

Risk Assets Quality and Profitability of Listed Commercial Banks in Nigeria Stock Exchange

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Abstract

The dynamics in banking business had made their function of financial intermediation susceptible to inherent systemic risks and uncertainties as the role strictly require banks to ensure depositors' funds are not endangered based on economic consequences it portends. The study therefore investigated risk assets quality and profitability of listed commercial banks in Nigeria and adopted ex post facto research design. It engaged non-probability sampling technique and purposively used 5 top banks licensed with international authorization. It collected relevant data from annual reports of these banks covering 2009 to 2018, a post banking sector consolidation era after the world financial crisis. Risk assets ratio and loan deposit ratio were derived and used as joint proxies for risk assets quality whereas log of profit after tax represented the dependent variable. It engaged panel data regression to evaluate the variables. It established that 64.4% of the total variation in profitability was attributable to risk assets quality of the banks. It proved risk assets ratio and loan deposit ratio has positive and negative significant effect on profitability of the banks respectively. The result further gave evidence that each bank maintained risk assets quality that has significant effect of their respective profit after tax during the period and concluded that risk assets quality has significant effect on profitability of commercial banks in Nigeria. It therefore recommended that management of banks should sustain appropriate risk assets ratio, maintain suitable loan deposit maturity profile and enhance its services to attract depositors.

Key Words: Risk assets quality, Risk assets ratio, Loan Deposit ratio, Profitability, Commercial banks.

INTRODUCTION

At the hub of every healthy economy is the existence of an advanced and highly dynamic financial system as it is the catalyst for economic advancement while the banking sector has been acknowledged as the major driver of the financial intermediation process in an economy. Adegbe and Dada (2018) opined that banking institutions contribute significantly to the success of the whole financial system as they provide a platform through which resources can be mobilized efficiently by directing resources from less essential uses to profitable investments. Jones, Onuche and Nmesirionye (2019) posited that the banking sector in Nigeria is the flagship that facilitates financial intermediation function, noted for very high healthy competition and is extensively regulated.

Over the years, the processes, procedures and parameters with which banks operate are guided by stipulated laws, requirements and reforms to ensure transparency in disclosures and promote a

healthy and efficient financial economy. Global Legal Group (2020) noted that the regulations and reforms include Companies and Allied Matters Act (CAMA) 1990 as amended, Banks and Other Financial Institutions Act (BOFIA) 1991 as amended, Foreign Exchange (Monitoring and Miscellaneous Provisions) Act 1995, Economic and Financial Crimes Commission (Establishment) Act 2002, 2004 Reforms on Consolidation, Nigeria Deposit Insurance Corporation Act 2006, Central Bank of Nigeria Act 2007, Investments and Securities Act 2007, Asset Management Corporation of Nigeria Act 2010, Financial Reporting Council of Nigeria Act 2011 and several codes, circulars by the CBN and regional and international treaties and agreements such as Basel Agreement signed by the Central Bank of Nigeria all provide a regulatory architecture and framework to promote a stable banking system in Nigeria.

The regulations notwithstanding, dynamics in business environment had made the function of financial intermediation susceptible to inherent systemic risks and uncertainties. The function places further demand on banks to ensure depositors funds are not jeopardized by ensuring borrowers have the character, capability and capacity to repay at maturity and or on demand. Any infraction would endanger depositors' funds, cause liquidity problems and even erode shareholders' funds in banks. Central Bank of Nigeria (2010) identified that the post consolidation era of the banking sector experienced dramatic growth but there were resultant challenges such as insufficient disclosure, management of banks lack of transparency about financial position and critical breaches in the prudential guidelines.

This has the tendency to reduce risk assets quality and liquidity, deplete shareholders' funds, erode depositors' funds and generally affects financial performance of banks and if consistent would result in bank failure and attendant negative spiral effects on the economy.

The above requires proficient and conscientious management of the maturity profile of both deposits and loans in order not to breach depositors' trust on banks which would impede efficiency of the banking system. Banks are therefore expected to manage their loans to deposits ratio through the enhancement of appropriate loan administration and documentation processes, maintenance of efficient internal audit system, effective continuous scrutiny of borrowers' profile and monitoring of compliance with all covenants on loans and strict adherence to prudential requirements as stipulated by various laws. The maintenance of risk assets quality is fundamental in ensuring financial health of banks.

Consequently, the study investigated whether banks have significantly managed their risk assets during the post consolidation era and therefore hypothesized that risk assets quality has no significant effect on profitability of listed commercial banks in Nigeria.

