Interest Rates and Commercial Banks Performance in Nigeria: A Panel Data Study

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Abstract

This study examined the effect of Nigerian interest rates on the profitability of quoted commercial banks using panel from 2014-2023. The general purpose is to investigate the effect of various components of interest rate on the profitability of commercial banks. Return on equity and earnings per share were modeled as the function of prime lending rate, maximum lending rate, 3months money market rate,6 months money market rate and 12months money market rate. Time series data were sourced from Central Bank of Nigeria Statistical Bulletin while panel data were sourced from Nigeria Exchange Group fact book and financial statement of the quoted commercial banks. Multiple regressions with econometrics view statistical package were used as data analysis techniques. From model 1, the study found that 48 percent of the variation in return on equity of the quoted commercial banks was explained by variation in the interest rate variables in the equation. that maximum lending rate have negative and no significant effect such that a unit increase led to 0.08 percent decrease in return on equity of the quoted commercial banks, prime lending rate and 6months money market rate have positive effect on return on equity of the quoted commercial banks such that a unit increase in the variables led to 0.27 and 3.3 percent increase in return on equity. 12months and 3 =months negatively affected return on equity of the quoted commercial banks that reduces return on equity by 1.2 and 2.7 percent. From model 2, the estimated model found that interest rates as formulated in the model explained 78.3 percent variation in earnings per share of the quoted commercial banks. The independent variables proved that maximum lending rate have negative and no significant effect such that a unit increase led to 0.23 percent decrease in earnings per share of the quoted commercial banks, prime lending rate and 6months money market rate have positive effect on earnings per share of the quoted commercial banks such that a unit increase in the variables led to 0.25 and 4.7 percent increase in earnings per share. 12months and 3months negatively affected earnings per share of the quoted commercial banks that reduces return on equity by 1.5 and 3.9 percent. The study concludes that interest rates have greater effect on earnings per share than return on equity of the quoted commercial banks. We recommend that there should be proper harmonization of interest rate structure with the profitability motive of the banking industry to avoid default in interest rate

policies of the monetary authorities. The banks should devise measures of managing the negative effect of interest rate on the performance of the commercial banks.

INTRODUCTION

For much of the past decade, interest rates in many countries were at or near historically low levels. This raised questions about the consequences of low interest rates for bank profitability and implications for the transmission of monetary policy. While interest rates have risen more recently due to high inflation, this paper provides a retrospective assessment of the effect of low interest rates on bank profitability. The challenges and consequences of low rates may arise again at some point in the future; particularly given the neutral rate is estimated to have fallen significantly in advanced economies over the past few decades (Holston, Laubach and Williams 2017). The banking sector performance as a matter of fact has attracted attention of policy makers and other Stake-holders in Nigeria. One of the policies from the monetary authorities is the structure and the reforms in interest rate. Interest rate is the Classical instrument of monetary policy. Its structure as the instrument of monetary policy determines the equilibrium of the financial market. It is the function of monetary policy target, source of deposit money banks source of funds and borrowing, the fiscal policy and the financial market operation (Ayodele, 2006). It determines the level of domestic investment in the banking sector (Olaladipo, 2011; Ngerebo-a & Lucky, 2016).). This can be traced to Classical Accelerator Theory of Investment and the Keynesian Marginal Efficiency of Capital through the liquidity trap. In Nigeria, the structure of interest rate comprises the real interest rate, the monetary policy rate, the maximum lending rate, Treasury bill rate, prime lending rate and savings rate (Kolapo et al, 2012). Conceptually interest rate is the amount paid per unit of time expressed as a percentage of the amount borrowed or amount lends (Ongena and Smith, 2000). It is the cost of borrowing money measured in naira per year. It differs mainly in term of maturity. When maturity and liquidity match together with other factors considered many different financial instruments and so many interest rate will emerged which defined the structure of interest rate (Rasheed, 2010). It can either be nominal or real interest rate.

Bank performance is a qualitative measure of management efficiency and effectiveness. It is a qualitative measure in Return on Assets (ROA), Return on Equity (ROE), Return on Investment (ROI) and Earnings per share (EPS) of investors in the banking industry. Osabuohien (2007) noted that deposit rate is a cost of fund which tends to reduce profit while lending rate is source of revenue which tends to increase profit through the interest rate margin. Interest rate can also be structure base on the time maturity of the instruments or the facility. This we have in the banking sector short-term interest rate such as interest rate on money market financial instruments, medium term interest and long term interest rate, this interest rate structures constitute the banking sector return on investment (Idowu, 2005; Akani & Lucky, 2016). Davidson and Gabriel (2009) argued that commercial banks profitability is influenced by interest which can be structured to enhance profitability. The challenges facing Nigerian interest rate structure in affecting positively the banking performance is the unstructured and emerging financial market characterized with insider dealings and sharp practices, for instance Nigerian interest rate cannot be said to be fully deregulated non-regulated making it difficult to determine its impact on the performance of the

banking industry. Interest rate is a monetary policy instrument that equilibrates the financial market just as price is a mechanism that equilibrates the commodity market. It is very sensitive to environmental shocks such as monetary and macroeconomic shocks (Olaladipo, 2011). This has direct effect on the profitability of deposit money banks as reflected in the Nigerian banking sector in the past three decades. The monetary authorities through the monetary policy channel have made policies on the interest rate structure of deposit money banks and the financial sector, for instance, the deregulation of interest rate in the last quarter of 1986 following the adoption of the Structural Adjustment Programme (SAP).

This policy has been reported to have bi-directional effect on the profitability of deposit money banks (Davidson and Gabriel, 2009). Some deposit money banks report significant profitability which has been classified as banks too big to fail while others report very marginal profit that cannot even pay dividend to shareholders. The effect of interest rate structure cannot determine the profitability of deposit money banks due to the challenges facing the achievement of a well-structured interest rate. This study is imperative due to the frequent variation in interest rate structure by monetary authorities. For instance lending and borrowing rate is varied every quarter of the year. The short-term interest rate varies without responding to the forces of demand and supply but fixed by the monetary authority. There are various studies which have examined interest rate and bank profitability, the result has been controversial and difficult to be applied in policy making. Therefore, this study examined the relationship between Nigerian interest rate structure and the profitability of quoted commercial banks by disaggregating interest rate in Nigeria.

