

Impact of Nominal and Real interest rate on Commercial Bank Deposit Volume in Nigeria

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Abstract: *Our study showed that interest rate regime is an important factor to determine the direction and volume of deposit and advances. Nominal interest (deposit) rate has positive and significant impact on commercial bank deposit mobilization in Nigeria. Real interest (deposit) rate has positive and non-significant impact on commercial bank deposit mobilization in Nigeria. In line with the specific objectives of this study, we recommend that since the main source of funds for commercial banks is deposit banks should give due emphasis to its deposits and strive to increase it and banks should increase their deposit interest rates in order to mobilise deposits since there exists a positive relationship between savings and deposit interests rates.*

Keywords: *Bank Financing, Manufacturing Sector, Economic Growth.*

1. INTRODUCTION:

For more than two decades ago, Nigerian economy witnessed the introduction of Structural Adjustment Program (SAP) which shifted emphasis from public sector to private sector (Onwumere et al, 2011). The goal was among other things, encourage private domestic savings mobilisation, lending for private domestic investment and capital formation in order to enhance economic growth. By encouraging savings, resources were diverted from current consumption and invested in capital enterprises. Consequently, most countries both developed and developing have taken major steps to liberalize their interest rates as part of the reform of the entire financial system. Such liberalization represents policy responses, encompassing a package of measures to remove all undesirable state imposed constraints on the free working of the removal of interest rate ceiling and loosening of deposit and credit control (Killick and Marhn, 1990).

Unfortunately things have not worked out as expected. The initial optimism expressed about public sector reforms has not been met. Although the reform programme led to privatization and commercialization of many state enterprises including banks and improvement in some macroeconomic variables like interest rate, but not without its disappointing performances of banks to recoup savings from appropriate areas and lend to areas of concern in the economy. According to the Keynesians, interest rate increases investment while a rise in the rate of interest deepens investment. Anyawu (1993) reported that as soon as the central bank of Nigeria announced deregulation of interest rate in 1987, bank over reacted by purchasing interest rate tools high reaching 30-40 percent. Such rise helped in rendering borrowers insolvent while it is nothing but boomerang.

A host of factors are likely to affect customer saving behavior in banks, these include the fixed saving interest rates which is likely to affect customers' incentive to save. Fixed savings account interest rates can also have strong consequences on overall average bank deposit and in most cases it is also affected by bank specific lending interest rates since it is customer deposits that are lent to private sector business with the expectations of returns on borrowed capital, making nominal interest rates to have a back-effect on fixed savings interest rates. Nominal interest rates therefore is likely to have an indirect causal effect on customer savings through fixed savings account interest rates which will probably be true since interest on savings are likely to be paid from returns on borrowed capital obtained from nominal interest on borrowed capital. Interest rates on bank loans and savings mobilisation are important determinants of the borrowing and deposit conditions in most economies (Borio and Fritz, 1995). Consequently, these rates are highly relevant for the determination of aggregate demand and supply.

Interest rate has contributed both positively and negatively on the economy (how people lend and borrow money as it effect the demand for and allocation of available loanable funds. Hence, the need for this research work, to determine how people responds to lending and borrowing when interest is high or low among banks in Nigeria. This study is important because the behavior of interest rates, to a large extent, determines the investment activities and hence economic growth of a country. It is therefore relevant and timely in view of the fact that there is still much ado empirically on the impacts of interest rates on lending and savings mobilization in Nigeria. It is obvious according to Umoh (2003) that an understanding of the nature of aggregate national savings and lending behavior is critical in

designing policies to promote savings, investment and growth. In view of the stated research problem, our study examines the impact of nominal and real interest rate on commercial deposit volume in Nigeria.

The subsequent sections of this study are divided into five sections. In section two the study presents the theoretical framework. In section three, our paper provides a brief empirical review. In section four, the methodology adopted will be explored. In section five, result of the analysis is provided and lastly in section six the paper concludes.

2. THEORETICAL FRAMEWORK:

Rates of return are measured with regard to real purchasing power and the theory of loanable funds propounds the determination of real interest rates based on the above condition. The theory is derived from the fact that the savers have to consider between current or future consumption prior to saving, therefore implying that the funds available from savings are determined by the need for future or present consumption. The more savers intend to have current consumption the less the funds available for investment and this affects or reduces the future. Thus, there is an existence of a tradeoff between present consumption and future consumption. Based on the assumption that people always prefer current consumption there exists an apparent need to pay an attractive incentive to persuade them to forgo this present consumption and prefer a much deferred consumption date. Therefore the real interest rate is the rate needed to persuade people to forgo present consumption and it is sometimes referred to as the reward for waiting. This implies that the savings level will be positively related to the rate of interest paid on the savings.

