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Interest Rate Management and the Nigerian Economy (1986-2017)

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ABSTRACT

This study sought to examine the impact of interest rate on the Nigeria's economy during the pre and post Regulation periods (1986 – 2013).It also investigated the joint influence of Inflation, Investment, Exchange Rate, Money Supply and Monetary Policy Rate individually on the Gross domestic Product which was used a proxy for output as well as the causality between all the factors combined and gross domestic product. Ex post facto method was adopted In order to test the hypothesis, the researcher adopted ADF, ECM and co-integration tests. The result showed that no significant relationship exists between GDP and Investment while still affirming that a significant relationship exist between GDP, Monetary Policy Rate, Inflation , Exchange Rate and Money Supply. The result of Johansen co-integration test showed the existence of two (2) co-integrating equations at 5% critical level; which is an indication of the existence of long-run or equilibrium relationship among our observed variables and as such there is the need to ascertain the speed of adjustment to the equilibrium in the case of short-run disequilibrium. The result of granger causality test indicates the absence of causal or directional relationship of any kind among our employed variables. This implies that the selected variables of interest did not lend support to each other as shown by their f-statistics and probability values. The following recommendations were made: The Monetary authority should ensure the Money supply in the economy is always sufficient to boost economic activities. this will equally make banks grant loans at a competitive rate of Interest, the Cash Reserve Requirement should be reduced further , this will leave more funds in the vault of Banks, making it easy to obtain loans at competitive rates, Banking habit should be inculcated in the citizenry, this will enable banks to further mop-up funds which by natural causes will increase her lending ability and at rates that can enable entrepreneurs make profit, The eye of the authorities should be on Inflation, because uncontrolled inflationary trends can make a mess of all the other efforts, Prudent management of our Oil earnings, adequate savings (Foreign Reserve) and investments in Infrastructure/Education will help stabilize the fluctuating exchange rate of the Naira. Because we are in the period of Deregulation when the economy has been opened up for investors globally, with consistent effort at investing by Nigerians and Foreigners alike, a fairly stable interest rate of interest will lead to consistent economic growth.

Keywords: interest rate management, exchange rate, monetary policy rate, inflation, gross domestic product

INTRODUCTION

Interest rates, like other prices, perform a rationing function by allocating limited supply of credit among the many competing demands on it. Thus, it is an important instrument for monetary policy [1, 2, 3]. For this reason, Nigeria has adopted two interest rates regimes which include the low and fixed interest rates regime between 1960 and 1986. In these regimes, interest rates were

administratively determined. But in 1987, Nigeria had a dynamic interest rates regime during which partial deregulation of interest rates started, market forces were allowed to interplay in addition to the management decision of interest rates [4, 5, 6]. This continued till 2006 when it was fully deregulated. Under these arrangements, efforts were made in mobilizing savings for the purpose of channeling it into investment and other productive activities in order to attain high economic growth [7, 8, 9].

Interest rate is important because it can affect the lives of people, the government, business firms, entrepreneurs, foreign investors, the financial sector, the household and also to a large extent determines the level of investment and the economic growth in an economy. The frequent changes (upward especially) in the rate of interest charged by different banks and non-bank financial institutions have retarded capital formation, investment and even economic growth in Nigeria [10, 11, 12].

That is why [13] opined that interest rate is the factor reward or earning of capital. Interest rate is also seen as the payment for the use of money. Fuller added that "this source of finance will only be available if other people are willing to forgo current consumption and provide a pool of financial resources from which loans can be advanced. This supply of fund will only be forthcoming if those supplying it receive some reward for sacrificing their current consumption..." to sacrifice current consumption implies a form of savings for investment.
[14] stated that interest rate management in Nigeria and its economic impact refers to the totality of steps and procedures planned and utilized by central bank of Nigeria to decide, maintain or bolster the level of interest rates in an economy in ways that it will induce the accomplishment of the satiated macroeconomic aims and objectives [15].