LITERATURE REVIEW

Interest Rate in Nigeria

Interest rate is the amount the borrower must pay to the lender over and above the total borrowed expressed as the percentage of the total amount of the funds borrowed. According to Milton Freidman(1997), interest rates are regarded as purely monetary phenomena, a payment for the use of money .The possession of the actual money wills our disquietude and the premium which we require to make us part with money is the measure of the degree of our disquietude . By the way of contract this theory emphasizes the supply and demand for money arguing that it's the interaction of variables which determines interest rate. It stated that classical theory focuses on what might be termed as the economic variables and argues that the level of real interest rate is determined by the level of savings which provides the level of loan able funds. This theory dismisses the relevance for money arguing that it's the use merely determine the absolute price level and does not influence the interest rate Matt and Vaught (2000) noted that interest rates are the center piece of commercial banks core business of financial intermediation as they are the key price in the financial sector, the main transmission mechanism of monetary policy, the main vehicle of matching supply and demand and normally the key determinant of profitability. Their level reflects banks perception of risk, market liquidity conditions, and the depth of financial markets which affects banks' ability to spread their risks, the cost of doing business and the level of competition in the financial sector.

Interest rate was first used as an instrument of Monetary Policy in Nigeria in 1962 following the introduction of money market instruments. The interest rate then was made competitive to ensure repatriation-of funds kept aboard. During the period of high government borrowing for example

interest rate was reduced to minimize cost of servicing public debt, as was the case in the 1960's (Eregha, 2010). Interest rate in Nigeria over the years has therefore played a pivotal/dominant role as one of the instruments used by the Federal Government in Managing Monetary Policy. The Structural Adjustment Programme (SAP), which was introduced by the Federal Government of Nigeria in 1986, was a comprehensive economic restructuring programme as it emphasized increased reliance on market forces. In order to pursue this objective, Financial Sector reforms were initiated by the Federal Government to:-

i.   Enhance Competition
ii.   Reduce distortion in investment decisions and
iii. Evolve a sound and more efficient financial system

The reforms, which focused on structural changes, monetary policy, interest rate administration and foreign exchange management, encompass both financial market liberalization and institutional building in the financial sector. The broad objectives of financial sector reform include:-

i.   Removal of controls on interest rates to increase the level of savings and improve allocative efficiency
ii.   Elimination of non-price rationing of credit to reduce misdirected credit and increase competition.
iii. Adoption of indirect monetary management in place of the imposition of credit ceiling on Individual banks.
iv.   Enhancing of institutional structure and supervision
v.   Strengthening the money and capital markets through policy Changes and distress resolution measures.
vi.   Improving the Linkages between formal and informal financial sectors (Abayomi & Adebayo, 2010).

Interest rate in Nigeria over the years has played a pivotal/dominant role as one of the instruments used by the Federal Government in Managing Monetary Policy. The use of interest (Bank) rate as an instrument of monetary policy was based on two main assumptions interest rate regulation; more so that, interest rate has since remained one of the instruments of managing the Monetary Policy of the Federal Government of Nigeria. Interest rate guidelines/regulations have always been contained either in the Federal Government Annual Budget document or the Monetary/Credit Policy Circulars of the Central Bank of Nigeria (CBN) from time to time. The use of Interest (Bank) rate as an instrument of Monetary Policy was based on two main assumptions:

(i) That the bank rate can influence all other rates in the economy, and

(ii) That the demand for money is interest elastic.

In August 1987, the Central Bank of Nigeria (CBN) liberalized the interest rate regime and adopted the policy of fixing only its Minimum Rediscount Rate (MRR). This was however modified in 1989, when the Central Bank of Nigeria (CBN) issued further directives on the required spreads between deposit and lending rates (Carletti et al, 2006). Ensure that the pricing of deposits and credit was left to the banks and their customers to determine. In essence, in 1991, the government

prescribed a maximum margin between each bank's average cost of funds and its maximum lending rates. Later the CBN prescribed savings deposit rate and a maximum lending rate.

Partial deregulation was, however, restored in 1992 when financial institutions were required to only maintain a specified spread between their average cost of funds and maximum lending rates. The removal of the maximum lending rate ceiling in 1993 by the Central Bank of Nigeria (CBN) saw interest rates rising to unprecedented levels in sympathy with rising inflation rate which rendered banks' high lending rates negative in real terms. Interest rates in 1993 were volatile and rose to unprecedented levels. The behavior of interest rates was traceable to a number of factors including:

i. The high rate of domestic inflation arising from the huge fiscal deficit of Federal Government which was financed mainly by Central Bank;
ii. The undue discretion which the deregulation of interest rates conferred on key market players in pricing their funds as well as the arbitraging activities of market speculators;
iii. Technical insolvency and serious cash flow problems on the part f some weak banks resulting in distress borrowing; and
iv. The use of stabilization securities and the system of allocation of foreign exchange both of which induced the sterilization of large funds at the CBN.

The prevailing high interest rates in 1993 discouraged investment in the directly productive sectors of the economy, while volatile inter-bank rates undermined the efficacy of open market operations and general stability in the financial system. On the basis of the foregoing developments, some measures of regulation were introduced in the management of interest rates in 1994. Deposit rates were set at 10.0 – 15.0 percent annum, while a ceiling of 21.0 percent per annum was fixed for lending. The developments in interests' rates management in 1994 were generally within the prescribed limits, with deposit rates ranging from 12.2 percent in the first quarter to 13.8 percent in the fourth quarter, while lending rates were under the prescribed maximum of 21.0 percent. The rates were negative in real terms since inflation was estimated to be over 50.0 percent. As these and other controls introduced in 1994 and 1995 had negative economic effects, total deregulation of interest rates was again adopted in October, 1996 with the banks given freedom to determine the structure of interest rates in consultation with their customers. The CBN, however, retained the discretionary power to intervene in the money market to ensure orderly developments in interest rates (Onoh, 2007).

The deregulation of interest rates brought in Liquidity glut, high interest rates and volatile inter-bank interest rates which became a permanent feature of the Nigerian economy. However, the Federal Government continued the fixing of its Minimum Rediscount Rate (MRR). This policy had been made by the Federal Government when it decided to dump administrative fiat in interest rate management. Borrowers were not expected to pay interest rate higher than the marginal productivity of capital. Depositors on the other hand were meant to demand interest rate high enough to compensate them for postponing consumption and cover the risks of value associated with inflation (Adebiyi & Babatope-Obasa, 2004). Specifically, its major objective was to keep the supply of money just within the required level needed for the target economic growth rate in a particular year. The policy of interest rate deregulation was retained in 1997, and developments since the beginning of the year show relative stability in the rates. Indeed, contrary to expectations,

interest rates had fallen. Deposit rates on savings account at commercial banks declined from an average of 10.1 percent in December 1996 to 7.5 percent in March and further to 5.9 percent at the end of April 1997. Similarly, 3-month deposit rates declined from 12.3 percent in December 1996 to 7.3 percent in April 1997. Lending rates recorded marginal declines from 20.8 percent to 20.6 percent over the same period. The factors responsible for the developments included weak demand for loans by the productive sectors of the sectors of the economy as well as the deceleration in the rate of inflation. The excess liquidity in the banking system arising from transfer of deposit of the Petroleum Trust Fund from the CBN to commercial and merchant banks and the refund of banks deposits held in stabilization securities was partly responsible for the low interest rate regime (Adofu, & Audu, 2010).