LITERATURE REVIEW

Conceptual Review

Concept of banks' risk assets

Risk assets are credit facilities incorporating agreed predetermined conditions, covenants and warranties granted by banks and duly endorsed by deserving customers to fund their businesses, which are repayable at a given period and or on demand. There is probability that some of the

customers would default though not envisaged by the banks at the time when the credit facilities are granted.

Nwaeze and Nnabugwu (2014) defined bank loans as the granting of financial assistance or facility to customers by a bank for a stated purpose, time period and specified interest rate higher than what it pays to depositors.

Risk assets quality

CBN (2010) noted that risk assets quality is measured by the relationship between total loans granted by a bank and total assets. A high ratio is an indication that the bank is at risk as would depend on its shareholders' fund to meet a run on it in case of loan defaults.

Firm size

Hapsari (2018) posited that firm size is viewed as the assets a firm owns, used in operation and is measured by the total assets. He further noted that big firms carry out larger operations based on the magnitude of their assets.

Current CBN Policies/Guidelines on Credit Risk

Prudential Guidelines

It is within the purview of Central Bank of Nigeria to guide lending activities of banks in Nigeria through issuance of Prudential Guidelines. The Central Bank of Nigeria (2010) through its Prudential Guidelines effective June 1, 2010 gave out various financial ratios and financial soundness indicators that help banks to see the rate of how its loans have affected its earnings and assets quality either positively and negatively.

The relevant financial ratios for this study as defined by CBN (2010) are:

Risk asset ratio: this measures asset quality. $\text{Ratio} = \frac{\text{total loans}}{\text{total assets}}$.

Loans to deposit ratio = $\frac{\text{loans}}{\text{deposit}}$ this also measures liquidity and profitability

The loan to deposit ratio is stated as percent rate and it indicates the relationship between loans granted to customers and deposits received from customers. A high ratio in excess of the requirement is an indication that the bank would have liquidity crisis while a low ratio would mean that the bank would earn low profits.

Daily Trust (2020) noted that the loan to deposit ratio benchmark was raised from 60% in September 30, 2019 to 65% on December 31, 2019.

Risk Management and Bank Financial Performance

Olasanmi, Uwuigbe and Uwuigbe (2015) posited that risk management has an inverse insignificant relationship with return on equity of banks in Nigeria.

Abata (2014) postulated that asset quality has positive insignificant relationship with return on assets of banks in Nigeria.

Adeusi, Akeke, Obawale and Oladunjoye (2013) posited that capital asset ratio has positive significant relationship with financial performance of the banks. From the above, there is evidence that risk assets management affects financial performance of banks in Nigeria.

Control/Management of Banks' Risk Assets

There is necessity for bank to manage and control their risk assets to instill depositors' confidence in the banking sector. CBN (2010) stipulated through the prudential guidelines that banks should prepare an all-inclusive credit policy duly approved by their Board of Directors.

The policy should amongst other issues incorporate loan administration, disbursement and seemly monitoring mechanism etc. and it should be reviewed quarterly.

Theoretical Review

The New Theory of Commercial Banking and Bank Lending

This theory is premised on three phenomena; first banks generate income from off statement of financial position operations which they consider when lending decisions are made. Second, loan decision is fundamental in preserving the customer-banker relationship because the probability of retaining the customer has relationship with the granting of loans each time one is applied. Third, that what is crucial in loan decision is the estimated value of the entire customer relation, which is the probability, times the present value of projected future profits (Ahtiala, 2005).

Banks are interested in lending to loyal customers with ability to repay principal and interest at maturity or on demand. Banks customers' have the habit of straining the relationship when their loan requests are declined. Banks often pass through dilemma when a good customer applies for loan when the request if granted would exceed the loan deposit requirement based on the need to maintain stable liquidity.

Empirical Review

Chukwunulu, Ezeabasili and Igbodika (2019) investigated risk management and performance of commercial banks in Nigeria. It extracted data from NDIC from 1994 to 2016. It used credit risk, liquidity risk, operational risk and capital adequacy risk as risk management proxies while return on assets and return on equity were engaged as performance proxies. The study engaged ordinary least squares method to analyze the variables. It found that credit risk has negative significant effect on return on equity but negative insignificant effect on return on assets and recommended that CBN and other regulatory agencies should enforce risk identification, assessment, measurement and control mechanism of banks to enhance performance.

Akinselure and Akinola (2019) examined impact of credit risk management on profitability of selected deposit money banks in Nigeria and employed secondary data obtained from 13 banks. It engaged loan loss ratio as proxy for credit risk management while return on equity and return on assets were used as proxies for profitability of banks. It adopted multiple regression and claimed that credit risk management has significant relationship with profitability of banks It recommended

that management of banks should develop credible strategy to ensure loan facilities are repaid in order not to impede performance of banks.

