Lending Rates and the Performance of Money Deposit Banks in Nigeria

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Abstract: The study examined the lending rate in the Nigerian money deposit banks and their effects on banks performance from 2001 to 2016. The study examined the correlation between the cash reserve ratio, lending rate, monetary policy rate, total deposit on return on asset and return on equity of money deposit banks in Nigeria. The study utilized secondary data and while unit root test, co-integration test, correlation analysis, and regression analysis were used as an estimation technique for the study. Multiple regression analysis was used to estimate the data for 21 commercial banks. The result confirmed that the lending rate has significant and positive effects on the performance of Nigeria money deposit banks. The implication of this is that monetary policy rate, lending rate, and cash reserve ratio have a positive impact on bank performance but they are not statistically significant.

Keywords: lending rate, monetary policy rate, Return on Assets, Return on Equity, Cash Reserve Ratio, Total Deposits

Introduction

The Nigeria banking sector plays a significant role in the financial sector especially in the area of savings mobilization and providing credit facilities to various sectors of the economy (Owusu-Antwi; Banerjee and Antwi,2017). Lending rate is one of the key determinants of banks' performance in many economies (Aboagye; Akoena, Antwi-Asare and Gockel,2008). According to Owusu-Antwi et al. (2017), about 45% of profits made by money deposit banks' from its operationscome from lending rate spread. Lending rate spread is simply the difference between the lending rate and deposits rate of banks in an economy (Kalsoom andKhurshid, 2016). This means that lending rate risk is a major component of risk that money deposit banks in Nigeria are confronted with. It has been established in literature that changes in money deposit banks lendingrates affect banks performance through increasing its costs of financing and reducing the value of its equity (Bawumia; Belnye and Ofori; 2005). The efficiency and effectiveness of the financial system of a country affect its lending rates spread but Nigeria's lending rates have remained very high over the years despite attempts by the central bank to reduce same by lowering the prime rate.

The high lending rate from Nigeria banks has being a major concern to private sector businesses as they are unable to borrow at this high lending rate for production activitiesand still remain competitive. On the other hand, interests paid to depositors have been relatively low in Nigeria over the years resulting in large spread between lending rates and deposits rate (Owusu-Antwi et al. 2017). Money deposit banks would be interested in giving out loans and advances to their numerous customers bearing in mind that this will be the only way of increasing their interest income thus improving their profitability and performance.It is widely believed that fluctuations of market lending rates are significant influence on the performance of money deposit banks.

According to Samuelson (1945), under general conditions, bank performance increase with increase in profits and lending rates .He argued that the banking system as a whole is immeasurably helped rather than hindered by an increase in lending rates. A more accurate measurement of how fluctuations in market lending rates affect banking firms largely depends on the sensitivity of banks' assets and liabilities. When lending rates fluctuate as result of changes in monetary policy or general economic conditions, money deposit banks usually encounter a comparative change in the rate of return they earn on their assets. This occurs because banks hold many assets of relatively short maturity and the rates booked on short period loans fluctuate quickly when lending rates fluctuate.

Banks' investment portfolio components comprise of mortgage rates, business term loans, rates on bank credit card loans, and real assets such as rental offices, when lending rates decrease they do encounter rapidly falling yields. Consequently, even the longer period components of a bank's assets portfolio are susceptible to yield declines when market rates fall, although their yields fall more gradually than short period yields. In the short run, however, as general market lending rates descend, the market value of longer assets with fixed contractual terms will rise.

Lending rate by money deposit banks determine the profitability and performance of banks among other factors (Gardner, Mills,and CooperMan,.(2008) . High Lending interest rates have remained a macroeconomic problem that has been tricky to eliminate and thus hindering economic development. Banks play a critical role in the economic growth and development of the country, so, to uphold the economic growth of the country the banking sector must perform its task properly, (Beck and Hesse, 2006).Bold(2006) argued that lending rate spread remain a controversial area while some link it to market or individual banks inefficiency. There are other variable which are always being overlook or not talked about like cash reserve ratio(CRR),Monetary policy ratio(MPR) Total deposit (TD) etc which contributed to the performance of the bank.