During the fiscal year 2000, monetary, credit and other financial sector policies were also designed to maintain internal and external balance. The primary objective was to maintain the inflation rate at single digit. In order to achieve this objective, the monetary programme focused on curtailing excess liquidity in the banking system and enhancing the viability of the external sector as well as the stability of the financial system. Other important objectives included enhanced growth of the economy and reduction in unemployment. The performance of the financial sector in 2000 indicated that deposit and lending rates fluctuated downwards due to liquidity overhang in the banking system and the reduction in MRR from 18.0 to 14.0, cash reserve ratio, form 12.0 to 10.0 percent, and liquidity ratio from 40.0 to 35.0 percent. The spread between commercial bank's saving deposit rate and maximum lending rate remained high throughout the year; it stood at 21.7 percent at the end of the year, as similar, trend was observed in the spread between bank's 7 –day deposit and maximum lending rates (Amel et al, 2002).

In view of the Nigerian experience of the absolute failure of the desirable objectives for which the Minimum Rediscount Rate (MRR) and other policy measures were introduced, the Governor of the Central Bank of Nigeria (CBN) Professor Charles Soludo in December 2006 announced the replacement of MRR with MPR The Monetary Policy Rate (MPR) was introduced as an instrument, which might be used to correct the excessive short-term interest rate volatility; especially with the setting of the Seven (7) to 13 (thirteen) percents corridor. This measure allows the Central Bank of Nigeria (CBN) to actively intervene in the money market to achieve the interest rate target. The Monetary Policy Committee (MPC) of the Central Bank of Nigeria (CBN) on 5th June 2007 reviewed the major macroeconomic development and the implementation of fiscal, monetary and exchange rate policies in the first five months of 2007, as well as the challenges for the rest of the year. The MPC noted with satisfaction the macroeconomic performances (CBN, 2012).

i. The average interbank call rate moderated from 8.98% in December, 2006 to 7.54% in April 2007 and to 7.6% in May, 2007.

ii. The decline in rates was due to the continued surfeit (excess) of funds in the market particular the MPC stated that:- In respect of interest rates developments, the MPC affirmed that the introduction of the CBN Standing Lending Facility (SLF) since December 2006 had continued to moderate the volatility in inter-bank rates in the first five months of 2007.

iii. With the year-on-year inflation rate at 4.20% in April 2007, the inter-bank rates and other rates in the banking system had become strongly positive.

While expressing its outlook for the rest of 2007 the MPC noted that although inflation had moderated significantly (from 8.98% in December 2006 to 7.54% at April 2007 and 7.6% in May, 2007) downside risk (inflationary pressure) remained. The MPC therefore decided to:-

i. Introduce tenured Repo (Repurchase Order) at Monetary Policy Rate (MPR).
ii. Reduce the Monetary Policy Rate (MPR) by 200 basis points, (i.e. from 10.0% to 8.0%)
iii. Reduce the width of the interest rate corridor from +/-300 to +/-250 basis points. The combined implication of (ii) and (iii) was that the deposit facility would stand at 5.5% while the lending facility would be 10.51% down from 7.0% and 13.0% respectively.
iv. Advise that both facilities above would be expected to be used as a last resort. Consequently, the frequent usage of these facilities would attract penalty.
v. Increase the issuance of primary market instruments to mop-up about N100 billion.
vi. Advise that inter-bank placements would henceforth form part of the deposits for calculating banks' liquidity ratio.

Continue the use of Open Market Operations (OMO) in liquidity Management.
Inflation rate plummeted further in the month of May, 2007 to 6.0% maintaining a steady decline since January, 2006 when inflation rate stood at 17.9%

Interest Rate in the Banking System
On the usage of funds, a certain sum of money paid or received is known as interest rate. Creditor receives interest when he lent money and debtor pays interest when he borrows. The amount of interest that a creditor receives is a percentage of the amount of money he lent and in the same way, the amount of interest that a borrower pays is a percentage of the total amount he borrowed. Anyone can make loan to someone and receive the interest or any institution like bank can accept the deposits and pay the certain amount of interest. But, typically it is the job of bank to provide the loans and accept the deposits. Practically, when bank makes loan to a customer it charges higher rate but pays lower rates to the depositor. With this difference of interest rates bank makes profit in return of giving these services. To earn much profit bank charges higher interest rate as much as it is possible and on the other hand pays lower rate as much as possible. However, to attract the same borrower and depositor banks are competing to each other which maintain the interest rates in comparable range.

Due to the competition among the banks interest rate remains in a comparable range. For tracking and managing the significant development interest rate is to be addressed a significant economic problem (Boulier, Huang &Taillard, 2001; Laubach, 2009). On the other hand, in the profit and loss statement interest rate also engage in managing the interest component entirely (Buiter & Panigirtzoglou, 2003). In addition, the interest rate also summarizes the way of whole business debt summary, including the receipt of debt, excellence of the debt, expectations of visions participation proportions and fixed floating mixture of the debt (Brigo & Mercurio, 2006; Einav, Jenkins, & Levin, 2008).Interest rates are applied in various shapes like there are different interest rates for saving account and for taking loan. Central bank sets the interest rate to control the interest rate that transforms the interest rates to control the lively of financial system. But the results of the variation in the interest rate are not constantly the projected results (Ehow).Central bank plays many important roles in the economy but the major task of it is to regulate the interest rates which affect the financial system. For instance, this can be completed by regulating the interbank loan

rate. The rates that commercial banks present for saving and lending are influenced by interbank interest rates and banks as result present their rates which are below or above from the interbank rate in certain percentage. In this way commercial banks earn their profit.