Hapsari. (2018) investigating moderating role of size in the effect of loan to deposit ratio and nonperforming loan toward banking financial performance employed loan to deposit ratio, non-performing loans and company size as independent variables but company size was used as moderating variable while return on assets was used as proxy for financial performance. Adopting regression analysis, it found loan to deposit ratio has positive effect while non-performing loans has negative effect on financial performance of banks.

Etale and Ujuju (2018) examined risk management, risk concentration and performance of deposit money banks in Nigeria. It collected secondary data from annual report of banks from 1997 to 2016 and used credit risk, liquidity risk and capital adequacy risk as independent variables while return on assets was used as proxy for performance. It used multiple regression analysis and claimed that there is positive significant relationship between credit and liquidity risk and return on assets whereas capital adequacy has negative relationship with return on assets. They recommended that management of banks should institute sound lending policies that are in line with established procedures.

Harcourt (2017) investigated credit risk management and performance of deposit money banks in Nigeria from 1989 to 2014. It used Johansen co-integration and error correction mechanism to analyze the variables. He established that loan deposit ratio has positive insignificant effect while non-performing loans to total loans ratio have negative significant effect on return on assets of banks on the short run and concludes that the joint credit risk variables have significant on performance of banks. It recommended that deposit money banks should be cautious in setting credit policies to guarantee operations.

This study differs from the above empirical studies consequent on the need to determine risk assets quality and financial performance of the top 5 bank having international practice license.

METHODOLOGY

Research Design

This paper adopted *ex post facto* research design because it used historical data which cannot be manipulated by the researchers.

Area of the Study

The study was carried out using commercial banks listed on the Nigeria Stock Exchange specifically the banks licensed with international authorization.

Population of the Study

The population of the study consists of eight (8) top banks. They include Access Bank plc, Fidelity Bank plc, First City Monument Bank plc, First Bank of Nigeria plc, Guaranty Trust Bank plc,

Union Bank of Nigeria plc, United bank for Africa, and Zenith Bank plc. These banks have commercial banking license with international authorization (Proshare, 2019).

Sample Size and Sampling Technique

The study employed non-probability sampling technique and purposively selected five (5) banks based on total assets base, gross income and net income of the banks. The five banks represent 62.5% of the population. The sample size therefore is considered appropriate because it is more than 10% of the population (Balsley & Clover, 1988). The sampled banks are Access bank plc, First bank of Nigeria plc, Guaranty trust bank plc, UBA plc and Zenith bank plc which are the top 5 banks based on revenue, net income and total assets, branch network, customer base and staff strength (Corporate Finance Institute, 2019).

Method of Data Collection

The paper extracted cross section and time series data from the sampled banks covering 2009 to 2018. The choice of this period was predicated on determining how the variables are related during the post consolidation era after the world financial crisis which also had spiral effect on economy of Nigeria. It extracted total assets, shareholders fund, and profit after tax, deposit from customers and performing loans to customers. It derived risk assets ratio and loans to deposit ratio which were used as proxies for risk assets quality in line with the CBN (2010) prudential guidelines as some measures of risk assets quality while log of profit after tax represented proxy for profitability. Firm size was used as an extraneous variable.

Data Estimation Technique

The panel data regression analytical technique of data estimation was used to analyze the data collected based on the adoption of cross sectional data of the 5 big banks for the period 2009 to 2018.

Model Specification

The model specification is anchored on the new theory of commercial banking and bank lending and adapted empirical works of Harcourt (2017) and Hapsari (2018) but made modification on the inclusion of firm size as an extraneous variable.

The following model specification therefore was formulated:

$$PAT = (RAR, LDR, FS)$$
$$LogPAT_{it} = \beta_0 + \beta_1 RAR_{it} + \beta_2 LDR_{it} + \beta_3 FS_{it}$$

Where;

PAT = Profit after tax. This was logged to bring it as par or close to the independent variables

β_0 = measures change in PAT when risk assets quality is data set equal to zero.

β_1 , β_2 and β_3 = measures the change in PAT as a result of per unit change in RAR, LDR and FS respectively.

RAR = Risk Assets Ratio.

LDR = Loan to Deposit Ratio

FS = Firm Size defined as Log of Total Assets. This was used as an extraneous variable.

e = error term.

t = time (no of years).

I = cross section of sampled banks.