The Central Bank of Nigeria (CBN) may choose to roll out an improvement in the Minimum Rediscount Rate (MRR) now Monetary Policy Rate (MPR). A choice by the CBN to change the MPR influences the business sector loan in various ways. At the point when the Bank makes a declaration on the MPR which influence the desires of individuals and monetary specialists about the future heading of the economy. Such choices influence the costs of budgetary resources (like shares) and the conversion scale of the naira to different monetary forms and in addition the capacity of individuals and financial operators to spare and burn through cash. Factors such as Inflation, Fiscal Deficit, Exchange rate, Money supply, Risk and even government's monetary stance/Policy affect interest rates. However, interest rates play a pivotal role in influencing economic activities in any economy [16, 17, 18].

Additionally, the adjustment in interest rate could create an aberrant impact on the costs of products and administrations which rival merchandise that are locally delivered or those products and administrations that utilized imported crude materials. Again, an adjustment in interest rate has impact on the segment of the general value level of those merchandise that are foreign and this influence every single monetary operator in the nation [19,20]. Interest rate level is affected by movement in price level or inflation rate, fiscal policy stance, and intermediation cost (cost of funds), how deep and developed financial markets are, level of risks and uncertainty, among other factors.

Interest rates are regarded as "high" or "low" relative to some economic fundamentals, namely: The level of inflation rate; The degree of uncertainty and risks economic agents face; and How developed and deep financial markets are; The structure of the banking system—how competitive it is; The cost of funds to the banks including deposit rates; The demand for credit by government when it runs deficit and whether it competes with the private sector [21, 22, 23].

There are conflicting and competing views about what constitutes an appropriate interest rate depending on whose perspective—savers or lenders/borrowers. Generally, interest rates are prices and must be right and attractive to: Reward depositors and encourage long-term savings as well as reward lenders; Long-term savings can only occur when inflation is tamed.

In this Study, effort were made to know the inter-relationships among interest rates, investment, money supply, monetary policy rate, exchange rate and economic growth in Nigeria within the two different regimes of interest rates management as well as how each regime has affected economic growth in Nigeria.

STATEMENTS OF HYPOTHESES

To capture the objectives of the study, the following hypotheses were formulated:

H_{01}: There is no significant relationship between investment and gross domestic product in pre and post regulation periods in Nigeria.
H_{02}: There is no significant relationship between inflation and gross domestic product in pre and post regulation periods in Nigeria.
H_{03}: There is no significant relationship between money supply and gross domestic product in pre and post regulation periods in Nigeria.
$H_{04:}$ There is no significant relationship between monetary policy rate and gross domestic product in pre and post regulation periods in Nigeria.
$H_{05:}$ There is no significant relationship between exchange rate and gross domestic product in pre and post regulation periods in Nigeria.
H_{06}: There is no causality between monetary policy rate, inflation, exchange rate, investment, money supply and Gross Domestic Product in pre and post regulation periods in Nigeria.

REVIEW OF RELATED LITERATURES

Interest rate deregulation is a financial term used to refer the circumstance where by the forces of demand and supply is permitted to decide the estimation of financing costs as opposed to its worth being regulated specifically by fiscal powers. Interest rate deregulation is seen as a deviation from budgetary restraint. It has been supported by numerous financial specialists that interest rate deregulation upgrades reserve funds, support venture and thus improve monetary development.
The Financial Liberalization Theory set forth by [24] and [25] proposes that financial liberalization in developing economies would trigger higher funds, particularly monetary reserve funds, build credit supply, empower speculation and consequently support financial development. Their claim is that regulation of interest rate lead to low real interest rate and at times negative which causes unacceptable growth in the developing countries
As indicated by [26], if there is an increment in interest rate, venture is at low level and when interest rate falls, speculation will rise. Hence, there is urgent need to promote interest rate regime.
[27] trusted that interest rate deregulation will prompt more effective distribution of budgetary allocation assets. His position is in accordance with the contentions of [28].

[29], then holds that deregulation of interest rate resemble a two-fold edged sword, which will either empower or deface the economy. He declared that the deregulation of interest rate will prompt an expansion in interest rate, which will build investment funds. Be that as it may, he opined that high cost of getting might realize cost-push inflation as borrowers of assets will pass the high cost of

acquiring to the clients by pushing up costs.
[29] are both of the conclusions that interest rate deregulation would damage the Nigerian economy. In their different papers, they imperfect the deregulation exercise, asserting it would demoralize investors and consequently financial development, by pushing interest rate high.

