeria statistical bulletin. Also ten deposit money banks that are very prominent in the Nigeria stock exchange were selected out of about fifteen as at December 2019 in the country.

This was based on the availability of information as well as asset and capital base. Data from their annual financial reports were the major source of the historical data used for the study.The ordinary least square estimation technique which is compatible with multiple regression method was adopted for this study. This covers the period between 2000 and 2020, using the e-view 10 statistical software.

Specification of the Model

The model investigating credit risk impact on bank performance in Nigerian is therefore stated functionally thus:

ROA = f(CAR, LAR, LLPR, Size, NPLR) ……. (1)

ROE = f(CAR, LAR, LLPR, Size, NPLR) …… (2)

Econometrically, equation (1) & (2) become:

$ROA = \beta_0 + \beta_1 CAR = \beta_2 LAR + \beta_3 LLPR + \beta_4 Size + \beta_5 NPLR + U_t$ – (4) …… (3)

$ROE = \beta_0 + \beta_1 CAR = \beta_2 LAR + \beta_3 LLPR + \beta_4 Size + \beta_5 NPLC + U_t$ – (5)…… (4)

Where:

Capital Adequacy Ratio (CAR) = $\frac{Total\ Capital}{Total\ Debit}$

Loan and Advances Ratio (LAR) = $\frac{LOans\ and\ Advances}{Total\ Debit}$

Loan Loss Provision Ratio (LLPR) = $\frac{Loan\ Loss\ Provision}{Total\ Liabilities}$

Size = Average Size of Banks (Proxy by) Asset base

Non performing loan Ratio (NPLR) = $\frac{Non\ Performing\ Loan}{Loan\ and\ Advances}$

ROA = Return on Assets = $\frac{Net\ Income}{Total\ Asset}$

ROE = Return on Equity = $\frac{Net\ Profit}{Shareholder's\ fund}$

β_0= Intercept

$\beta_{1--}\ \beta_5$ = Parameters to be estimated

ut = Error term

ECRTD-UK: https://www.eajournals.org/
Journal level DOI: https://doi.org/10.37745/ejaafr.2013

PRESENTATION AND DISCUSSION OF RESULTS

Descriptive Statistics

	ROE	SIZE	NPLR	LLPR	LAR	CAR
Mean	777213.0	25.33333	250.0000	247.3810	6396.905	5.238095
Median	811213.0	23.00000	182.0000	267.0000	7799.000	4.200000
Maximum	842112.0	36.00000	463.0000	400.0000	9435.000	14.30000
Minimum	643212.0	18.00000	121.0000	140.0000	2112.000	0.500000
Std. Dev.	68393.94	5.102287	121.9705	70.10740	3091.083	4.441450
Skewness	-0.794674	0.731921	0.313875	0.159743	-0.455160	0.714109
Kurtosis	1.984888	2.386940	1.512004	2.446797	1.390365	2.227655
Jarque-Bera	3.111919	2.203844	2.282178	0.357092	2.992156	2.306781
Probability	0.210987	0.332232	0.319471	0.836486	0.224007	0.315565
Sum	16321474	532.0000	5250.000	5195.000	134335.0	110.0000
Sum Sq. Dev.	9.36E+10	520.6667	297536.0	98300.95	1.91E+08	394.5295
Observations	21	21	21	21	21	21

Source:Author's computation using e-views 10

The Maximum ROE is 842112.0 while the Minimum ROE is 643212.0, the observed difference is not too large meaning that the performances of the banks selected for the study were close to each other. It shows that the banks are homogeneous in nature. It further implies that most of these banks performed very well in terms of Return on equity comparison to the average value of 777213.0 .. The maximum value of NPLR was 463.0 while the minimum was 121.0. The mean was 250.0. This means that many of the banks did not adopted an aggressive deposit mobilization to increase credit availability as the margin between the maximum and the average in the industry was very high. The capital adequacy ratio has a mean of 5.23 and a maximum of 14.3 with a minimum of 0.5 and a std deviation of 4.4. This means that the deviation from the mean is very high which is at variance with the Central Bank of Nigeria regulation. An indication that the banks have marginal ability to bear losses. The Skewness which measures the asymmetry of the series has values greater than zero in most of the study period indicating that is positively Skewed to the right only loan and advances was negatively Skewed. The Jarque-Bera which tests the normality of the series indicate probability value that are greater than 5 percent in most cases meaning that the errors are normally distributed. Hence any recommendations made to a very large extent will be representative of the entire population of the study.