RESULTS AND DISCUSSION

Results of Panel Unit Root Test

Table 1: Panel Data Unit Root Test

Variable	statistic	probability	order of Integration
LogPAT	- 3.7962	0.0001	1 (0)
RAR	- 2.8826	0.0020	1 (0)
LDR	- 3.9996	0.0000	1 (0)
FS	- 3.1755	0.0007	1 (0)

Source:

Extracted from Appendix

The study conducted panel unit root method to ascertain whether the variables are stationary because of the cross section and time series data employed. It found that all the variables are stationary at 5% level of significance and integrated at level. The study therefore conducted unbalanced panel least squares regression analysis to examine the relationship of the variables.

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Table 2: Hausman Test on Risk Assets Quality and Profitability of Banks

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
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Cross-section random	22.248681	3	0.0001
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Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
RAR	0.016334	0.010395	0.000003	0.0010
LDR	-0.011516	-0.005708	0.000002	0.0001
FS	1.720824	1.423940	0.004818	0.0000

Source: Researchers computed from variables using Eviews 9

It conducted fixed effect regression, random effect regression and Hausman test as shown on the appendix. The Hausman test was employed to select the suitable regression between the fixed and random effect regression. If the chi square statistic probability is significant at 5% level then the fixed effect regression is chosen.

The Hausman test on table 2 with Chi square statistic of 22.25 and probability value of 0.01% is significant. The variances between the fixed and random effect are highly significant. The study therefore selected the fixed effect regression as the preferred method to estimate how the variables are related.

It therefore conducted unbalanced panel regression of the variables with the dummies as it states the value of the variables of each bank as deviations from their individual mean values (Gujarati, 2013).

Table 3: Panel Regression including Dummy variables

Dependent Variable: LOGPAT

Method: Panel Least Squares

Date: 01/01/20 Time: 20:04

Sample (adjusted): 2011 2018

Periods included: 8

Cross-sections included: 5

Total panel (unbalanced) observations: 36

LOGPAT = C(1)*LOGPAT(-1) + C(2)*LOGPAT(-2) + C(3) + C(4)*RAR + C(5)

*LDR + C(6)*FS + C(7)*DUM2 + C(8)*DUM3 + C(9)*DUM4 + C(10)

*DUM5

Coefficient	Std. Error	t-Statistic	Prob.
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C(1)	0.051751	0.188994	0.273826	0.7864
C(2)	-0.284741	0.163438	-1.742192	0.0933
C(3)	-9.181819	3.579368	-2.565207	0.0164
C(4)	0.043890	0.017368	2.527001	0.0179
C(5)	-0.024389	0.009432	-2.585817	0.0157
C(6)	2.174577	0.652012	3.335181	0.0026
C(7)	0.733408	0.176513	4.154972	0.0003
C(8)	0.717110	0.197991	3.621931	0.0012
C(9)	1.130999	0.277300	4.078604	0.0004
C(10)	0.482682	0.156053	3.093070	0.0047
R-squared	0.735822	Mean dependent var	4.842603	
Adjusted R-squared	0.644376	S.D. dependent var	0.277292	
S.E. of regression	0.165361	Akaike info criterion	-0.531238	
Sum squared resid	0.710951	Schwarz criterion	-0.091372	
Log likelihood	19.56229	Hannan-Quinn criter.	-0.377713	
F-statistic	8.046493	Durbin-Watson stat	2.220912	
Prob(F-statistic)	0.000014			

Source: Researchers computed from variables using Eviews 9

The adjusted R squared of 64.4% is the total variation on profit after tax attributable to changes in risk assets quality stated in the model. The model is therefore well specified and there is goodness of fit (Gujarati & Porter, 2009).

The coefficient of -9.738 is the average change in profit after tax of banks when there is absence of risk assets quality. It is consistent with established concepts and theories as loans and advances are the major drivers of profitability in banks. The t statistic value of -2.555 with probability of 1.6% is highly significant at 5% level of significance. This implies that when there is no risk assets, profitability will be negative; hence banks rely on risk assets.

The slope coefficient of 0.044 is the change in the average effect on profit after tax per unit change in risk assets ratio holding the values of loan deposit ratio and firm size in the model constant. The t statistic has probability value of 1.8% and it is significant. This implies that there is positive significant effect of risk assets ratio on profit after tax of listed commercial banks in Nigeria.

This finding conforms to a priori expectation and corroborates an earlier work of Etale and Ujuju (2018) which noted that credit risk has positive significant effect on financial performance of banks but disagrees with the work of Harcourt (2017) which claimed that loan to total assets has negative insignificant effect on financial performance of banks in Nigeria.