Ojo and Ani's position are upheld by [30] who all pointed out the low positive effect

Management of Interest Rate in Nigeria: Control Period (Before -1986)

Interest rate management refers to the totality of steps and processes designed and used by the monetary authorities (the CBN) to determine, sustain or support the level of interest rates in an economy in ways that engender the achievement of the stated macroeconomic goals of price and exchange rate stability, rapid and sustainable employment, and generating growth.
Interest rate management also entails anticipating the financial markets and developing appropriate policy measures to impact the markets using known monetary tools.
It needs to also ensure that rates do not fall to levels where the liquidity trap ensnares the economy. (Liquidity trap - the level of interest rate below' which further reductions will not impact on the level of economic activities/national income).
Some of the tools employed by the Apex bank n managing interest rates in Nigeria include: Regular Open Market Operations, adjustments in the following key ratios; Cash Reserve Ratio, Rediscount ratio, Liquidity ratio, regular examination of the documents/activities of deposit money banks and the publishing/monitoring of Prudential guidelines

The two major regimes of interest rate management in Nigeria are the period of Fixed and floating Interest Rates popularly referred to as period of Control and that of Liberalization. The period of control/Regulation was characterized as described below:

of deposit rate on financial development after interest rate liberalization in Nigeria. These opposite feelings about the adequacy of the deregulation exercise in Nigeria raises the issue of the viability of the deregulation exercise. There is mainly, the requirement for a thorough assessment of the part of interest rate deregulation in advancing financial development in Nigeria through funds and venture [31].

Use of Administrative Fiat

This involves direct approach (controls) of determining interest rates. It entails the administrative fixing of Lending and other bank charges by CBN with Periodic adjustments based on policy decisions. Funds allocation and Credit expansions are strictly under the control of monetary authorities. It was practiced during the pre-Structural Adjustment Programme era mainly to stimulate investment to promote orderly growth of the financial market, reduce inflation and lessen the burden of domestic debt servicing on government.

They added that the techniques had both positive and negative outcomes; it promotes stability and creates a high level of credibility. Negatively, Capital input is insufficiently used due to inappropriate pricing of Credit and Deposits. Loan able assets are on short supply since banks want to put their assets in treasury charges that are loaned underneath their normal expense of assets; capital development is at very low level.

In the words of [30], the Fixed Exchange regime was characterized by the following: It was operated preceding 1986, under it, interest rate were settled at the management level by the CBN and it was likewise proposed to get socially

ideal asset portion, to advance systematic development in the financial sector, to encourage stream of credit to the favored segments agribusiness, production, and so on.

METHODOLOGY

The researcher adopted ex-post facto research design.
The purpose was to examine interest Rate management and Nigerian economy between 1986 and 2013. It involves an investigation and analysis of apriori relationship between Interest Rate management and Economic Growth (GDP).
The use of secondary data was adopted to compute and present results in a tabular form. It also enabled the measurement of the dependent and independent variables. In this work econometric method of data analysis was adopted.

Also since in time series, data are highly trended econometric methods may be of immense value for predicting the Interest Rate Management and Nigerian Economy between 1986 and 2013.

The data required for this study will include annual time series on GDP (This serves as proxy for collective growth of all sectors of the economy), Monetary Policy Rate, Money Supply, Inflation, Investment and Exchange Rate between 1986 and 2013. Estimation procedures of unit root test, Johansen co-integration, error correction model and Granger causality was deployed in this study.

Model Specification

The model specification in this work will be carried out within a panel data and a time series data analysis was also adopted. The use of this specification will help to control the heterogeneity issues within the system. Therefore a panel data analysis was permitted to control the individual specific relationship usually unobservable.