However according to the theory real investment, is a negative function of the interest rate since the interest rate reflects the productivity of investment projects (McConnel and Bruce, 1995). The lower the rate of interest the more investment projects become profitable and the more willing investors will be to borrow in order to invest. Thus, the real interest rate is determined by the willingness to forgo present consumption - sometimes referred to as thrift and the demand for investment. This all assumes that present income and the rates of return on investment projects are known, allowing people to make a rational choice between goods now and goods in the future.

The major drawback of the above mentioned approach is that the available interest rates that are quoted every day are expressed in nominal terms and not in real terms. These rates only provide information on the money return on savings and investment whilst the effects of inflation are not adjusted in the nominal rates therefore giving rise to the need to provide more comprehensive information based on the real interest rate, which is adjusted for inflation. This is based on the argument that a saver wanting a real rate of return will take into account the rate of inflation over the period of the loan he is making (Kroeger 2000). Actually, the nominal rate of interest should equal the real rate of interest plus the expected rate of inflation. Due to the fact that savers don't know the rate of inflation that will prevail in the future real interest rates are always different from what savers want.

3. EMPIRICAL REVIEW:

The literature is replete with empirical studies on the relationship between bank lending, deposit and interest rate. Interest rates are the subject of numerous empirical analyses, both for developed and developing countries. Depending on the purposes of the research as well as on data availability and the specific characteristics of a particular banking system, the studies are carried out in various manners, ranging from simple accounting identities through to regression techniques and other more sophisticated econometric models.

Vohra and Sehgal (2012) argued that lending is one of the two principal functions of banks, not only because of their social obligation to cater to the credit needs of different sections of the community, but also because lending is the most profitable, for the interest rates realized on loans have always been well above those realized on investments. Freixas and Rochet (2008), as cited in Fouopi-Djiogap and Ngoms (2012), noted that bank loans are one of the most important long-term financing sources in many countries.

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 - Whitney test, he found that the impact of real interest was not significant for the three groups.

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.

Haron and Azmi (2006) asserted that, most business organizations, especially in developing countries are highly dependent on bank loans as a source of capital and the ability of banks in giving loans depends much on their ability to attract deposits. Each of the different types of deposits available at the commercial banks carries a different rate of interest or yield to the depositor. In general, the longer the maturity of a deposit, the greater the yield that must be offered to depositors, in part because of time value of money and the frequent upward slope of the yield curve. For example, notice of withdrawal deposits is subject to immediate withdrawal by the customer and, accordingly, interest rate offered to depositors is among the lowest of all deposits. In contrast, time deposits of a year or longer to maturity often carry higher rates. Similarly, savings or thrift deposits are designed to attract funds from customers who wish to set aside monies in anticipation of future expenditures or financial emergencies. These deposits generally pay significantly higher interest rates to customers than transaction deposits do, particularly for those deposits the customer agrees to hold with the bank for several months or years.

A number of authors have investigated the effects of real interest rate on savings mobilization. In Nigeria and other developing economies, interest rate has shown significant effect on financial savings especially time and savings deposits while the structure of deposits was determined by differentials in deposits rates (Ndekwa, 1991).

Through further investigation using monthly data, (Ndekwa, 1991) discovered that interest rate deregulation in Nigeria have a positive impact on financial savings between 1986 and 1988 and in Ghana between 1976 and 1980. Consequently, negative real interest rates resulted in decline of financial savings in real terms. But on the contrary, the Malaysian economy witnessed a steady policy of positive inflation-adjusted interest rates which led to growth in real term savings deposits. Also in Turkey, the deregulation of interest rate in 1981 resulted in a substantial increase in time and savings deposits in real terms (Ndekwa, 1991). Apart from the above evidences, some other studies have shown negative relationship between the rate of interest and the volume of savings through financial intermediaries. For instance Ogaki, Jonathan and Reinhart (1995), in a study of personal savings in developing countries argued that high real interest rate increased savings while Ajayi (1978) in his own study concluded that savings deposits rate in a deregulated regime is not necessary in explaining the demand for savings deposit.

The study of Grilli and Milesi-Ferretti (1995), Rodrick (1998) and Kraay (2000), on the effect of financial liberalization on savings and growth, discovered that financial liberalization does not affect savings and growth, but Levine(2001), Bekaert et.al.(2003) and Bonfiglioli and Mendicino (2004), found that the effect was positive. Also, in a similar study, Eichengreen and Leblang (2003), found the effect to be negative while Bakaert et. al. (2003), Chinn and Ito (2003) and Edwards (2001), discovered those effects to be heterogeneous across countries at different macroeconomic frameworks. Modigliani (1966), argues that a higher income raises aggregate savings because it would increase the aggregate income of those working relative to those not earning labour income (i.e. retired persons living off their accumulated assets).

