

EFFECT OF INTEREST RATE ON ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

This study investigated the effect of interest rate on the economic growth of the Nigerian economy. The aim of the study was to determine the effect of inflation rate, exchange rate and deposit interest rates on the gross domestic product of the country. The data for the study was obtained from the statistical bulletin of the Central Bank of Nigeria from 1980-2016. The research design adopted for the study was the ex-post facto research design. Multiple regression technique was used for the analysis of data. The student t-test was used to test the hypotheses formulated. It was found that INF and EXR have negative and insignificant effect on GDP. Also it was found that DIR has positive and significant relationship with GDP. The study generally concludes that interest rate has a negative and insignificant relationship with GDP.

It has been observed over the years that the ability of an economy to produce depends largely on the availability of resources in the economy. For emerging economies like Nigeria, production could be seen as a vital process that protects the economy against economic embarrassments like recession. Nigeria has over the years concentrated her production in the oil and gas sector neglecting other key sectors like agriculture, tourism and mining. This act has boxed Nigeria to the corner where we are today (economic recession). The ability and capacity to increase the level of production of quality service and tangible goods is pertinent to the growth of any economy (Adofu, 2010). Economic growth can therefore be viewed as an increase in the Gross Domestic Product (GDP) of a particular country. Inflation and Interest rate are essential macroeconomic variables capable of changing, transforming and redirecting the growth pattern of a country's economy (Abiodun, 1998).

Abebiyi (2002) opined that the desire of any economy is to have a sustained economic growth but this macroeconomic objective cannot be achieved in the face of hash and precious interest rates. To Okpe (1998), inflation rates and high interest rates are major drawbacks of economic growth in emerging economies like that of Nigeria. The National Bureau of Statistics in Nigeria realised a statement in the 2nd quarter of 2017 that Nigeria has witnessed an increase in economic growth of about 0.055% but how much of this growth is felt by an average Nigerian in the face of high inflation and interest rates is already a puzzle.

The researcher's motivation to study this area hinge on the fact that one, Interest rate is one of the most essential aspects of the Nigerian economic system that influence the cost of borrowing and borrowing is an imperative source of financing businesses and production which may lead to economic growth. Two, interest rates affects the return on savings, if the interest on savings is encouraging; individuals would be encouraged to save more idle cash which may pave way for availability of lendable funds in the bank consequently economic growth would be improved. Three, interest rates are an important component of the total return of many investments. Four, certain interest rates provide insight into future economic and financial market activity based on these vantage roles interest rates play in the Nigerian economy it is imperative to continuously study this area to find out how well or otherwise interest rates affect the Nigerian economy. The major problem this study seeks to solve is to ascertain the effect of interest rate on economic growth in Nigeria within the study period.

1.2 Objectives of the Study

The main objective of the study shall be to assess the effect of interest rate on economic growth in Nigeria. The specific objectives of this research shall be as follows:

- (i) To determine the effect of inflation rate on economic growth in Nigeria.
- (ii) To examine the effect of deposit interest rate on economic growth in Nigeria.
- (iii) To evaluate the effect of exchange rate on economic growth in Nigeria.

1.3 Statement of Hypotheses

The following shall be the hypotheses of the study:

H₀₁: Inflation rate has no significant effect on economic growth in Nigeria.

H₀₂: No significant relationship exists between deposit interest rate and economic growth in Nigeria.

H₀₃: There is no significant relationship between exchange rate and economic growth in Nigeria.

2. REVIEW OF RELATED LITERATURE

This study examines the effect of interest rates on economic growth in Nigeria. This section of the study discusses the concepts of interest rate and economic growth. It further discusses the theories backing up the topic under consideration but more importantly, this section reviews prior related empirical studies to the theme of discussion.

2.1 The Neo-classical Theory of Interest Rate or Lendable fund Theory

Lendable funds theory of interest rate posit that interest rates are affected by the factors of demand and supply of lendable funds that interplay within the market with a view of spontaneously setting the interests rates. The theory further explains that the demand for lendable funds has an inverse relationship with interest rate. This implies that the demand for lendable funds and interest rates move in non converging directions. By this assertion, it can be explained that an increase in interest rates may negatively affect the cost of raw materials in the market as a result; production cost may increase posing a threat to economic growth.