Also, the ability of any bank to deliver credit to the real sector depends on a number of factors, the banks' operating in inclusive environment, the operating business environment of most Nigerian banks has been identified as 'very harsh' and therefore very unfriendly (Kurfi, 2008). These problems have been worsened by different forms of security challenges at almost every part of the country. More so, most of the banks' capital base is so poor and the capital adequacy of a bank goes a long way to determine the ability of that bank to make loans available to the needing sectors. This is important because, the volume of loans that could be made to an individual or body corporate by law is determined by the single obligor limit, which is tied to the capital base, (Sanusi, 2007).

On the other hand, most banks present lending requirements which are usually unattainable by their customers. The issue of collateral requirements by banks here also hinders the volume of credit availability to the sectors of the economy. Although banks are expected to set their credit ceiling based on the prime rate, some others tend to exceed the percentage lending rate more especially when the supervising bank allows a range of interest charge. Hence, this study is going to assess the lending rates and performance of money deposit banks in Nigeria.

Literature Review

Lending rates is associated with the macroeconomic instability which affects the performance of the banking sector. According to Ndungu and Ngugi (2000) he explained that macroeconomic environment identified as both a cause and a consequence affecting lending rates. The chain reaction triggered off by macroeconomic instability increases uncertainty hence impacting adversely on borrower's credit worthiness thus increasing the risk premium charged by banks. The macroeconomic environment affects the performance of the banking sector by influencing the ability to repay borrowed loans, the demand for loans with the unpredicted returns from investments and the quality of collateral determine the amount of premium charged and therefore the cost of borrowed funds to the investors. With an unstable macroeconomic environment and poor economic growth, investors face uncertainty about investment return and these raises the lending rates.

Financial institutions are established to provide financial services with a view to make profit and the survival and sustainability of any profit oriented business depends on the level of profit they make. Money deposit banks however, as financial institutions provide financial services to their clients with a view to make profit. Money deposit banks lend to their customers as part of the intermediation role they play in an economy and in return, charge a lending rate for the use of money borrowed, (Obidike; Ejeh, Ugwuegbe 2015). Meanwhile, Ngugi (2001) noted that charging of lending rate on the use of money borrowed is important because the effect of time may erode the value of the amount of money borrowed and so, lending rate which is a price paid for the use of borrowed assets reflects the market information regarding expected change in the purchasing power of money or future inflation. Financial institutions facilitate mobilization of savings, diversification and pooling of risk as well as allocation of resources. Since the receipt for deposit are not always synchronized with that of loan, intermediaries like money deposit banks incur certain cost (Ngugi 2001). In view of this banks charge a fee for the intermediation services offered under uncertainty, and set the interest rate level for both deposit and loan.

Studies have examined the determinants of interest rate spread with a view to identify factors responsible for high interest spread. An independent study by Chand, (2002) and that of Asian Development Bank, (2001), have listed the several reasons for high interest rate spread in Asia. These are lack of adequate competition, scale diseconomies due to small size of markets, high fixed and operating costs, high transportation costs of funds due to expensive telecommunications, existence of regulatory controls and perceived market risks. They further state that the factors mentioned above lead to high intermediation costs, which result in high spread. Specifically, these studies have identified one of the most obvious costs, which is associated with the ability to enforce debt contracts. Small borrowers with no property rights have no collateral to offer. As such, they are perceived as high-risk borrowers. Because of high transaction costs involved, such borrowers are charged punitive rates of interest. On the same note, Chand (2002) singles out issues of governance. The later encompasses maintenance of law and order and provision of basic transport and social infrastructure, all impinging on security, a lack of which has been found to be a cause for high transaction costs resulting in large intermediation costs. When there is high intermediation cost, reflected in the high interest rate spread, the borrower may be unable to repay his/her loan owing to the cost of such borrowings (Chand, 2002).