Increasing Effect of Interest Rate

When interest rate rises up, businesses have to pay more for borrowing. In other words their cost of taking loan increases which decreases their profitability and due to decrease in profitability market price of their share also decline. Moreover, a rise in interest rate also decreases the worth of corporate bond. The interest rate that a bond pays to its holder is not much attractive due to high interest rate (Accaglobal.com). For borrowing and saving there are various types of interest rates that bank offers. To set the rate of interest that influence the lively of financial system, central bank plays a significant role. The central bank executes that job by controlling the loan rate for interbank. Because it considerably influences the interest rates for loan and savings that commercial banks offer. The main source of commercial banks income is the interest income by interest rate which is to some extent below or above the inter-bank loan rate. Typically, central bank boosts up the rate of interest for many causes that may or may not correct the intended issue. Inflation is from one of them. Rising interest rate encourages the people to keep their funds with bank by offering hand sum saving interest income. Rising interest rate and over spending cause stress on inflation. While on the other hand, when interest rate goes up make borrowing more expensive which results into fall in mortgage and investment.

Ultimately, it influences the currency revaluation to increase the value of money. Moreover, improved rate of interest may enhance the demand of Government Issue bond. Interest rate not merely charged to loans, however it is also charged to unpaid bills, mortgages and credit cards and it is only applicable on the unpaid portion of bills or loans. So, it is very necessary to be familiar with your interest rates and to know that how it is added to your loans or bills. If for example, your interest rate adds more than the amount you are paying, it possibly means your debts increase although you are paying for debts. Interest rates are not same even though they are more competitive. When a bank feel doubt that the debt will not be repaid it will usually charge higher interest rate.

Decreasing Effect of Interest Rate

The decline in the interest rate as a common rule is most excellent for the economic atmosphere because customers can easily pay for taking loan as they do not have to pay higher interest rate for taking the loans. To regulate the economic development, interest rate is used as a device. As economy developed rapidly it will cause inflation in the economy. In other words prices go up to higher point which reduce the buying power of people which affect the demand of people for goods and services because of the shifting accessibility of bank loans. But on the other hand when interest rates are low the cost of borrowing decline which increase the buying power of public and as result they tend to make investments and spend in different forms. Lower interest rate also gives opportunity to businesses to take capital investment loan. By making huge investment in rising sectors and making significant profit, it also enhances the firms' confidence. As result the economy become stable and employment opportunities in the country increases. Another feature of lower interest rate is that it reduces the risk of other party to failure to pay. It shows that when interest rates are lower people have more disposable income to pay off their loans and to make savings decision. When trade rates decline, the demand for those manufacturers that sells their goods and

services in international markets increase which enhance the exports growth and as result it will increase collective demand and improves the economy. Moreover, boost the income factor of those in work. And it directs to amplify the level of national income.

Monetary Policy and Interest Rates Structure

Prior to SAP and immediate post SAP, monetary management relied on direct controls of reserves and interest rates structure of banks. However, in 1993, an important reform of the monetary management strategies was the introduction of open market operations (OMO). OMO became the dominant instrument of liquidity management complimented by reserve requirements and discount window operations. Unfortunately, the new approach was yet to find its footing when macroeconomic management returned to an era of regulation by 1994-1998. Irrespective of the market fundamentals, the monetary authorities pegged minimum rediscount rates at 13.5 per cent, as well as specified interest rates limits to not more than 21 percent for lending rates, while the spread between savings and lending rates was expected not be more than 7.5 per cent.

As it turned, the introduction of OMO followed by a return to interest rates control opened up another investment portfolio to the commercial banks. This manifested mainly in the new opportunity offered the savings public to diversify their portfolio investments from traditional savings and the stock markets into money markets. The banks were also offered the opportunity to diversify from traditional credit purveys, and foreign exchange markets transactions to trading in money market instruments especially treasury bills and repos transactions at the OMO. The yield rates on OMO and treasury bills transactions were comparatively more attractive than savings rate, while the alternative investment portfolio which would require borrowing to meet working capital requirement were priced out of the profitability threshold of the investing public. While low savings rate encouraged holders of idle cash balances to invest in money market instruments, it also encouraged financial institutions to shy away from the more risky lending portfolio and its associated high transactions costs to the relatively safe portfolio with little or no costs, with the guarantee of very good returns.

In the face of credit apathy, financial sector operators found investment in foreign exchange and public debts instruments especially treasury bills very lucrative as the returns on them moved in tandem with the MRR. Thus, the policy created a dilemma in the form of tradeoff costs reflected in the arbitrage gains for speculators in the financial markets. Ironically, rather than serve as a penalty rate for borrowing from the central bank, the attractive treasury bills rate which followed the rise in MRR, saw the central bank borrowing from the banks and the public as part of its monetary control functions. Such funds were sterilized but which upon maturity the central bank was duty bound to pay the interest rates accrual, probably via the creation of high powered money with adverse implications for inflationary control. One may argue that if the CBN issued the debt instruments in favour of the government that the burden of debt service should be borne by it (Michiru & Tetsuji, 2003) Unfortunately, during this period, fiscal authorities were known to resort to ways and means advances far above the permissible limits, and which were usually written off at the end of the day. The changes in the structure of treasury bills holdings attested to this. Prior to the commencement of SAP, CBN accounted for a significant proportion of the treasury bills outstanding. However, with the sharp rise in treasury bills rate, the situation changed, with the

deposit money banks and the public now accounting for the major share. The shift in investment portfolio of the banks to this segment of the markets is quite rational.

Interest Rate Charged on Borrowers.
There are daily reports of how Nigerian banks rip off their customers through various charges and practices. Often times, customers complain and cry out for appropriate regulatory intervention. Unfortunately, their complaints seem to fall on deaf ears, because they are unaware of any positive regulatory action in response thereto. Emboldened by regulatory inaction and indifference (which suggest tacit approval), many Nigeria banks now engage in more exploitative practices. The categories of such predatory bank practices are unfolded daily.

Normally, when a customer secures loan from a bank, the latter fixes a negotiated lending rate based on the prevailing interest rate approved by the apex bank. Any change in the interest rate should be brought to the notice of the borrower except otherwise agreed. In Nigeria, however, the lending rate is rarely negotiated and, when it is reviewed upwards by the Central Bank of Nigeria (CBN), the average bank automatically applies the new rate to the outstanding loan without notifying the borrower (Okafor, 2011). Ironically, the same bank hides the fact of any downward review of the lending rate from its mostly uninformed customer, thereby illegally subjecting the customer to a higher interest regime. Often, what the bank staff present to a prospective borrower during loan negotiations as the total charges become hydra-headed once he swallows the bait. While processing loans, Nigerian banks impose on borrowers both "processing" and "administrative" fees which are duplicates. Again, they charge borrowers and corporate customers higher than what they pay lawyer to conduct searches at land and company registries. We believe that the interest rates Nigerian banks display at their offices and report to CBN per Section 23 of the Banks and Other Financial Institutions Act (BOFIA, Chapter B3, Laws of the Federation of Nigeria 2004) are different from what most of them impose on customers. To verify this, CBN may wish to randomly obtain and examine depositors/borrowers account statements from banks.