2.2 The Concept of Interest Rate

According to Sanusi (2002), interest rates are the costs a borrower has to pay when obtaining a loan in any economy. This definition implies that, interest rates are the determinants of the cost of credits in an economy. The impact of high cost of interest rates in the society is not unconnected to the fact that borrowers may hesitate to borrow when they should. This may be because the cost of credit and the credit itself may aggregate to an amount that may be unaffordable to the borrower to pay back within the stipulated due date of the loan. The implication of this on the economy is that GDP of the economy would be low since equity financing alone cannot adequately sponsor the production activities in an economy. To Ssekuma (2011), money is borrowed at a cost and the cost associated with the borrowing of funds is referred to as interest rate. It is not just production of goods that are negatively affected by increased interest rates but also affected are those involved in real estate business. The increase in interest rates affects demand for mortgages posing a challenge on the prices of residential real estates. On the contrary, proponents of high interest rates are of the opinion that high interest rates encourage the supply of idle funds in the market making an improvement in the cyler flow of funds and making accessibility of funds quite easy for businesses to flourish.

2.3 The Concept of Economic Growth

This study views the concept of economic growth as an increase in the per-capital income of an individual in the economy. The economy of a nation is considered to have grown when the nation's capital dividend by the total population of such a country increases sustainability (Akintoye and Olowulajo, 2008). It may not be wise to consider a nation's economy as increasing when there are fluctuation in the per capital income of such a nation within a short period of time. To Khan and Senhadji (2001), the economic growth of an economy may be considered using the GDP of the economy. If the GDP of an economy increases, the country's economic growth is considered increased. Also, if there are an increase in the aggregate goods and services per person in an economy for a reasonable period of time say 5 years and above there are elements of economic growth. Anyawoncha (1993) assert that a nation's economic growth can be measured in terms of its per capital income and the nation's total goods and services within a given period of time.

2.4 Review of Related Empirical Studies

A number of studies have been conducted in the area of interest rates and its effect on economic growth. However, findings of such researches were mixed and inconsistent in some cases. In the study conducted by Udoka and Anyingang (2012), with evidence from 1970-2010 the study found that interest rates and economic growth have an inverse relationship. The researcher collected data from the CBN using the ex post facto research design and an ordinary least square multiple regression analysis to arrive at findings. Also, Itodo, Eche and Kamo (2012) found that interest rates have insignificant association with economic growth in Nigeria using OLS regression technique for data analysis. The data was collected from 1987-2009. On the other hand, Babalola, Oladepo, Danladi, Akomolade and Ajiboye (2015) found that inflation and interest rate have a negative effect on economic growth using 1981-2014 as the study period with data collected from the Central Bank of Nigeria. A negative effect of interest rates on economic growth in Kenya was obtained in the study conducted by Mutinda (2014) who collected data from the Central Bank of Kenya using the period 2003-2012. This study used the leading rate as a proxy for interest rate. The study also used GDP as the dependent variable with multiple regression analysis as its major technique of data analysis to arrive at the findings stated above

3.0 RESEARCH METHODS

This study investigated the effect of interest rates on economic growth in Nigeria. This part discusses the research design used for the study, the population of the study, the sample size and its determination, the definition of variables, specification of the model used for the study, sources of data and techniques of data analysis. The study adopted an ex-post facto research design. This type of research design is adopted because the researcher does not aim at manipulating any of the variables under investigation and our pre-disposition is to observe occurrence of interest rates and growth over a period of time. Data is gotten from the Central Bank of Nigeria (CBN) statistical bulletins from 1980-2016. The data was analysed using OLS multiple regression technique

Table 1 variable type and their measurements

Variable	Name	Type	Measurement	Sign
GDP	Gross domestic product	Dependent	measured using the values obtained from CBN	
INF	Inflation rate	Independent	measured using the values obtained from CBN	-
EXR	Exchange rate	Independent	measured using the values obtained from CBN	-
DIR	Deposit interest rate	Independent	measured using the values obtained from CBN	-

Source: Author's compilation 2018

3.2 Model specification

$$GDP = \beta_0 + \beta_1 INF + \beta_2 DIR + \beta_3 EXR + u$$

where, GDP = Gross Domestic Product, EXR = Exchange Rate, DIR = Deposit Interest Rate, INF = Inflation rate, U = Error Terms, β_0 = constant

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = are the coefficients of the independent variables

4 RESULTS AND DISCUSSION

This study investigated the effect of interest rates on economic growth in Nigeria. In order to achieve the objective, this section presents the data collected from the statistical bulletin of the Central Bank of Nigeria (CBN) from 1980-2016. The chapter also analyses the data collected using the regression technique and tests the research hypotheses with a view to answering the research questions stated earlier.