Theoretical Review

Loan Pricing Theory

Bank cannot always set lending rate bank should consider the problem of adverse selection and moral hazard since it is very difficult to forecast the borrower type at the start of the banking relationship (Stiglita and Weiss, 1981) if bank set lending rates too high, they may induce adverse selection problems because high-risk borrowers are willing to accept these high rates. Once these borrowers receive the loans, they may develop moral hazard behavior since they are likely to take on highly risky projects or investments (Chodecai, 2004). From the reasoning of Stiglitz and Weiss, it is usual that in some cases we may not find that the interest rate set by banks is commensurate with the risk of the borrower.

Credit Market Theory

A model of the neoclassical credit market postulates that the terms of credits clear the market. If collateral and other restrictions (covenants) remain constant, the lending rate is the only price mechanism. With an increasing demand for credit and a given customer supply, the lending rate rises, and vice versa. It is thus believed that the higher the failure risks of the borrower, the higher the lending premium (Ewert, 2000).The Bank and other Financial Act Amendment (BOFIA) 1998, requires banks to report large borrowing to the CBN. The CBN also requires that their total value of a loan credit facility or any other liability in respect of a borrower, at any time, should not exceed 20% of the shareholders' funds unimpaired by losses in the case of money deposit banks (Felicia, 2011).

Empirical Review

Ng'etich and Wanjau (2011) in their study took a different approach by looking at the impact of interest rate spread on the level of Non-Performing Assets in commercial banks in Kenya. Their study adopted a descriptive research design on a sample of all commercial banks in Kenya operating by 2008 which are 43 in number. They used questionnaires to collect data from primary data sources and secondary data, were collected from Bank Supervision Report, to augment the primary data findings. Their study used both quantitative and qualitative techniques in data analysis to determine the relationship between the interest rate spread and loan nonperformance. They concluded that interest rate spread affect performing assets in banks as it increases the cost of loans charged on the borrowers, regulations on interest rates have far reaching effects on assets nonperformance, for such regulations determine the interest rate spread in banks and also help mitigate moral hazards incidental to NPAs. Credit risk management technique remotely affects the value of a bank's interest rates spread as interest rates are benchmarked against the associated non-performing assets and non-performing assets is attributable to high cost of loans.

Newman (2012) attempted to examine the performances of banks and macro-economic performance in Nigeria based on the interest rate policies of the banks. The study analyses published audited accounts of twenty (20) out of twenty-five (25) banks that emerged from the consolidation exercise and data from the Central Banks of

Nigeria (CBN). This study used the regression and correction methods to analyze the relationship between interest rates and bank performance. We denote year 2004 as the pre-consolidation and 2005 and 2006 as post-consolidation periods for our analysis. We notice that the interest rate policies have not improved the overall performances of banks significantly and also have contributed marginally to the growth of the economy for sustainable development.

Garr and Kyereboah-Coleman (2013) researched into macroeconomic factors, firm specific variables, and industry variables as possible determinants of interest spread in Ghana. The study was based on a sample of 33 banks spanning the years 1990 to 2010. The results of the study showed that Gross Domestic Product per capita, management inefficiency, government securities and bank ownership were positively associated with interest rate spread in Ghana. The results also showed that domestic banks have wider interest rate spread than foreign owned banks suggesting that the foreign banks are more efficient than the local banks.

Kanwal and Modern (2013) investigated the impact of macroeconomic variables on profitability of public Limited commercial banks in Pakistan for years 2001-2011. Pooled Ordinary Least Square (POLS) method is used to examine the effect of 3 major external factors, inflation rate, real gross domestic product (GDP) and real interest rate on profitability indicators, return on assets (ROA), return on equity (ROE) and equity multiplier (EM) ratios in 3 separate models. The empirical findings indicate s strong positive relationship of real interest rate with ROA, ROE and EM. Secondly, real GDP is found an insignificance positive effect on ROA, but an insignificant negative pact on ROE and EM. Inflation rate on the other hand, has a negative link with all 3 profitability measures.Overall, the selected macroeconomic factors are found to have a negligible impact on earnings of commercial banks.