Profitability
 Business profitability is the justification of its good performance .Indeed the profits of a business are the end result of operations and an indication of its good performance. Griffith (2001) Profitability is the organization's ability to generate income and it must be reflected only in income statement if the organization is to certify that the income generated is greater than the input cost Hermanson (1998) .According to Kottler (1970), in the economics point of view profitability refers to excess of income over expenditure which can be expressed in terms of net profit margin and return on equity while according to Larson (1981), in his accountants' point of view defines profitability as ability of the firm to generate net income on consistent basis. The principle motivating force in any business is profitability, though of course it's not the only motive in any business, it is always the most important (Musumeno, 2001; Lucky, 2017) .Therefore there should always be an adequate return on capital invested if any business is to be successful and the argument for this is that the success of any business basically depends on the profitability that it enjoys.
Profit is the ultimate goal of commercial banks .All the strategies designed and activities performed are geared towards realizing these grand objective. But this does not mean that commercial banks do not have other goals. According to Murthy and Sree (2003) to measure the profitability of

commercial banks there are a variety of ratios used of which return on assets, return on equity, and net interest margin are the major ones (Zaagha & Lucky, 2021)..

Return on equity ratio refers to how much profit a company earned to the total amount the shareholders equity invested or found on balance sheet. ROE is what the shareholders look in return for their investments .A business that has a high return on equity is more likely to be one that is capable of generating cash internally thus the higher the ROE the better the company in terms of profit generation. Alexandru et al, (2008) Khrawish (2011) noted that the return on equity is ratio of net income after tax divided by total equity capital. it represents the rate of return earned on the funds invested in the banks by its shareholders .ROE reflects how effectively a bank management is using shareholders' funds thus it can be deduced from the above statement that the better the ROE the more effective the management in utilizing its shareholders capital.

The Keynesian Monetary Policy and Interest Rate

In the Keynesian monetary theory, an increase (or decrease) in money supply is attributed to the open market purchase (or sale) of government debt instruments by the central bank. Interest once government decides to enter the market it usually purchases or sells securities on a large scale. If the intention is to stimulate a sluggish economy government repurchases securities on a large scale and injects cash into the economy to increase aggregate demand for goods and services, and encourage more output (Craig et al, 2006). If the intention is to reduce the high inflationary rate and create a conducive environment, government sells securities on a large scale. A large volume of money withdrawn from circulation and the level of money supply falls, dragging transactions balances of the community to a lower level. Consequently general prices fall bringing down the rate of inflation. Although the Keynesians define financial assets (government securities) as short-term papers, e.g. treasury bills, they consider long-term bonds as a representative of financial assets. Naturally the interest return on a long-term financial asset is expected to be higher than that of a short-term financial asset. Short-term cyclical disturbances or changes in short-term rates are bound to affect the long-term interest rate of a Long-term financial asset (Ewert & Schenk, 2000).

The Quantity Theory of Money and Interest rate

Deniburg and McDougall (1976) stated that Keynesian Monetary Theory and other classical economists viewed monetary policy as operation upon the level of aggregate spending indirectly through its effect on interest rates and credit availability. In their view, an increase in money supply lowers the relative supply of alternative financial assets which reduce interest rates and it increases expenditure on goods and services. Modern monetary thinking has produced two schools of thought. The first view is known as the "Monetarist" or Modern Quantity Theory" which says that Monetary Policy would be effective without interest rate changes. The second view is known as "Radcliffe" or "Gurley-Shaw" maintained that the demand for money would shift under the impact of monetary tightness, so that the effect of the tightness may be insignificant but the value of the elasticity of given demand and supply functions may be different.

Productivity Theory of Interest

Turgot and other physiographic were of the opinion that interest is the reward for the use of capital in production. Interest is paid, they say, because capital is productive. The labour assisted by

capital can produce more things than what they can do without it (Felicia, 2011). For instance, a man with the help of a machine can sew more clothes than without it. It is but Just and proper therefore that a part of the pool of wealth which the capital has produced should go to the lender of the Capital. Interest is, thus, a payment for the productivity of capital.

Criticism
This theory has been severely criticized on the following grounds:
  i. This theory does explain as to why the interest is paid but it throws no light as to how the rate of interest is determined.
  ii. According to this theory, interest is paid because capital is productive. This means that pure interest should vary in proportion to the productiveness of the capital but the fact is otherwise. Pure interest tends to be the same in money market during the same period of time.
  iii. The theory only emphasizes as to why interest is demanded but it totally neglects the supply side of the capital.
  iv. Finally, the theory fails to explain as to how interest is paid for the loan borrowed for consumption purposes.

Waiting Theory of Interest Rate
This theory of interest is associated with the name of Senior. According to the theory, interest is a reward for abstinence. When a person saves money from his income and lends it to somebody else, he in fact makes sacrifice. Sacrifice in the sense that he abstains from consuming the whole of his income which he could have easily spent. As abstaining from consumption is disagreeable and painful, so the lender must be rewarded for this. Thus, according to .Senior, interest is the reward for abstinence from the use. This theory is rejected on the ground that saving does not necessarily involve discomfort or sacrifice. A millionaire may save and lend a major part of his income without undergoing any hardship or suffering (Idowu, 2005).

Marshall, realizing this flaw in Senior's definition, substituted the term waiting for abstinence. According to Marshall, interest is the reward for waiting. When a man saves a part of his income, he simply postpones his present consumption to some future date. During a period when money is loaned, he himself might stand in need of money. But he cannot get it back from the borrower as the period of loan is fixed. He has to wait for the return of loan. In order to encourage the spirit of waiting amongst the lenders, some inducement is necessary and this inducement according to Marshall is interest.

Criticism

  i. The theory is criticized on the ground that it lays undue emphasis on the supply side of the problem and ignores the demand side which is equally important for explaining the economic cause of rent.
  ii. It is not true that all the money saved is only due to the inducement of interest. Some persons may save money even if the rate of interest is zero.