Carroll and Weil (1994), also confirmed that lagged values of income growth seem to explain higher saving rates; they argue that the usual consumption models with either uncertainty or liquidity constraints are not sufficient to explain this result and advance instead the hypothesis of habit persistence, according to which higher income takes some time to be reduced when income falls back. Moreover, empirical research has reported mixed results, paralleling the theoretical ambiguity. For instance, Bosworth (1993) found a positive interest rate coefficient in time-series estimation for individual countries, but a negative coefficient in a panel (cross-country) estimation for developing countries. Giovannini (1985) also concludes that in most cases the real interest elasticity is zero but given that financial liberalization may have changed the interest rates effects, it is not too surprising that results are not robust.

Commercial bankers have learned that deposit pricing can be used to shape the kind of customer base each bank can best serve. Changing deposit prices affect not only spread between bank loan rates and deposit interest rates but also customer balances and deposit mix decisions, which in turn, influence both bank growth and profit margins (Edmister, 1982). As Rose (1991) points out, deposit pricing is best used to protect and increase bank profitability, rather than to simply add more customers and to take market share away from competitors

Quaden (2004) argues that a more efficient banking system benefits the real economy by allowing “higher expected returns for savers with a financial surplus, and lower borrowing costs for investing in new projects that need external finance.” This results in a sound financial system that will be friendly to both savers and borrowers. The reverse is also true in that if the banking sector’s interest rate is low, according to Ndung’u and Ngugi (2000), it discourages potential savers due to low returns on deposits and thus limits financing for potential borrowers. The existence of savings from surplus units creates the base of lending as one of the bank’s functions is pooling of resources and surplus funds and the creation of credit to deficit units in the economy.

The works of McKinnon (1973) and Shaw (1973) attributed financial repression as the cause of the unsatisfactory growth performance of developing countries. They argued that countries characterized by financial repression; raising nominal interest rates relative to inflation would increase saving and the supply of investible resources in the economy. The productivity of investment also rises as these resources are channeled to projects that

have higher rates of return. They argued further that financial repression arises mostly when a country imposes ceilings on nominal deposit and lending interest rates at a low level relative to inflation. The resulting low or negative real interest rates discourage savings mobilization and the channeling of the mobilized savings through the financial system. This has a negative impact on the quantity and quality of investment and hence on economic growth.

Agboluaje and Lawal (2013) on a comparative study in Nigeria observed that low deposit interest rate has effect on savings. Fry (1995) reports that across a sample 14 Asian countries, savings and interest rate are positively related thus if bank policies induce a rise in deposit rate then deposit volume should increase. Fry (1988) found that the real deposit rate of interest exerts a positive and significant effect on national savings. Nominal interest rate is also fixed by a country apex bank and has the capacity to affect bank deposit making bank cost of funds to increase with country specific monetary policy (Bernanke and Blinder 1988), (Kashyap and Stein 1994, 2000) and Walsh (2003). Paul and Omosefe (2014) studied the impact of interest rate on bank deposit in Nigeria and found out that nominal interest rates were having strong positive effects on deposits and were probably affecting customers' savings in a significant manner.

Eichengreen and Leblang (2003) in a study of financial liberalization show that higher interest rate does not necessarily lead to higher savings and investment. This path was also towed by Emmanuel (2006) and Okpara (2010). However, Awan et al (2010) in their study of financial liberalization and domestic savings behaviour in Pakistan from 1973-2007, observed that real interest rate positively impact savings. Jappeli and Pagano (1994) previously arrived at similar conclusion by using a panel data of OECD countries for 1960-1987.

Giovannini (1983) estimated regressions similar to Fry's (1988), coming up with contrasting results. Using data from the 1960s and 1970s for seven Asian countries, he found no real interest rate effect on savings. On the argument that traditional savings equations may not reveal the response of aggregate saving to the interest rate, Giovannini (1985) supplemented 'Keynesian-type' savings functions with estimates of the inter-temporal elasticity of substitution in consumption. Using annual data for 18 developing countries, it was found that only in 5 cases did consumption respond significantly to changes in interest rates. According to Balassa (1989) as well as Arrita (1988) reviewed the literature on interest rates in developing countries as well as its effect on savings and concluded that even though most studies have indicated a positive relationship between savings and interest rates, they are inconclusive on whether saving is significantly affected as a result of data measurement and exclusion of appropriate lag structure. According to Agu (1988) reviewed the determinant and structure of interest rates in Nigeria and noted the existence of very low minimal and negative effect of low interest rates on savings and investment using the usual McKinnon financial repression diagram. His main conclusion was that the relationship between real interests and savings is inconclusive. Agu's conclusion based on theoretical analysis prompted Reichel (1991) to investigate the empirical relationship between, the real interest rate and saving in Nigeria who got the same result.