Sherriff and Amoako (2014) also investigated the macroeconomic determinants of interest rate spread in Ghana based on ARDL co integration technique and the Vector Error correction model with monthly data series for the period between 1999:1 and 2010:12. The study used macroeconomic variables such as inflation, Treasury bill rates, total banking sector deposits, public sector domestic borrowing. The empirical results showed that high interest rate spread in Ghana is determined by inflation, total deposits and public sector borrowing but negatively related to treasury bills.

Ojeaga and Odejimi (2014) investigated the effect of interest rates on customer savings behavior in the Nigerian banking sector, after identifying host of factors that are likely to influence customer confidence in commercial banks such as average income, commercial lending, legal rights strength, central bank monetary policy and total annual commercial bank losses, using quintile regression estimation method, a non-parametric estimation process that is based on the premise that the sample median will tend to that of the distribution and addresses issues of heteroscedastic errors and data stringency associated with the data used in thestudy under question. We find that interest rates were probably increasing bank deposits while income was also found to affect bank deposits in general.

Obidike; Ejeh, Ugwuegbe (2015) examined the impact of interest rate spread on the performance of Nigerian banking industry for the period of 1986-2012. The study used OLS method of estimation to analyze the data generated from CBN statistical Bulletin and World Bank online data base. Testing for the properties of time-series, ADF test indicates that all the variables are integrated of same order I(1). The Co-integration test reviles that there exists a long-run relationship among the variables under consideration. The result shows that interest rate spread, negatively and significantly impact on bank performance in the long-run. Exchange rate and GDP was found to be positively and significantly affecting bank performance in Nigeria at the long-run. The result of the ECM indicates that23.37 percent of the disequilibrium in the model will be corrected annually. Moreover at the short-run interstate spread also negatively but insignificantly affect bank performance in Nigeria. Government should improve the macroeconomic environment by striving to develop the level of infrastructural facility in the country as well as reducing the level of insecurity in the country by cubing the menace of the Boko-Haram sect and that of Militancy in Nigeria. Therefore banks should not rely only on interest income if they must continue in business.

Musah; Anokyeand Gakpetor (2018)measured interest rate spread using net interest income (IntSp) and net interest margin (NIM) and bank profitability using Return on Assets (ROA) and Return on Equity (ROE). The study is based on a sample of 24 banks over a ten - year period using a panel data. The results of the study show

that there is a positive and statistically significant association between interest rate spread and bank profitability in Ghana. The findings could be interpreted within the context of the loan able funds theory to suggest that the demand for loans exceed the supply of same allowing banks to charge higher interest on lending relative to deposits to increase profitability. The results of the study have significant implications on research on interest rate spread and more especially on government policy to reduce interest rate spread in Ghana. With profit as a motivation, banks will only reduce interest rate spread if its reduce their profitability but the current evidence shows that banks charge higher interest margin to maximize profitability.

Akinwale (2018) examined the relationship between bank lending and economic growth in Nigeria between 1980 and 2016. Data sourced from the various issues of Central Bank of Nigeria Statistical Bulletin was analyzed through Dynamic Ordinary Least estimation technique. Data treatment was done through stationary and co integration tests. The unit root test showed that the variables were integrated at order on I(0) except rate of bank lending, inflation and real exchange were integrated at order on 1(1). The result of co integrated showed a long run relationship among the variables. The Results proved that a unit percent decrease in bank lending rate will bring about 118% increases in economic growth. Furthermore, the findings of Greenwood and Jovanovich Hypothesis established that as bank lending rate decreased, economic growth tend to increase and it is statistically significant at 1% level. The study concluded that a decreased in bank lending rate increased economic growth during the study period.