The Term Structure of Interest Rates

There are three main theories that try to describe the future yield curve:

i. **Pure Expectation Theory:** Pure expectation is the simplest and most direct of the three theories. The theory explains the yield curve in terms of expected short-term rates. It is based on the idea that the two-year yield is equal to a one-year bond today plus the expected return on a one-year bond purchased one year from today. The one weakness of this theory is that it assumes that investors have no preference when it comes to different maturities and the risks associated with them.

ii. **Liquidity Preference Theory**: This theory states that investors want to be compensated for interest rate risk that is associated with long-term issues. Because of the longer maturity, there is a greater price volatility associated with these securities. The structure is determined by the future expectations of rates and the yield premium for interest-rate risk. Because interest-rate risk increases with maturity, the yield premium will also increase with maturity. Also known as the Biased Expectations Theory.

iii. **Market Segmentation Theory:** This theory deals with the supply and demand in a certain maturity sector, which determines the interest rates for that sector. It can be used to explain just about every type of yield curve an investor can came across in the market. An offshoot to this theory is that if an investor wants to go out of his sector, he'll want to be compensated for taking on that additional risk. This is known as the Preferred Habitat Theory.

Empirical Review

Felicia (2011) used regression analysis to investigate the determinants of commercial banks lending behaviour in Nigeria. The study discovered that commercial banks deposits have the greatest impacts on their lending behaviour. Khat and Bathia (1993) used non-parametric method in his study of the relationship between interest rates and other macro-economic variables, including savings and investment. In his study he grouped (64) Sixty-Four developing countries including Nigeria into three bases on the level of their real interest rate. He then computed economic rate among which were gross savings, income and investment for countries. Applying the Mann - Whitny test, he found that the impact of real interest was not significant for the three groups.

Khan and Sattar (2014) examined the impact of Interest rate on the profitability of four major commercial banks in Parkistan between 2008 – 2012 using pension condation methods. Findings revealed that there is positive and significant relationship between interest rate and profitability. Daley (2012) studied the effect of market rate risk on bank profitability using a modification of Flannery's 1981 & 1983 model with similar assumptions for the period 2000–2008 in Jamica for the National Commercial Banks (NCB) and bank of Nova Scotia (BNS) Jamaica Ltd. The results indicate that market interest rates in particular treasury bill rate have a small effect on the profitability across the two major banks in Jamaica. Also, the interest rate risk has a very small, but negative impact on bank profitability. Ogubiji and Peters (2014) examined how interest rate affect the profitability of deposit money banks in Nigeria using country aggregate level annual data that covered 1999 – 2012 with the aid of multivariate regression analysis under an econometrics framework. The augmented Dickey and Fuller unit root test results indicate that the

series are either 1(0), 1 (1) or 1 (2) significant effect on profitability of Nigerian DMB as measured by ROA at 5% level of significance. Real interest rate at 8% level of significance has negative and significant relationship with ROE. The study found no significant relationship between interest rate variables and Net Interest Nigeria of DMB in Nigeria.

Adofu and Audu (2010) used ordinary least square method to ascertain the assessment of the effects of interest rate deregulation in enhancing agricultural productivity in Nigeria. The study found out that interest rate play a significant role in enhancing economic activities and as such, monetary authorities should ensure appropriate determination of interest rate level that will break the double - edge effect of interest rate on savers and local investors. Rasheed (2010) used error correction model (ECM) to investigate interest rates determination in Nigeria. The study found out that as the Nigerian financial sector integrates more with global markets, returns on foreign assets will play a significant role in the determination of domestic interest rates. Okoye, and Eze, (2013) study the impact of bank lending rate on the performance of Nigerian Deposit Money Banks between 2000 and 2010. It specifically determined the effects of lending rate and monetary policy rate on the performance of Nigerian Deposit Money Banks and analyzed how bank lending rate policy affects the performance of Nigerian deposit money banks. They found that lending rate and monetary policy rate has significant and positive effects on the performance of Nigerian deposit money banks.

Akabom-Ita, (2012) examined the impact of interest rate on net assets of multinational companies in Nigeria from 1995 - 2010. The regression analysis showed that an increase in interest rate results in reduction in net assets. Enyioko (2012) examine the performances of banks in Nigeria based on the interest rate policies of the banks. The study analyzed 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). Applying regression and error correction methods to analyze the relationship between interest rates and bank performance the study found that interest rate policies have not improved the overall performances of banks significantly. Aburime (2008) used a sample of banks with 1255 individual observation on unbalanced panel data over the period 1980-2006 to investigate the macroeconomic determinants of bank profitability in Nigeria. The result revealed that real interest rate, inflation, monetary policy and foreign exchange regime are positively associated with banks' return on assets.

Ahmad (2003) reported that interest on loan is the largest constituent of income for Nigerian banks as evidenced from available data and that movement from one interest regime to another could have some effects on the profitability of banks in the system. Ogunlewe (2001) in a study of the monetary policy influence of bank's profitability, using data from Nigerian banks found the determinants of bank profitability to include reserve ratio, permissible credit growth, stabilization securities and exchange rate. The study also found determinants of banks' profitability to include total deposits, Treasury bill rates and lending rates.

Uchendu (1995) investigated the effect of monetary policies on the performance of Nigerian commercial banks. He found that the dominant factors influencing bank profitability are interest rates, exchange rate, bank reserves, banking structure and unit labour costs, particularly when return on capital is used as measure of profitability. He concluded that stable and realistic monetary

and banking policies are important for the profitability of commercial banking business in Nigeria. Elsewhere, Kanwal and Nadeem (*2013)* investigate 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 a strong positive relationship of real interest rate with ROA, ROE and EM. Secondly, real GDP is found to have an insignificant positive effect on ROA, but an insignificant negative impact 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.

Riaz and Mehar (2013) investigated the impact of bank specific variables: Asset size, Credit Risk, Total deposits to total assets ratio, and macroeconomic indicator : interest rate(Discount rate) on the profitability measures, ROE and ROA of commercial banks in Pakistan during the period of 2006-2010.. There are two measures of profitability Return on equity (ROE) & Return on assets (ROA). All 32 commercial banks were selected and by using regression the results show that there is a significant impact of bank specific variables (asset size, total deposits to total assets, credit risk) and macroeconomic indicator (interest rate) on ROE and credit risk and interest rate have also a significant impact on ROA. Amer Azlan *et al.* (2012) in their paper "Determinants of Commercial Banks' Return on Asset: Panel Evidence from Malaysia" investigated the possible macroeconomic factors that influence the profitability of domestic and foreign commercial banks in Malaysia. They use an unbalanced panel dataset of 16 commercial banks and panel data regression technique over the period of 2004-2011. The result indicates that all the external factors namely inflation, interest rate and GDP have a positive impact on all commercial bank's return on assets. They also found that interest rate appears to influence foreign bank's profit positively but shows no impact on domestic bank's performance.