Mwega and Ngola (1991) used Kenyan data to test the relationships between interest rates and financial and non-financial saving. Their results reveal that the real deposit rate has an insignificant influence on both financial and non-financial saving in Kenya. They also found that higher interest rates constrict the demand for credit, suggesting that a policy of interest rate liberalization might be stag-inflationary in its effects. According to Ayanwu (1994) analysed the effect of real deposit interest rate on savings rate and investment rate for Nigeria between 1986 and 1994. The regression result confirmed a non-significant effect of real interest rates on savings and investment rates. The effect is negative for both, albeit insignificant.

Turtelboom (1991) has provided reasons for one to be skeptical about the impact of interest rates on saving in Africa. He examined the experience of five African countries (Gambia, Ghana, Kenya, Malawi, and Nigeria) with interest rate liberalization. It was revealed that despite substantial progress made in reforming their financial systems, liberalization only partially affected the level and variability of interest rates in these countries. This behavior of interest rates was attributed to the underdevelopment of financial markets and the oligopolistic structure of the banking industry which kept interest rate spreads wide through the collusive behavior of the dominating banks.

Seck and El Nil (1993) also tested some causal relationships implied in the McKinnon-Shaw thesis for a sample of African countries. Using pooled cross-section and time-series data for 30 countries, shows that the deposit rate positively influenced financial savings. Using both time series and cross-sectional data for a large sample of industrial and developing countries, Masson, et al, (1998) also found that the real interest rate had a small and insignificant effect in estimated saving functions. Separating panels of industrial and developing countries revealed a negative and insignificant effect in developing countries but a positive and significant (but not robust) effect for industrial countries. The authors attributed this disparate effect to the different levels of financial development in industrial versus developing countries as well as possible instability in the saving function due to financial liberalization in the developing countries.

The study by Galac and Kraft (2000) investigates deposit interest rates for the US and find that foreign banks were found to offer lower deposit interest rates than domestic banks, this negative interest rate elasticity shows larger differentials for foreign banks in times of crisis compared to domestic banks. Hellmann et al (1995) emphasized that deposit rate controls breed asset substitution where depositors seek alternative ways to save such as real estates, gold

and other durable assets rather than money. A positive real interest rate is an incentive for saving and increased deposit mobilization. Otherwise, negative real interest rates as often the case in the developing countries is a disincentive to savings and subsequently reduce bank deposits.

Hanson (2001) compared the repression and liberalization experiences of India and Indonesia to illustrate how different approaches to liberalization can result in different outcomes. Although both countries were pushed to liberalize interest rates and credit allocation following balance of payment problems, Indonesia undertook rapid liberalization of interest rates and softened bank entry with little improvement in regulation and supervision. In contrast, India undertook more gradual liberalization and was careful to improve regulation and supervision significantly. Deposit mobilization increased in both countries and the expansion of private banks in Indonesia increased credit access to a wider group of borrowers who appear to have used the resources more efficiently. Bank lending to the public sector remained large in India and the expansion in private sector credit came from non-bank financial intermediaries and the capital market. Growth increased in both countries following interest rate liberalization. Hanson found evidence that the productivity of investment also improved. The lack of strong supervision in Indonesia eventually resulted in serious banking problems, especially among small banks that entered with little capital.

Phylaktis (1997) however notes that despite the trauma associated with liberalization, by the early 1990s, Chile was at the most advanced stage in the process compared to other Latin American countries and was poised to resume sustainable growth. Nominal and real interest rates were however at high levels despite substantial capital inflows, as the demand for credit remained high. According to him, the key lessons to learn from Chile’s experience with financial liberalization include: i) the order of liberalization is crucial and it is important to stabilize the economy before embarking on financial liberalization; ii) there should be a gradual liberalization of the external accounts and foreign exchange restrictions in order to avoid a possible increase in the stock of foreign debt; and iii) liberalizing interest rates without improving banking supervision creates moral hazard, with banks extending risky loans at high interest rates, in the expectation that deposit insurance will cover the losses.

4. METHODOLOGY:

A model is a simplified view of reality deigned to enable a researcher describe the essence and inter relationship within the system or phenomenon it depicts (Yomere and Agbonifoh, 1999). Following a detailed review of previous studies by Alasia, 2003, Ojo (1984), Odedokun (1987), Ezirim and Emenyonu (1997) Ajakaiye and Odusola (1995) and specifically Ezirim et al (2002) deposit portfolio is expressed as a function of rate of interest, macroeconomic factors and bank specific factors set as control variables and this is expressed by the equation below;

$$TDV = f(INTR, GDP, BRCH)..... (i)$$

We thus hypotheses that nominal deposit rate and real deposit rate do not have positive and significant impact on total deposit volume of Nigerian banks. To address this, we created two models. Our first model is:

$$TDV = \beta_0 + \beta_1NDPR + \beta_2GDP + \beta_3BRCH + \mu..... (ii)$$

- Where;
- TDV = Total Deposit Volume
 - NDPR = Nominal Deposit Rate
 - GDP = Gross Domestic Product
 - BRCH = Total Bank Branch
 - β₀ = Constant Term
 - β₁, β₂, β₃ = Coefficient of the independent variables
 - μ = Error Term
 - β₁>0, β₂>0, β₃> 0