The slope coefficient of - 0.024 is the change in the average effect on profit after tax accounted for by a unit change in loan deposit ratio holding the values of risk assets ratio and firm size in the model constant. The t statistic has probability value of 1.6% and it is significant. This infers that there is negative significant effect of loan deposit ratio on profit after tax of listed commercial banks in Nigeria.

The finding of this study is contrary to the work of Hapsari. (2018) who stated that loan to deposit ratio has positive significant effect on financial performance of commercial banks. It also disagrees with the work of Harcourt (2017) which claimed that loan deposit ratio has negative insignificant effect on financial performance of banks.

This study confirms an earlier work by Chukwunulu *et.al.* (2019) which, claimed credit risk has negative significant effect on financial performance of banks in Nigeria.

The result further revealed that firm size, which is total assets, have positive significant effect on profitability of banks. The result showed evidence that all the sampled banks have negative differential coefficient represented by dummies 2 to 5 shown as C(7) to C(10) for Zenith bank, Access bank, Guaranty trust bank and United bank for Africa respectively which portrays that all the banks depend hugely on risk assets quality to earn profitability. First bank of Nigeria represented also by C (3) was used as the benchmark to avoid the dummy variable trap.

The Durbin Watson statistic of 2.22 is consistent therefore there is no evidence of first order serial correlation in the model.

Test of hypothesis

H₀: Risk assets quality has no significant effect on profit after tax of listed commercial banks in Nigeria.

To test the hypothesis that:

H₀: $\beta_1 = \beta_2 = \beta_3 = 0$ i.e. all slope coefficients are simultaneously zero.

H₁: $\beta_1 \neq \beta_2 \neq \beta_3 \neq 0$ i.e., not all slope coefficients are simultaneously zero.

Decision Rule: If the probability of the F-statistic obtained from the result is less than 5% α level of significance, the study would reject the null hypothesis, H₀ and accept the alternative hypothesis H₁.

The F statistic with value of 8.045 has probability value of 0.00% and is below 5% level of significance. The study rejected the null hypothesis and therefore concluded that risk assets quality has significant effect on profit after tax of listed commercial banks in Nigeria.

Discussion of Findings

The adjusted R squared of 64.4% reflects that banks profitability don't solely depend on the quality of risk assets. It suggests that 35.6% of profit after tax of banks is attributable to other activities. The activities could be foreign exchange transactions, treasury operations, advisory services, provision of guaranties, operational etc.

Risk assets ratio has consistent coefficient and that infers that the sampled banks are not loaned up and have sufficient liquidity to meet up with unforeseen deposit withdrawals and could absorb pressure in case of customers' loan default. It is an indication that the banks exercised capability in

efficient loan administration and documentation processes and met other exigencies to ensure strict adherence to global best practices.

The findings also indicated that an increase in risk assets ratio will increase profitability and a decrease in risk assets ratio would reduce profitability of the sampled banks. This is in line with a priori expectation.

The loan deposit ratio was found to have negative significant relationship with profitability of banks. This implies that an increase in the ratio would decrease profitability of banks. The reality is that an increase in the ratio implies increase in loans at a given level of deposits, which would increase interest income and ultimately increase profitability but it has serious implications on liquidity position if default rates on loans are high or that there is mismatch on the loan deposit maturity profile.

Based on the prudential guidelines, higher defaults would seriously reduce profitability due to unearned or lost interest income until such loans are recovered when they would be reported as profits. To an extent, the finding appears to be contrary to a priori expectation when banks have the capability to match the maturity profile of loans to deposits and are capable to maintain and sustain quality risk assets. Otherwise, it would cause liquidity challenges and the finding of this study suffices. This infers that banks should be able to attract sufficient deposits to maintain a stable loan deposit ratio.

The result also proved, using the differential coefficients of the dummy variables, that First bank had relied more on risk assets to drive its profit. Second and third are UBA plc and Access bank respectively. The fourth and fifth are Zenith and Guaranty trust bank respectively. What this suggests is that Guaranty trust bank has other income heads which drive profit more than the other banks sampled. However, there was sufficient evidence to prove that the sampled banks collectively have managed their risk assets sufficiently to sustain profitability.

CONCLUSION

The maintenance of risk assets quality is fundamental in ensuring financial stability and solvency and it is a major driver of profitability for commercial banks particularly when they adhere to regulations and conduct their operations in compliance with global best practices. Consequent upon the finding, the paper concluded that risk assets quality has significant effect on profitability of commercial banks in Nigeria.

It therefore recommended that management of banks should sustain appropriate risk assets ratio, maintain suitable loan deposit maturity profile, provide effective and efficient loan documentation and monitoring system and enhance its services to attract depositors.

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