Methodology

The methodology used for this study dealt with the various methods adopted in collection of data, analysis of data, and this enumerates the different methods and procedures used in gathering pieces of information needed. The study adopted the analytical research design to study the nature and relationship between effect of lending rate and money deposit banks performance. The analytical procedure adopted in this study is description of variables, sources of data, the empirical model, and method of model estimation and analysis. The study area of this study was the banking sector of the Nigeria economy. Secondary sources of data was employed and data was sourced from CBN financial stability report of various editions covering the period of 2001-2016 while unit root test, co-integration test, correlation analysis and regression analysis were used as estimation technique for the study.

Model Specification

The following model was used to examine the relationship that exist between the variables
The functional form of the model is stated thus;
ROA   =   f (LR, TD, CRR, MPR)---1
ROE   =   f (LR, TD, CRR, MPR)---2
In an explicit form, the model is stated thus;
$ROA = \beta_0 + \beta_1 LR_t + \beta_2 TD_t + \beta_3 CRR_t + \beta_4 MPR_t + U_t$ --3
$ROE = \beta_0 + \beta_1 LR_t + \beta_2 TD_t + \beta_3 CRR_t + \beta_4 MPR_t + U_t$ --4
Where:
ROA= Return on asset
ROE= Return on equity
LR= Lending rate
CRR=Cash reserve ratio
MPR=Monetary policy rate
TD= Total Deposit
U_t= Stochastic Term

Discussion of findings

Interpretation of Data Analysis

Unit root test using Augmented Dickey Fuller (ADF)

The standard Augmented Dickey-Fuller (ADF) unit root test was used to check the order of integration of the variables. The results obtained are reported in Table 1 below. Based on the ADF test statistic, it was observed that all the variables in the study became stationary at first difference. The null hypothesis is that the series is non-stationary, or contains a unit root. The rejection of the null hypothesis is based on MacKinnon (1996) critical values. The lag length are selected based on SIC criteria, this ranges from lag zero to lag one.

Table 1: Results of Augmented Dickey Fuller (ADF) Stationary Test

Variable	ADF Statistic	Critical value	DW	Lag	Inference
ROA	-4.5845	-3.0988	2.170	1	I(1)
ROE	-3.0124	-2.0810	1.87	1	I(1)
CRR	-5.5707	-3.5195	2.66	1	I(1)
MPR	-3.3435	-3.0988	1.94	1	I(1)
LR	-6.3714	-3.0988	0.47	1	I(1)
TD	-3.7160	-3.1199	1.77	1	I(1)

Source: Author Computation from E view s 7

Co-Integration using Johansen Co-integration Test

The study employed Johansen co-integration test to test for long run relationship between dependent and independent variables using residual of the model. This was done by comparing the Eigen-Value and Trace-Statistic. The study revealed that there is long run relationship between bank lending and bank performance within the period under review.

Table 2: Results of the Co-integration Test

Unrestricted Co integration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value
None *	0.392934	6.488534	3.841466

Trace test indicates 1 cointegratingeqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table 3: Correlation Matrix

	ROA	ROE	LR	MPR	CRR	TD
ROA	1					
ROE	0.649487	1				
LR	0.01976	0.055698	1			
MPR	0.603014	0.825387	0.273538	1		
CRR	0.564071	0.538871	0.863838	0.760916	1	
TD	-0.09897	-0.42304	0.456724	-0.35723	0.906285	1

Note: ROA= return on asset; ROE=return on equity; LR= lending rate; MPR= monetary policy rate; CRR= cash reserve ratio; TD= total deposit