Our second model is:

$$TDV = \beta_0 + \beta_1NDPR + \beta_2RDPR + \beta_3GDP + \beta_4BRCH + \mu.....(ii)$$

- Where;
- TDV = Total Deposit Volume
 - RDPR = Real Deposit Rate
 - GDP = Gross Domestic Product

BRCH = Total Bank Branch
 β_0 = Constant Term
 $\beta_1, \beta_2, \beta_3$ = Coefficient of the independent variables
 μ = Error Term
 $\beta_1 > 0, \beta_2 > 0, \beta_3 > 0$

The deposit represent the money in the funds of the banks various deposit schemes. They include savings deposit, fixed deposit and demand deposit. The deposit funds of commercial banks are collectively called deposit liabilities. In Nigeria, the greater portion of commercial deposits is demand deposits. For example, between 1996 and 2000, 46.4% of total commercial bank deposit is made up of demand deposit while time and savings deposits averaged 31.6% and 22% respectively.

From the economic perspective it is important to differentiate between nominal and real interest rates. Nominal interest rates are the rates quoted in loan and deposit agreements. Real interest rates, on the other hand, are obtained by deflating the nominal rates, that is to say, by adjusting them for the decrease in the real value (i.e. purchasing power) of the borrowed or deposited funds over the duration of the loan or deposit. The decrease in the real value of the funds over a given period is equal to the rate of inflation for that period. This study will use other variables associated with either economic development. Two of these variables are included in the model as control. These are capital stock and trade ratio. The ratio of capital expenditure to nominal gross domestic product and the share of gross capital formation will be used as proxy for the capital stock, while the trade ratio is defined as the ratio of the total value of exports and imports to the nominal gross domestic product.

As observed from the model, the hypotheses will be tested using Ordinary Least Square (OLS) regression analysis. Regression analysis is concerned with the study of the dependence of one variable, the dependent variable, on one or more other variables, the explanatory variables, with a view to estimating and/or predicting the population mean or average value of the former in terms of the known or fixed (in repeated sampling) values of the latter (Gujarati and Porter, 2009).

5. RESULTS:

Our Model 2 result is presented in table 5.1 which evaluate the impact of nominal interest rate on commercial bank deposit mobilization in Nigeria. The table showed the variables, the coefficient, standard error, t-statistics and probability as so analyzed.

Table 5.1

Dependent Variable: LOG(TDV)
 Method: Least Squares

Sample(adjusted): 1986 2005

Included observations: 20 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-9.278139	5.209231	-1.781096	0.0939
NDPR	0.136898	0.031572	4.336004	0.0005
LOG(GDP)	4.66E-08	5.50E-08	0.846512	0.0000
LOG(BRCH)	3.055554	0.695675	4.392217	0.0005
R-squared	0.921381	Mean dependent var		12.94907
Adjusted R-squared	0.906640	S.D. dependent var		1.571792
S.E. of regression	0.480259	Akaike info criterion		1.547876
Sum squared resid	3.690386	Schwarz criterion		1.747022
Log likelihood	-11.47876	F-statistic		62.50435
Durbin-Watson stat	1.988684	Prob(F-statistic)		0.000000

Source: Researcher's Eview Result

Clearly, the result of the regression above showed that NDPR, LOG (GDP) and LOG (BRCH) are directly related to LOG (TDV). It shows that as nominal deposit rate increases by 1 unit, volume of deposit increases by 0.13 units, as gross domestic product increase by 1 unit volume of deposit increases by 4.7 units and as the number of bank branches increases by a unit volume of deposit increases by 3.1 units. These results conform to economic a priori expectation because it is naturally expected that an increase in NDPR will motivate depositors to postpone immediate consumption and save their financial wealth and LOG (GDP) and LOG (BRCH) shows that as the economy grows and branches increases, the volume of deposits increases in commercial banks. It is important to note that NDPR, LOG

(GDP) and LOG (BRCH) are statistically significant with a p-value of 0.005, 0.000 and 0.005 which is less than 0.05 critical values signifying that the impact of the variables has been strongly or possibly the coefficient not statistically equal to zero.

The R² is the summary measure that tells us how well the sample regression line fits the data. From the model above, R² of 0.92 means that 92% variation in volume of deposit was explained by changes nominal deposit rate, GDP and number of bank branches and the remaining 8% were explained by variables not included in the model. The adjusted R² take account of more number of regressors if included and it explains 91% variations in the dependent variable. The F-value of (62.5) which follows the F distribution with a degree of freedom numerator of 3 and a degree of freedom denominator of 20 is significant (P-value = 0.000) at a critical value of 0.05. This implies that the entire model is significant.