Sufian (2011) examined the impact of bank specific and macroeconomic variables on the performance of Korean banking sector during the pre- and post-Asian financial crisis. A total of 251 bank year observations consisting of 11 commercial banks over the period 1993- 2003 were employed and tested using panel fixed and random effect regression technique. In regards to macroeconomic perspectives, the result shows that inflation has positive association with banks' return on assets. Alper and Anbar (2011) investigated bank specific and macroeconomic determinants of commercial bank profitability in Turkey over the period of 2002-2010. The study uses both return on asset (ROA) and return on equity (ROE) as proxy for bank profitability. By employing balanced set of panel data and fixed effect model, the result shows that only real interest rate is positively related with profitability in regards to macroeconomic variables. In other words, an increase in real interest rate would lead to an increase in commercial banks' profitability in Turkey. Ramadan *et. al.* (2011) examined the determinants of bank performance of 10 Jordanian banks over the 2001-2010 periods. They discovered that both inflation and economic growth were found to be negatively insignificant on both return on asset (ROA) and return on equity (ROE) of the banks.

Deger and Anbarb (2011) examined the bank-specific and macroeconomic determinants of bank's profitability in Turkey over the time period from 2002 to 2010. The bank profitability is measured by return on assets (ROA) and return on equity (ROE).Using a balanced panel data set, the results show that real interest rate affects the performance of banks positively. Bennaceur and Goaied, (2008) study The Determinants of Commercial Bank Interest Margin and Profitability: Evidence from Tunisia and find that interest rate liberalization has contrasting effect on net interest margins. In fact, partial liberalization has a negative impact on the interest margin whereas complete liberalization strengthens the ability of Tunisian banks to generate profit margins.

Staikouras and Wood (2004) reviewed the performance of European Banking industry for years 1994-1998. Using ordinary least square method and fixed effects model they concluded that interest rate has a significant positive impact on ROA. Demirgur – Kunt and Huizinaga (1999) posits that high interest rate is associated with higher interest margins and profitability especially in developing countries. Molyneux and Thorton (1992) investigated a multi-country setting by examining the determinants of bank profitability for a panel of 18 European countries for the 1986-1989 time periods. They found a significant positive association between the return on equity and the level of interest rates in each country.

METHODOLOGY

The research objectives was addressed using empirical analysis of annual monetary policy rate (Discount or treasury bill rates), commercial banks deposit and lending rate, nominal and real interest rate data from 2013-2023. The data is sourced through the central bank statistical bulletin. To examine the dynamics of interest rate structure on profitability of commercial banks, the study employed the multiple regression method of analysis. The study employees a balanced panel annual bank level, financial performance proxy by return on investment and structure of interest rate in Nigeria from 2013-2023. However data for the study covers 10 years. The study population covers the twenty-one (21) existing deposit money banks in Nigeria. However, the sample size covers the 15 existing quoted deposit money banks in Nigerian stock exchange. The secondary data used in this study is sourced from financial statement of the banks in the sample size, Stock Exchange Fact Book and Central Bank of Nigeria statistical bulletin.

Model Specification

The model specified in this study is based on the Classical monetary theory of interest rate and investment.

$$ROE = \beta_0 + \beta_1 PLR + \beta_2 MLR + \beta_3\ 3M + \beta_4\ 6M + \beta_5 12M + \mu \qquad (1)$$

$$EPS = \beta_0 + \beta_1 PLR + \beta_2 MLR + \beta_3\ 3M + \beta_4\ 6M + \beta_5 12M + \mu \qquad (2)$$

Transforming equation 1 to econometric models

Where

ROE   =   Return on Equity

EPS   =   Earnings per share

PLR   =   Prime Lending Rate

MLR   =   Maximum Lending Rate

3M   =   3months money market rate

6M   =   6 months money market rate

12M   =   12months money market rate

Data Analysis Method

The method of data analysis to be used in this study is the multiple linear regressions using ordinary least square method. This approach, which is a quantitative technique, includes tables and the test for the hypotheses formulated by using ordinary least square with Econometric View regression analysis at 5% level of significance.

Moreover, in order to undertake a statistical evaluation of our analytical model, so as to determine the reliability of the result obtained and the coefficient of correlation (r) of the regression, the coefficient of determination (r^2), the student T-test and F-test where employed.

(i)   Coefficient of Determination (r^2) Test – this measures the explanatory power of the independent variables on the dependent variables. For example, to determine the proportion of economic growth into our model, we used the coefficient of determination. The coefficient of determination varies between 0.0 and 1.0. A coefficient of determination says 0.20 means that 20% of changes in the dependent variable is explained by the independent variable(s).

(ii)   F-Test: This measures the overall significance. The extent to which the statistic of the coefficient of determination is statistically significant is measured by the F-test. The F-test can be done using the F-statistic or by the probability estimate. We use the F-statistic estimate for this analysis.

(iii)   Student T-test: measures the individual statistical significance of the estimated independent variables. At 5% level of significance.

(iv)   Durbin Watson Statistics: This measures the colinearity and autocorrelation between the variables in the time series. It is expected that a ratio of close to 2.00 is not auto correlated while ratio above 2.00 assumed the presence of autocorrelation.

(v)   Regression coefficient: This measures the extent in which the predictor variables affect the dependent variables in the study.

(vi)   Probability ratio: It measures also the extent in which the predictor variables can explain change to the dependent variables given a percentage level of significant.

DATA PRESENTATION AND ANALYSIS

The purpose of this study was to analyse the relationship between interest rates and commercial banks' performance in Nigeria. The estimated regression models, results and techniques as formulated in chapter three of this study is presented in this chapter. The Ordinary Least Square

estimates for the models and the discussion of hypotheses and findings were also presented. The variables were measured in percentage.