The correlation matrix for the variables is reported in table 3 so as to examine the correlation that exists among the variables. The results show that there is positive relationship between ROA and other four variables namely return on equity(ROE), lending rate(LR), monetary policy rate(MPR) and cash reserve ratio(CRR) but has negative

relationship with term deposit which ranges from 64%, 1%, 60%, 56% and -0.09% respectively. The ROE also has positive relationship with other four variables such as ROA, lending rate(LR), monetary policy rate(MPR) and cash reserve rate(CRR) and has negative relationship with term deposit, this also ranges as follows 64%, 5%, 82%, 53% and -42% respectively. This implies that bank performance proxy by ROA and ROE has correlation with bank lending variables except term deposit. More so, positive relationship is also seen from lending rate point of view to other variables such as MRR, LR, TD, ROA and ROE with value such as 27%, 86%, 45%, 60% and 82% respectively. MPR shows a positive correlation with other variables except term deposit with negative relationship of -35%. There is also positive correlation between CRR and other variables such as ROA, ROE, LR MPR and TD which ranges from 56%, 53%, 86% 76% and 90% while TD has positive correlation with lending rate and cash reserve ratio while it has negative relationship with ROA, ROE MPR which ranges from 9%, 42%, 35% respectively. The above implies that correlation relationship exist between bank lending and bank performance under the period of review.

REGRESSION

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MPR	2.708974	3.125451	0.866746	0.4350
LTD	88.31793	59.19065	1.492093	0.2100
LR	-12.96793	5.464459	-2.373140	0.0766
CRR	1.937677	1.307391	1.482094	0.2124
C	-588.9760	441.2822	-1.334692	0.2529

R-squared 0.865515	Mean dependent var	-8.033333	
Adjusted			
R-squared 0.731030	S.D. dependent var	22.83064	
F-statistic 6.435782	Durbin Watson stat	2.805798	

Regression results

The relationship between bank lending and bank performance is established using the determinant of multiple regression (R^2) stood at approximately for ROA 0.8655 and ROE 0.833330 which indicates that bank performance is explained to the tune of 86.55% and 83.33% by the independent variables (bank lending) while 13.45% and 16.67% variation remains unexplained or accounted for by other factors not captured in the model. The adjusted R^2 of approximately 73.10% for ROA and 61.10% for ROE show that R^2 indicates the true behaviour of the dependent variable (ROA, ROE) according to change in independent variables meaning that the model is okay and the variables are good

In testing for the significant of the whole model, F-statistic is used and it revealed that F- calculated which is 6.43 for ROA and 3.74 for ROE are greater that F- tabulated which is 3.33. This is a clear indication that the whole regression is statistically significant. Hence, the overall null hypothesis is rejected and the alternative hypothesis is accepted which indicates that there is significant impact of bank lending on performance of banks in Nigeria within the year of review

In addition, the study used t-statistic to test for the individual significant of variables employed in the model. It was discovered that t-calculated for MPR (0.866), TD (1.4920), LR (-2.373), CRR(1.4820) using ROA are all below t- tabulated 1.82 at 5% level of significant. This means that none of the variables are statistical significant. However, MPR, TD and CRR have positive coefficients of (2.7089), (88.3179) and (1.9376) respectively which indicate that bank lending have positive impact on return on asset. The implication of this is that monetary policy rate, lending rate and cash reserve ratio have positive impact on bank performance but they are not statistically significant. On the other hand, looking at the impact of bank lending on bank performance using ROE, the result revealed that none of the variables are statistically significant as their p-value are higher than 5% level of significance; however, term deposit and cash reserve ratio have positive impact on return on equity. Therefore, with the overall effect of the positive coefficient variables, the study concludes that there is positive relationship

between bank lending and bank performance in Nigeria.

Conclusion

This study examine the impact of lending rate in Nigeria money deposit bank and it's effect on banks performance and based on the empirical findings the study discover that there is strong correlation among the variable employees in the study such as Monetary policy ratio(MPR),Total deposit(TD),lending rate(LR),cash reserves ratio(CRR),it also discover that there is long run relationship among this series ,from the multiple regression result we also discover that positive impact on bank performance ,therefore the study conclude that lending rate have impact on Nigeria money deposit bank in Nigeria .

Recommendation

Lending rate should be set at minimum in other to encourage the customer to borrow and to enable them pay back as at when due.

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