To test for this hypothesis we shall use table 5.2 which evaluate the impact of real interest rate on commercial bank deposit volume in Nigeria. The table showed the variables, the coefficient, standard error, t-statistics and probability as so analyzed.

Table 5.2

Dependent Variable: LOG(LOA)
 Method: Least Squares
 Sample: 1986 2012
 Included observations: 19
 Excluded observations: 8

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.280297	0.388653	-3.294190	0.0049
LOG(RLDR)	-0.069092	0.037393	-1.847733	0.0845
LOG(GDP)	0.092483	0.125481	0.737030	0.4725
LOG(TDV)	0.933679	0.119564	7.809022	0.0000
R-squared	0.964039	Mean dependent var		13.60393
Adjusted R-squared	0.952847	S.D. dependent var		2.094698
S.E. of regression	0.177156	Akaike info criterion		-0.438910
Sum squared resid	0.470763	Schwarz criterion		-0.240081
Log likelihood	8.169644	F-statistic		833.8475
Durbin-Watson stat	2.185837	Prob(F-statistic)		0.000000

Source: Researcher's Eview Result

The result of the regression in table 4.14 shows that LOG (RLDR) is negatively related to LOG (LOA) while LOG (GDP) and LOG (TDV) are directly related to LOG (LOA). It shows that as real lending rate increases by 1 unit, loan and advances decreases by 0.07 units, as gross domestic product increase by 1 unit, loan and advances increases by 0.09 units and as volume of deposit increases by a unit loan and advances increases by 0.93 units. These results conform to economic apriori expectation because it is expected that an increase in RLDR will discourage borrowers from obtaining credit in consideration of marginal increase in cost of doing business, increase in LOG (GDP) will actually envisage greater opportunity for profit making in the economy and LOG (LOA) shows as volume of deposits increases, commercial banks will be willing to give out loans. It is important to note that LOG (TDV) is statistically significant while LOG (GDP) and LOG (RLDR) are non – significant with a p-value of 0.000, 0.47 and 0.08 respectively which is less than 0.05 critical values signifying that the impact of LOG (TDV) has been strong or possibly the coefficient is not statistically equal to zero while that of GDP and RLDR are as good as being zero.

The R² is the summary measure that tells us how well the sample regression line fits the data. From the model above, R² of 0.96 means that 96% variation in volume of deposit was explained by changes nominal lending rate, GDP and volume of deposit and the remaining 4% were explained by variables not included in the model. The adjusted R² take account of more number of regressors if included and it explains 95% variations in the dependent variable. The F-value of (833.8) which follows the F distribution with a degree of freedom numerator of 3 and a degree of freedom denominator of 20 is significant (P-value = 0.000) at a critical value of 0.05. This implies that the entire model is significant.

6. CONCLUSION AND RECOMMENDATIONS:

The results emanating from this study are quite revealing for Nigerian commercial banks. Commercial banks decisions on deposit mobilization and involve the commitment and allocation of funds to short and long-term assets

that yield benefits in the future. Nigerian deposit money banks remain dominant in the banking system in terms of their shares of total assets and deposit liabilities. Their total loans and advances, a major component of total credits to the private sector are still on the increase in spite of the major constraints posted by the government regulations, institutional constraints and other macroeconomic factors. We concludes that, both government and deposit money banks should be mindful of the facts that the environments in which they operate are important factors in the bank performance. Where the environment is conducive and supportive, performance of banks is enhanced and good mobilization and lending behaviour is guaranteed. But where the environment is unstable and harsh, the bank's performances suffer. Deposit money banks should note that they need to do a lot in order to ensure good lending behaviour even where a good measure of macroeconomic stability is achieved. The study shows that interest rate regime is an important factor to determine the direction and volume of deposit and advances. Nominal interest (deposit) rate has positive and significant impact on commercial bank deposit mobilization in Nigeria. Real interest (deposit) rate has positive and non-significant impact on commercial bank deposit mobilization in Nigeria. In line with the specific objectives of this study, we recommend that since the main source of funds for commercial banks is deposit banks should give due emphasis to its deposits and strive to increase it and banks should increase their deposit interest rates in order to mobilise deposits since there exists a positive relationship between savings and deposit interests rates.