4.1 Data Presentation and Analysis

This section presents and analyses the data collected for the study with the help of Statistics/Data Analyses Package (STATA) version 13. To carry out a perfect analysis of the data, it was important to run a number of post estimation tests on the dataset to ascertain the most appropriate technique to use consequently, the Augmented Dickey Fuller test were carried out to ascertain the stationarity of the dataset. It was observed that all the variables proved to be stationary. This led to the consideration of the Ordinarily Least Square (OLS) technique as the major technique for data analysis. To ensure that the results obtained from the regression using the Statistics/Data Analysis (STATA) version 13 was reliable and valid; tests were carried out using the following: heteroskedasticity and multicollinearity tests, the results of the tests favoured regression analysis.

4.2 Descriptive Statistics

The descriptive statistics in this part of the study describes and analyses the data using the mean, the standard deviation, the minimum and the maximum. The details of the descriptive statistics are presented in table 2 below:

Table 2: Summary of Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
EXR	37	17.03459	5.991203	7.7	29.8
INF	37	22.2195	20.36291	0.22	76.76
GDP	37	28.40595	27.35357	-4.06	118.1
DIR	37	19.89466	25.09117	-3.34	114.8

Source: Field work 2018

Table two indicates that a total of 37 observations were analysed in this study. The table further shows that GDP which is the dependent variable has a mean of 28.406. This implies that considering the time under investigation using the predictor variables in the study ignoring other factors, the average GDP can be predicted to be 28.406. The study further show that the deviation of the GDP from the mean is low (27.354), also the minimum and maximum are -4.06 and 118.1 respectively. Table 2 also proves that EXR has a mean of 17.035 with a little deviation of 5.991 and a minimum and maximum of 7.500 and 29.800 respectively. INF has an average of 22.220 with a deviation of 20.363 and a minimum of 0.22 and maximum of 76.760. DIR has 19.895 as its mean and a deviation of 25.091. The maximum and minimum values for DIR stood at 114.830 and -3.340 respectively.

4.3 The OLS Regression Result

The OLS forms the major tool for data analysis in this study. The OLS technique is selected based on the result obtained from the Augmented Dickey Fuller test for unit root. The results indicated that the summary statistics of the variables under investigation followed a trend and consequently are stationary, hence a p-value of 0.000 for GDP, 0.039 for EXR, 0.005 for INF and 0.0012 for DIR. The OLS was used because the data is that of a simple time series and the variables are confirmed to be stationary.

Table 3: The OLS Regression Result

ROA	Coef.	t	P> t
R²			0.4727
Adj R²			0.4248
F-Value			9.86
Prob.>F			0.001
EXR	-0.5943932	-0.89	0.379

INF	-0.1288015	-0.70	0.486
DIR	0.8424407	5.02	0.000
cons	24.63305	2.23	0.033

Source: Field Work 2018

Test of Significance: To test that the results obtained from the regression model are fit to generalize the findings thereto, the model was tested at 5% level of significance. The result from the model show $\text{prob} > F = 0.0001$ and an F-value of 9.86. The decision rule is that a probability of less than 0.05 is significant and fit to generalize the findings obtained from the model. Based on the probability of 0.0001 obtained from the model which is less than 0.05, it can be concluded that the model is fit for generalization of the results. Also the F-value of 9.86 is an indication that all the coefficients are different from zero. This further confirms the fact that the model is fit for use.

Table 3 also presents the summary of the result between interest rate and economic growth as indicated by the P-values of 0.379, 0.486 and 0.000 for EXR, INF and DIR respectively. The result further discloses that 42.48% of the variation in GDP is caused by the explanatory variables in this study. This implies that only 57.52% of the variation in GDP is accounted for by factors other than the variables investigated within the time covered by the study. The R-square from the table indicates a value of 47.27%. The difference between the R-square and the adj R-square gives a value of 4.79%. This means that if the entire population of the study were sampled, the result obtained from this study would have differed from that of the entire population by just 4.79% implying that the sample represent 95.21% of the prediction from the entire population.