ECRTD-UK: https://www.eajournals.org/
Journal level DOI: https://doi.org/10.37745/ejaafr.2013

Dependent Variable: ROA
Method: Least Squares
Date: 12/22/21 Time: 09:27
Sample: 2000 2020
Included observations: 21

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SIZE	5436.960	3873.151	1.403756	0.1808
NPLR	-156.6952	120.1252	-1.304432	0.2117
LLPR	-456.9804	151.2416	-3.021525	0.0086
LAR	29.90415	8.926951	3.349873	0.0044
CAR	-8923.971	4841.225	-1.843329	0.0851
C	800158.1	145240.8	5.509184	0.0001

R-squared	0.855654	Mean dependent var	935964.5
Adjusted R-squared	0.807538	S.D. dependent var	73113.01
S.E. of regression	32075.02	Akaike info criterion	23.82450
Sum squared resid	1.54E+10	Schwarz criterion	24.12293
Log likelihood	-244.1572	Hannan-Quinn criter.	23.88927
F-statistic	17.78335	Durbin-Watson stat	1.858228
Prob(F-statistic)	0.000008		

Figure 1: Ordinary Least Souare Regression Result
Source: Author's computation, e –views 10 output

ROA = 800158.1 – 8923.971 (CAR) + 29.905 (ILAR) – 456.980 (LLPR) + 5436.960 (Size) – 156.695 (NPLR)
(5.509184) – (1.843329)+ (3.349873) - (3.021525) + (1.403756) - (1.304432)
R^2 = 0.86
R^2 Adjusted = 0.81
F-Statistic = 17.783
Dw = 1.86
Note: Figures in bracket are t-value

From figure 1, the calculated R^2 is 86 percent. This means that 86% of the total variation in Return on Assets is explained by the regressors i.e. capital adequacy ratio, loan and advances ratio, lost loan provision ratio, size of banks and Non-performing loan ratio. The remaining 14% are caused by the factors outside this model but captured by the error term. Again, the computed F-ratio of 17.78 is greater than the table value of 4.89, thus we reject the null hypothesis that the entire model is statistically insignificant. Also, the computed Durbin Watson of 1.86 can be approximated to 2 hence we can conclude that there is no autocorrelation in the model.

ECRTD-UK: https://www.eajournals.org/
Journal level DOI: https://doi.org/10.37745/ejaafr.2013

Dependent Variable: ROE
Method: Least Squares
Date: 12/22/21 Time: 11:18
Sample: 2000 2020
Included observations: 21

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SIZE	-1960.051	2748.573	-0.713116	0.4867
NPLR	39.63063	129.2812	0.306546	0.7634
LLPR	-406.1640	178.9892	-2.269210	0.0384
LAR	18.32988	6.114981	2.997537	0.0090
CAR	-4798.259	4850.999	-0.989128	0.3383
C	825316.5	97724.72	8.445320	0.0000

R-squared	0.805813	Mean dependent var	777213.0
Adjusted R-squared	0.741085	S.D. dependent var	68393.94
S.E. of regression	34801.39	Akaike info criterion	23.98766
Sum squared resid	1.82E+10	Schwarz criterion	24.28609
Log likelihood	-245.8704	Hannan-Quinn criter.	24.05243
F-statistic	12.44906	Durbin-Watson stat	2.519450
Prob(F-statistic)	0.000067		

FIGURE: 2 Ordinary Least Square Result
Source: Author's computation, e –views 10 output

Hypotheses Testing:

Ho_1: There is no significant relationship between capital adequacy ratio and Return on assets of banks in Nigeria. From the result displayed in figure 1 above, the calculated t-value of -1.84 is greater than the table value of 1.72 in absolute terms and not rightly signed. The implication is that we have to reject the null hypothesis which says that there is no significant relationship between capital adequacy of banks and their return on assets and accept that alternative hypotheses. Also, the coefficient of -8923.971 implies that when there is a unit change in capital adequacy ratio, this will result in -8923.97 change in Return on Asset meaning that capital adequacy impacts Return on Asset negatively. This is contrary to the theoretical position which has it that adequate capital leads to high profit margin by banks. This may not be unconnected with the present situation where many banks are involved in overtrading, which gradually results to under capitalization. This is a situation where banks may be making profit in the short-run but soon run into the problem of liquidity to meet maturing obligations as have been noticed in some banks that have either merged or in merger talks with bigger banks. This is also in line with the findings of Garba (2014), who found a negative and insignificant relationship between ROA/ ROE and capital adequacy in their studies.

Journal level DOI: https://doi.org/10.37745/ejaafr.2013

In the case of loan and advances ratio, its coefficient was 29.904. This implies that a unit change in loan and advances will result in 29.904 unit change in ROA. The sign is in line with theoretical expectation. The t-value of 3.349 is however greater than the table value of 1.72 at 5% level of significant indication of a rejection of the null hypothesis and acceptance of the alternative which says the there is a significant relationship between Return on Asset and loan and Advances of banks in Nigeria. This is in line with Kolapo et at (2012) which found out that increases in loan and advances has a positive impact on bank performance.

With respect to loan loss provision, its coefficient was -458.9804 and it was rightly signed. This implies that a unit change in loan loss provision will cause the ROA to change by 458.98 units. The calculated t-value of 3.02 is greater than the table value of 1.72 at 5% significant level indicating a rejection of the null hypothesis and acceptance of the alternative which says that there is a significant relationship between loan loss provision and bank performance (ROA). This is also in consonance with Kolapo et al (2012) which discovered that increases in loan loss provision enhances bank performances (ROA).