REFERENCES:

1. Adofu, M. I. and Audu, S. I. (2010).An Assessment of the Effect of Interest Rate Deregulation in enhancing Agricultural production in Nigeria. *Current Research Journal of Economic Theory*, 2(2): 82-86.
2. Agboluaje, A.A., and Lawal, A. F.(2013),Comparative Study between Granger Causality and Forecast Error Variance Decomposition Analyses on the Effect of Deposit Interest Rate on Savings in Nigeria. *Transnational Journal of Science and Technology*, Vol 3, No 1.
3. Agu, C.C. (1988): "Interest rates policy in Nigeria and it attendant distortions" savings and development, *American Economic Review* vol. XII, No. 1pg. 19-33.
4. Ajakaiye O. and Odusola A.F (1995); "Real Deposit Rates and Financial Savings Mobilization in Nigeria: An Empirical Tests" *Journal of Economic Management*, Vol. 2.
5. Ajayi D (1978) Deposit Rates in a deregulated Regime and its implications, *Transnational Journal of Science and Technology*, vol 3, pg 55-67
6. Alasia, T. W. O. (2003) "Development of A Model for Predicting Deposit Mobilization of Commercial Banks in Nigeria". Doctoral Dissertation, University of Nigeria, Enugu Campus
7. Anyanwu, J. C. (1993) *Monetary Economics: Theory, Policy and Institutions*. Onitsha: Hybrid Publishers Ltd.
8. Anyanwu, J.C. (1995): "Structural Adjustment Programme, Financial Deregulation: The Nigeria Case". *The Nigerian Economic and Financial Review* Vol. 1, No.1, June.
9. Arrieta, C.M.G. (1988) "Interest rates, savings, and growth in LDCs: an assessment of recent empirical research", *World Development*, 16(5):589-605.
10. Bakaert, G., Campbelrh,R., & Christian, L. (2003): "Does Financial Liberalization Spur Growth?"; *Journal of Financial Economics* 77 (2005) 3–55, www.sciencedirect.com
11. Balassa, B. (1989), "Financial Liberalization in Developing Countries", Policy, Planning and Research working papers, World Bank
12. Bernanke, B. and A. Blinder (1988), "Credit, Money and Aggregate Demand", *American Economic Review*, 78 (2): 435-439
13. Bonfiglioli, A. and Mendicino,C. (2004):" Financial Liberalization, Banking Crisis and Growth: Assessing the Links", *SSE/EFI Working Paper No 567*
14. Borio, C and W Fritz (1995): "The response of short-term bank lending rates to policy rates: a cross-country perspective", *BIS Working Papers*, no 27.
15. Carroll, C, and Weil, D., (1994): "Saving and Growth. A Reinterpretation": *Carnegie-Rochester Conference series on Public policy*. 40:133-192
16. Chinn, M. and Ito, H. (2003): "What Matters for Financial Development? Capital Controls, Institutions and Interactions," *Journal of Development Economics*.
17. Edmister, Robert. O. (1982), "Margin Analysis for Consumer Deposit Interest Rate Policy." *Journal of Bank Research*, Autumn 1982, pp. 179-84.
18. Edwards S. (2001): "Capital Mobility and Economic Performance: Are Emerging Economies Different?" *NBER.P. 8076*.
19. Eichengreen, B. and Leblang, D. (2003): "Capital Account Liberalization and Growth: Was Mr Mahathir Right?" *International Journal of Finance and Economics*, 8:205-224.