Further analysis of the results in table 3 shows that there is a constant value of 24.63. This is an indication that holding the effect of EXR, INF and DIR constant, the GDP of the country will still be at 24.63. On the contrary, the result also indicates that if all other factors are held constant a unit increase in exchange rate would insignificantly (0.379) reduce GDP of Nigeria by 0.594 units. Also, if any other factor is not considered apart from that of inflation, a unit increase in inflation rate would insignificantly (0.486) reduce GDP by 0.123 units. In addition, a unit increase in deposit interest rates holding all other factors constant would significantly (0.000) increase GDP by 0.842 units.

4.4 Policy Implication

The results of this study may have some significant policy implications on domestic policy makers. It is opined that a careful observation of these policies may improve economic growth in Nigeria.

4.4.1 Inflation and Economic Growth in Nigeria

In line with the a priori expectation in this study that inflation rate would have a negative effect on the economic growth of Nigeria. Table 3 also indicates that INF has a negative (-

0.128) effect on the GDP in Nigeria. The implication of this result is that as long as the inflation rate rises the GDP of the country would be on the decreasing side. This suggests that the control measures for inflation control are not sustainable. It is important therefore that since inflation cannot be totally eliminated, Nigeria should try as much as possible to control inflation to a single digit level. On the other hand the result also shows that the effect of INF on GDP is insignificant (0.486). This implies that the reduction in GDP occasioned by the inflation rate factor is not enough to bring the Nigerian economic growth to a halt.

4.4.2 Exchange Rate and Economic Growth in Nigeria

The result from table 3 is not different from that of aprior expectation stated earlier. It was asserted earlier that increase in exchange rate would have a negative effect on economic growth in Nigeria. Consequently, the result in table two proves that exchange rate has a negative (-594) effect of GDP in Nigeria. Exchange rate can be seen as the cost of a dollar for the Nigeria. Thus as exchange rate increases more of the naira would be used to purchase a unit of the dollar; impliedly only a few raw materials can be purchased with the naira in the international market. This may result to low productivity and consequently low GDP. It is necessary therefore, to address exchange rate fluctuation with the appropriate policies so as to forestall economic growth. The table also indicates that the effect of EXR is insignificant (0.379) to economic growth. This is an indication that in spite of the negative effect of EXR on GDP, the effect is not so harsh to a level of reducing the GDP to a zero level.

4.4.3 Deposit Interest Rate and Economic Growth in Nigeria

Contrary to the apriori expectation that DIR would have a negative effect on the Nigerian economic growth, the result from table 3 indicates that DIR have a positive (0.842) and significant 0.000 effect on the GDP of the country. The implication is that as DIR increase the GDP of the country shall also increase. This could be linked to the fact that DIR are earnings of the Deposit Money Banks which may be used as lendable funds that may encourage productivity. Also DIR since they are monies earned by the holders of the deposits, such monies can be ploughed back into the economy by way of reinvestment that may consequently improve economic growth. It is expected that policy makers on DIR would maintain stable policies that would encourage deposits so that idle cash could be converted to means of production.

5 SUMMARY, CONCLUSION AND RECOMMENDATIONS

The main aim of this study is to ascertain the effect of interest rates on the economic growth in Nigeria. This last section of the study discusses the summary arising from the findings of the study. In addition, the conclusion and recommendations are discussed under this section. The conclusion and the recommendations are also based on the findings of the study. Furthermore the limitation of the study and areas for further research are also discussed.

5.1 Summary of Findings

The findings of this study are based on the data analysis. The findings in their abridge form is that: interest rates account for 47.27% of the variation in GDP. But more specifically, it was discovered that:

- i. INF has a negative (-1288) and insignificant (0.486) relationship with GDP. This implies that an increase in INF will lead to a reduction in GDP however the reduction may not be significant enough to totally eliminate growth in GDP.
- ii. EXR also has a negative (-5944) but insignificant relationship (0.379) with GDP. This similarly implies that an increase in EXR would lead to a reduction in GDP.
- iii. Contrary to the first two explanatory variables, DIR has a positive (0.8424) and significant (0.000) relationship with GDP. This portrays that an increase in DIR would enhance GDP. This may be because part of the interest rate may be reinvested into the economy to augment production which may consequently improve GDP.