Table 1: Interest Rate and Return on Equity

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MLR(-1)	-0.081534	0.387078	-0.210641	0.8336
PLR	0.272655	0.161175	1.691668	0.0936
_6M	3.399589	2.343042	1.450930	0.1498
_12_MONTHS	-1.264427	0.715040	-1.768330	0.0799
_3M	-2.753044	2.013361	-1.367387	0.1744
C	16.18515	11.65377	1.388834	0.1678
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.560177	Mean dependent var		14.35334
Adjusted R-squared	0.481341	S.D. dependent var		4.258993
S.E. of regression	3.067241	Akaike info criterion		5.224051
Sum squared resid	997.2444	Schwarz criterion		5.674255
Log likelihood	-309.1152	Hannan-Quinn criter.		5.406955
F-statistic	7.105588	Durbin-Watson stat		2.142222
Prob(F-statistic)	0.000000			

Source: E-view 9.0 (2024)

Table 2: Interest Rate and Earnings per Share

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MLR(-1)	-0.237249	0.386274	-0.614200	0.5403
PLR	0.251535	0.161140	1.560972	0.1212
_6M	4.707026	2.333663	2.017012	0.0459
_12_MONTHS	-1.596157	0.713063	-2.238451	0.0271
_3M	-3.950482	2.004204	-1.971098	0.0510
C	22.21333	11.61369	1.912684	0.0582
ECM(-1)	0.627862	0.068677	9.142281	0.0000
	Effects Specification			
			S.D.	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			3.067241	1.0000
	Weighted Statistics			
R-squared	0.783547	Mean dependent var		14.35334
Adjusted R-squared	0.552465	S.D. dependent var		4.258993
S.E. of regression	3.427193	Sum squared resid		1397.732
F-statistic	12.33997	Durbin-Watson stat		2.288976
Prob(F-statistic)	0.000000			
	Unweighted Statistics			
R-squared	0.383547	Mean dependent var		14.35334
Sum squared resid	1397.732	Durbin-Watson stat		2.288976

Source: Extract from E-view 9.0 (2024)

Analysis and Discussion of Findings

From table 1, the estimated regression model found 48 percent of the variation in return on equity of the quoted commercial banks was explained by variation in the interest rate variables in the equation. The results show the fixed effect results the fixed effect results using the White-corrected standard errors and adjustments for fixed period effects. In addition, the F-statistics show that the overall regression is significant at the 5 percent level, as the P-values are less than 0.05. The independent variables proved that maximum lending rate have negative and no significant effect such that a unit increase led to 0.08 percent decrease in return on equity of the quoted commercial banks, prime lending rate and 6months money market rate have positive effect on return on equity of the quoted commercial banks such that a unit increase in the variables led to 0.27 and 3.3 percent increase in return on equity. Furthermore, 12months and 3 =months negatively affected return on equity of the quoted commercial banks that reduces return on equity by 1.2 and 2.7 percent. From table 2, the estimated model found that interest rates as formulated in the model explained 78.3 percent variation in earnings per share of the quoted commercial banks. The results show the fixed effect results the fixed effect results using the White-corrected standard errors and adjustments for fixed period effects. The adjusted R-squared indicates that approximately 35.2 percent of the variation in liquidity indicator is explained by the variables in the equation. In addition, the F-statistics show that the overall regression is significant at the 5 percent level, as the P-values are less than 0.05. The independent variables proved that maximum lending rate have negative and no significant effect such that a unit increase led to 0.23 percent decrease in earnings per share of the quoted commercial banks, prime lending rate and 6months money market rate have positive effect on earnings per share of the quoted commercial banks such that a unit increase in the variables led to 0.25 and 4.7 percent increase in earnings per share. . Furthermore, 12months and 3months negatively affected earnings per share of the quoted commercial banks that reduces return on equity by 1.5 and 3.9 percent.

This finding confirm the a-priori expectation of the result and the objective of Nigerian Interest Rate Reform which is to allow the market forces of demand and supply for financial instrument determine the interest rate for the economy, for instance, the deregulation of interest rate in the last quarter of 1986, the introduction of high yielding interest rate financial instrument such as the introduction of high yielding treasury bills in 1996. It is also in line with the monetary policy objective of achieving a sound and profitable banking system through reforms in interest rate. The findings confirm the classical monetary policy objectives of manipulating the financial system through variations in interest. The finding is in line with the empirical findings of Khan & Sattar (2014), whose finding reveals that there is positive and significant relationship between interest rate and profitability. Daley (2012) whose results indicate that market interest rates in particular Treasury bill rate have a small effect on the profitability across the two major banks in Jamacia. Also, the interest rate risk has a very small, but negative impact on bank profitability, Ogunbiyi & Peters (2014).The study found no significant relationship between interest rate variables and Net Interest Nigeria of DMB in Nigeria.

Adofu and Audu (2010), the study found out that interest rate play a significant role in enhancing economic activities and as such, monetary authorities should ensure appropriate determination of interest rate level that will break the double - edge effect of interest rate on savers and local

investors. However, monetary policy rate and savings rate have negative relationship with the profitability of the commercial banks. The negative relationship is contrary to the results and the investment theories such as the marginal efficiency of capital and the marginal efficiency of investment as propounded by the classical and the Keynesians economists. The negative effect of the variables can be traced to monetary policy shocks such as variation in quantity of money in supply that affect the interest rate, it can also be traced to inability of the management of the commercial banks to effectively manage the monetary policy environment of the banking business.

Conclusion

This paper has provided an empirical analysis of the effect of interest rates on commercial banks profitability in Nigeria. The empirical result obtained suggest that the change in the effect of interest rate on commercial banks loans and advances from negative during regulation to positive during deregulation was actually as a result of policy change. The implication of the findings of this study suggests that the profitability of the banking sector is a function of changing interest rates. The study therefore recommends that government should adopt monetary policies that will help Nigerian deposit money banks to improve on their profitability and there is need to review and strengthen bank lending rate policies through effective and efficient regulation and supervisory framework. The results of this study also suggest that banks can improve their profitability through charging moderate lending rates as against maximum rates as their circumstances may allow

Recommendations

From the findings, the research makes the following recommendations:

  i. There should be proper harmonization of interest rate structure with the profitability motive of the banking industry to avoid default in interest rate policies of the monetary authorities. The banks should devise measures of managing the negative effect of interest rate on the performance of the deposit money banks.

  ii. There is need to deregulate the Nigerian interest rate to allow the market forces of demand and supply for better profitability of the deposit money banks in Nigeria.   The profitability objectives of the deposit money banks should be integrated with the interest rate policies to enhance effective interest rate structure and the profitability of the banks.

  iii. The monetary authorities should partner with the management of the commercial banks for effective interest rate structure that will enhance the profitability performance of the deposit money banks.

  iv. The study recommended that the monetary authorities should increasingly use the MPR to regulate the commercial banks operations since its effect is seen to trickle down to other rates thereby exerting the desired impulse. Also, commercial banks should devise strategies to attract and retain financial deposit since this will help them improve their lending performances as well as their profitability.

  v. The major policy thrust of interest rate deregulation in Nigeria is to improve the ease with which investible funds are channeled to the productive sectors of the economy. At the heart of this study is the quest to empirically validate the rationale for such policy thrust on the Nigerian financial market. Using interest spread as a proxy for lending and deposit rate

movements. The study suggested that interest rate deregulation impacted positively but insignificantly on banks' loans and advances.

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