20. Ezirim B. C. and E. N. Emenyonu (1997) "The Financial Market, Intermediation Function and Economic Efficiency: A paradigmatic Analysis" *Journal of Industrial, Business and Economic Research*, Vol. 1, No. 1.
21. Felicia O.O (2011). Determinants of Commercial Banks' Lending Behavior in Nigeria, *International Journal of Financial Research* Vol. 2, No. 2;
22. Fouopi-Djiogap C. and A. Ngomsi, (2012) "Determinants of bank long-term lending behavior in the Central African Economic and Monetary Community," *Review of Economics & Finance*, Vol 2, no. 1, pp. 23-32 2012.
23. Freixas, Xavier and Rochet, Jean-Charles(2008), "*Microeconomics of Banking*", Cambridge, Massachusetts, MIT Press
24. Fry, M., (1988), *Money, Interest, and Banking in Economic Development*, Johns Hopkins University Press, Baltimore, MD
25. Fry, (1995).*Facts about the Co-operative movement*. Nairobi, Kenya National Federation of Co-operatives
26. Giovannini, A. (1983) "The Interest Rate Elasticity of Savings in Developing Countries: The Existing Evidence", *World Development*, Vol.11 (7)
27. Giovannini, A. (1985) "Saving and the Rate of Interest in LDCs," *Journal of Development Economics*, Vol.18
28. Grilli, V. and Milesi-Ferretti,(1995):"Economics Effect and Structural Determinants of Capital Controls", *IMF Staff papers*, 42:3.
29. Hanson, J. A, (2001), "Indonesia and India: Contrasting Approaches to Repression and Liberalization," in *Financial Liberalization*, ed. by Caprio, Honohan, and Stiglitz (Cambridge: Cambridge University Press)
30. Haron S. and W. N. W. Azmi, (2006) "Deposit determinants of commercial banks in Malaysia," *Working Paper Series* 009
31. Hellmann T., K. Murdock and J. Stiglitz, (1995), "*Financial Restraint: Toward a New Paradigm*,"forthcoming in "*The Role Of Government in East Asian Economic Development: Comparative Institutional Analysis*", eds. M. Aoki, M. Okuno-Fujiwara and H. Kim, Oxford University Press
32. Jappeli T., and M. Pagano (1994), "Savings, Growth and Liquidity Constraints." *Quarterly Journal of Economics*. Vol. 107
33. Khat, K.D.R. and F.J. Bathia, (1993).Financial Intermediation, Savings Mobilization and Entrepreneurial Development, The African Experience. *IMF Staff Discussion Paper*, Vol: 27Klein, Michael. 1971. "A theory of the banking firm". *Journal of Money, Credit and Banking*, Vol. 3, No. 2, 205-218.
34. Killick, T.and M. Martin (1990) 'Policies for Financial Liberalisation', *ODI Working Paper*, No.35. London: Overseas Development Institute.
35. Kraay, A. (2000): "In search of the Macroeconomic Effects of Capital Account Liberalization" *World Bank, Mimeo*.
36. Levine, Ross, (2001), "International Financial Liberalization and Economic Growth." *Review of International Economics* 9, 688-702.
37. Masson, P.; Bayoumi, T. and Samiei, H. (1998), "International Evidence on the Determinants of Private Saving", *World Bank Economic Review*, 12(3), pp. 483-501
38. McConnell, Campbell R. and Bruce, Stanley L. (1995). *Economics*. McGraw-Hill Professional. ISBN 0-07-281935-9.
39. Mckinnon, R.I.(1973), "*Money and Capital in Economic Development*". Washington: The Brookings Institution.
40. Modigliani, F. (1966): "The Life-Cycle Hypothesis of Savings; The Demand for Wealth, and the Supply of Capital". *Social Research* 33(6): 160-217.
41. Mwega, F. and Ngola, S. (1991), "The Role of Interest Rates in the Mobilization of Private Savings in Africa: A Case Study of Kenya", *Ife Journal of Economics and Finance*, 1(1), pp. 1-14
42. Ndekwa, E.C. (1991) "*Interest Rates, Bank Deposits and Growth of the Nigerian Economy*", NISER Monograph Series, No. 4.
43. Ndung'u, Njuguna and Ngugi, Rose W. (2000). Banking Sector Interest Rate Spreads in Kenya, Kenya Institute for Public Policy Research and Analysis *Discussion Paper*, No. 5
44. Ojo, O. (1984) "*Financial Intermediation and Growth*". University of Ife Inaugural Lecture; University of Ife Press, Ile-Ife.
45. Okpara G. C. (2010) The effect of financial liberalization on selected macroeconomic variables: Lesson from Nigeria. *International Journal of Applied Economics and Finance*, 4;53-61
46. Onwumere J.U.J, Okore O. A and Ibe I. G.(2011). The Impact of Interest Rate Liberalization on Savings and Investment: Evidence from Nigeria. *Research Journal of Finance and Accounting*, Vol 3, No 10, 2012
47. Paul O. and O. Omosefe (2014), The Impact of Interest Rate on Bank Deposit: Evidence from the Nigerian Banking Sector, *Mediterranean Journal of Social Sciences*, Vol 5 No 16

48. Phylaktis, Kate (1997), "Capital market integration in the Pacific-Basin region: An analysis of real interest rate linkages," *Pacific-Basin Finance Journal*, vol. 5(2), pp. 195-213
49. Quaden, Guy (2004). Efficiency and stability in an evolving financial system, www.bnb.be/Sg/En/Contact/pdf/2004/sp040517en.pdf
50. Riechel (1991): "Savings, Investment and Growth Patterns in Developed and Developing Countries NCEMA Monography Series No. 3.
51. Rodrik, D. (1998): "*Who needs Capital-Account Convertibility*" Harvard University, Mimeo. (Ed)
52. Seck, D. and Nil El, Y.(1993), "Financial Liberalization in Africa", *World Development*, vol. 21, pp. 1867-1881
53. Shaw, E. (1973), "*Financial Deepening in Economic Development*, New York: Oxford University Press
54. Turtelboom, B. (1991), "Interest Rate Liberalization: Some Lessons from Africa", *IMF Working Paper*, WP/91/121.
55. Umoh,O.J. (2003). An Empirical Investigation of the Determinants of Aggregate National Savings in Nigeria, *Journal of Monetary and Economic Integration*, Vol. 3, No. 2 pp.113-132
56. Walsh M.(2003) "*Monetary Theory and Policy*" MIT Press Canbridge Massachussetts United States.
57. Yomere, G. O. &Agbonifoh, B. A. (1999).*Research Methodology in the Management and Social Sciences*, Uniben Press, University of Benin, Benin City, Nigeria