5.2 Conclusion

The study used three proxies to represent interest rates; that is, inflation rate, exchange rate and deposit interest rate. On the average, the result demonstrate that interest rate have a negative but insignificant relationship with GDP. This is demonstrated by the negative association of (INF & EXR) two out of three explanatory variables in this study to the GDP. However, the DIR indicated a positive association with the GDP. Based on the above findings, this study generally concludes that interest rates have a negative correlation with GDP though the negativity of the relationship is not enough to totally stop economic growth in Nigeria.

5.3 Recommendations

The recommendations of this research work are based on the findings arising from the analyses of data. The recommendations are thus:

- i. In line with the findings of this study that inflation rate has negative effect on GDP; it is recommended that policy makers should focus on maintaining inflation at a low rate (single digit) and ensure that the rate is stable. This may mitigate the negative effect of inflation on GDP.
- ii. EXR was also found to have a negative association with GDP. This negative association may be as a result of the high level of EXR fluctuating in the Nigerian economy. It is recommended that EXR in itself may not be the problem but the high rate of fluctuation in the EXR may pose consistent challenges to GDP and consequently economic growth. This the CBN should work strappingly to stabilize EXR.
- iii. DIR has proven to have positive and significant association with GDP. It is therefore recommend that the CBN should increase their surveillance on the Deposit Money Banks not to increase the DIR arbitrarily as increasing it may have a diminishing return effect.

REFERENCES

- Abebiyi, M.A. (2002), The Role of Real Interest Rates and Savings in Nigeria. *First Bank of Nigeria Plc, quarterly review, March, 2002.*
- Abiodun (1988), Cited in Adofu et al (2010) An Assessment of the Effects of Interest Rates Deregulation in Enhancing Agricultural Productivity in Nigeria. *Current Research Journal of Economic Theory*, pp. 82-86.
- Adofu. I, Abula. M and Audu. S. I (2010). An Assessment of the Effects of Interest Rate Deregulation in Enhancing Agricultural Production in Nigeria. *Current Research Journal of Economic Theory*. PP. 82 – 86.
- Anyanwoncha, R.A.I (1993), *Fundamentals of Economics*. Africana First Publishers Limited, Oniticha, Nigeria.
- Babalola, Oladepo, Dauladi, Akomolate and Ajiboye (2015) *European Journal of Business and Management* vol. 7 No.30.
- Ikinde, S,I. Alawode, A.A (2001), ‘*Financial Sector Reforms, Micro Economic Instability and the order of Economic Liberation*’. The Evidence from Nigeria, Afr. Econ. Res. Paper 112: ISBN 9966–944–52–2.
- Itodo, A.I Eche, E. and Kamo, K. (2012). The impact of interest rate deregulation on Economic growth in Nigeria. *IJE Journal* vol.6 pp 349-362.
- Khan, M. and Senhadji, S. (2001). Threshold Effects in the Relationship between Inflation and Growth, *IMF Staff Papers*, Vol. 48, No. 1, pp. 1-21.
- Mutinda, D.M. (2014). *The Effect of lauding interest rate on Economic growth in Kenya*. A research project submitted in partial fulfilment of the requirements for the award of a degree of masters of Science in finance, University of Nairobi.
- Okpe (1998), *Interest Rate and Savings mobilization: An Empirical Investigation of Financial Repression*. An Unpublished M.Sc Thesis, Department of Economics, Ahmadu Bello University, Zaria.
- Sanusi, J.O., 2002. *The evolution of monetary management in Nigeria and its impact on economic development*. CBN Bull., 26(1): 1-19.
- Soludo, C. C. (2008). *Achieving Interest Rate and Exchange Rate stability in Nigeria Options and relevance*. Research Department, CBN, Abuja.

Ssekuma, R. (2011). *A study of Co-integration models with applications*. University of South Africa, South Africa

Udoka and Roland (2012) the effect of interest rate variability on the economic growth of Nigeria *International Business Management*, 4(2): 41-46