Again the coefficient of Non-performing loan was – 156.6952 and conform with theoretical expectation. The t-value of – 1.304432 is lesser than the table value of 1.72 indicating an acceptance of the null hypothesis which says that there is no significant relationship between bank performance (ROA) and Non-performing loan with in the period covered by the study. This can also be linked to the over trading hangover which have characterized many banks in recent times as well as high interest rates and other charges which normally result in abnormal profit irrespective of non-performing loan overhang. This is in conformity with the work of Patrick et al (2012) and Kutum (2017) and Saeed and Zahid (2016) but contrary to Kolapo, Ayeni & Oke (2012).

The last in the set of explanatory variables is size of bank which is proxy by total asset base. It is having a coefficient of 5436.960 and it conforms to the a priori expectation. Which indicate that a unit change in the total asset will result in 5436.960 unit change in bank performance surrogated by Return on Asset (ROA). However it failed to pass the significant test as the t-values and probability ratio were not statistically significant in explaining changes in the level of bank performance within the period of the study. This is in line with the findings of Abdullah (2014) who found out that having a good asset base is not a sufficient condition to guarantee performance by banks and other financial institutions.

At this juncture, it will be needless to attempt a similar analysis for Return on equity and the same explanatory variables because the results from the software computation shows a similar trend. Please see figures 1 and 2.

ECRTD-UK: https://www.eajournals.org/
Journal level DOI: https://doi.org/10.37745/ejaafr.2013

CONCLUSION

From the analysis above it is hereby concluded that capital adequacy impacts bank performance negatively within the period of the study. The result also shows that loan and advances as well as loan loss provision play a significant role in determining the performance of deposit money banks in Nigeria. However non-performing loan and banks size failed to show its significance in ascertaining the performance deposit money banks within the period of the study.

Recommendations

Ordinarily capital adequacy is supposed to be significant to performance of Deposit money banks. The fact that it did not within the period shows that some of these banks might have been involved in overtrading and excessive bank charges. This should be discouraged as it will have a negative impact on the depositors disposable income.Also, deposit money banks should be encouraged to reduce their interest rates and other banks charges as these also might have accounted for the insignificance of non-performing loans and capital base in influencing performance of banks.

Implication of the Study

The primary motives of establishing the deposit money banks in Nigeria was to intermediate between the surplus and deficit sectors of the economy. We have seen over the years that the needed funds for deficit sector to borrow in order to create a multiplier effect like reducing unemployment and increasing production of goods and services is lacking. This might not be unconnected with the diversion of funds into other ventures like foreign exchange trading which yield high return within a short time. This study has therefore exposed the fact that deposit money banks have continued to make profit not necessarily due to sound banking practices but as a result of their involvement in other activities which yield high profit despite insignificant capital adequacy and non-performing loan overhang.

REFERENCES

Abdullah M.N. (2014). The impact of liquidity on profitability in banking sector of Bangladesh: Economic and Business Review 2010. Retrieved December 5th 2021 from www.epra.trust.com.

Achou,T.F &Tenguh, N.C (2008).Bank performance and credit risk management (unpublished master's thesis).University of Skovde, Sweden.

Alshatti, A .S. (2015) The effect of credit risk management on Jordanian commercial banks. Journal of Management and Financial Innovatoins.12(1 & 2) 338-350.

Boahene S.H., Dasah J. & Agyei S.K. (2012) Credit risk and profitability of Banks in Ghana. Research Journal of Finance and Accounting 3(7) 31 – 40.

Bordeleon, R and Graham, K.I. (2019). Effect of credit risk and capital Adequacy on the performance of Banks in some selected Developed Economics. International Journal of business and management inventions 30(3) 83 -98.

Central Bank of Nigeria (2019).http://statistics. CBN.go.ng/cbn-online stats

Garba S & Muhammed J. (2014).An evaluation of the effects of credit risk management on profitability of Nigerian banks. Journal of Modern Accounting and Auditing 10(1) 104 – 115.

Idowu A.A. Essien M.I., & Adegboyega, R.(2017). Liquidity management and banks performance in Nigeria. Issues in Business Management and Economics 5(6) 86 – 90.

Khan F., Anuar, M.A. Choo L.G. & Khan, H. (2011), Determinants of bank profitability in Pakistan.A case study of Pakistani banking sector. World Applied Science Journal 15(10) 1484 – 1493.

Kolapo, T.F. Ayeni, R.K. &Oke, M.O. (2012). Credit risk and commercial banks performance in Nigeria: A Panel Model approach. Australian Journal of Business and Management Research 2(2)31-38.

Ozigbo,S.A. (1996) Why banks are collapsing in Nigeria. Benin City: Justice Jeco Publishers.

Pondel, R.P. (2012). The impact of credit risk management on financial performances of commercial banks in Nepal. International Journal of Arts and Commerce, 1(5), 8 -20.

Patrick O.N., Ikenna J.E. &Ekenezie L. (2012).The impact of credit risk management on deposit money bank performance in Nigeria. Nigerian Journal of management services 6(1) 174 - 186.