The model specifies that the Gross domestic product (Proxy) is significantly influenced by investment, inflation, money supply, monetary policy rate and exchange rate

Using econometric model, the model can be presented as:

GDP = f (INVT, INFL, MS, MPR, EXR)..... (1)

The variables are defined as follows:

- GDP – Gross Domestic Product
- INVT – Investment
- INFL – Inflation
- MS - Money Supply
- MPR - Monetary Policy Rate
- EXR - Exchange Rate

The model can be restated mathematically as:

$$GDP = \alpha_0 + \beta_1 LOG(INVT)_t + \beta_2 LOG(INFL)_t + \beta_3 LOG(MS)_t + \beta_4 LOG(MPR)_t + \beta_5 LOG(EXR)_t + \mu \quad \ldots\ldots(2)$$

B_1, b_2, ... b_5 are parameter estimate

Where;

The apriori expectation is b_1 , b_3& $b_5 > 0$ while b_2& $b_{4 < 0}$

α_0 = Intercept

μ = Stochastic error term

RESULTS AND DISCUSSIONS

To eliminate possible occurrences of spurious regression results, the Augmented Dickey Fuller test is applied.

Table 1 ADF Statistical Results

Variables	Critical values at 5%	ADF Stat at Level	ADF Stat at Differenced	Order of integration
GDP	-1.953858	-3.077414		I(0)
INVT	-1.953858	-0.625351	-4.523074	I(1)
INF	-1.953858	-1.558406	-3.442516	I(1)
MS	-1.958088	-0.738395	-5.515162	I(1)
MPR	-1.955020	-0.219443	-5.941690	I(1)
EXR	-1.953858	1.219722	-4.364759	I(1)

From the ADF result tabulated above, all the variables fail to reject the null hypothesis of non stationary at levels except gross domestic product which proved to be stationary at level; however, at the first differencing, all the variables proved to be stationary and as such leads to the rejection of null hypothesis of non-stationary at first differencing.

Johansen Co-integration

Table 2 co integration result

Date: 01/20/16 Time: 11:44				
Sample (adjusted): 3 28				
Included observations: 26 after adjustments				
Trend assumption: Linear deterministic trend				
Series: GDP INVT INF MPR MS EXR				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.865425	126.9573	95.75366	0.0001
At most 1 *	0.669037	74.81093	69.81889	0.0189
At most 2	0.598986	46.06144	47.85613	0.0730
At most 3	0.455399	22.30372	29.79707	0.2819
At most 4	0.202195	6.503479	15.49471	0.6360
At most 5	0.023951	0.630299	3.841466	0.4272
Trace test indicates 2 cointegratingeqn(s) at the 0.05 level				
*** denotes rejection of the hypothesis at the 0.05 level**				
****MacKinnon-Haug-Michelis (1999) p-values**				

From the result of Johansen co-integration test depicted above, the test statistic indicates the existence of two (2) co-integrating equations at 5% critical level;

which is an indication of the existence of long-run or equilibrium relationship among our observed variables and as such there is the need to ascertain the speed of adjustment to the equilibrium in the case of short-run disequilibrium.

Analysis of ECM Results

Table 3 ECM Result

Dependent Variable: D(GDP)				
Method: Least Squares				
Date: 01/20/16 Time: 11:38				
Sample (adjusted): 2 28				
Included observations: 27 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.788665	1.438602	0.548217	0.5896
D(INVT)	0.004410	0.701473	0.006286	0.9950
D(INF)	-0.018650	0.086804	-0.214848	0.8321
D(MS)	0.041751	0.088232	0.473196	0.6412
D(MPR)	0.274304	0.378423	0.724862	0.4769
D(EXR)	-0.042757	0.097236	-0.439726	0.6649
ECM(-1)	-0.529994	0.209110	-4.925606	0.0001
R-squared	0.560620	Mean dependent var		0.523704
Adjusted R-squared	0.428806	S.D. dependent var		9.126411
S.E. of regression	6.897499	Akaike info criterion		6.918609
Sum squared resid	951.5099	Schwarz criterion		7.254567
Log likelihood	-86.40122	Hannan-Quinn criter.		7.018507
F-statistic	4.253120	Durbin-Watson stat		2.090766
Prob(F-statistic)	0.006407			

Resulting from the multiple linear regression result depicted above, the variables subjected to the error correction test reveals that the parameters of investment, money supply, monetary policy rate possess a positive relationship with gross domestic product while inflation and exchange rates tends to be negative. Judging from the result, all the variables failed the test of significance at

95 percent confidence level. Our co-efficient of determination which is R^2 stood at 0.560620 which denotes that approximately 56% variations in our explained variable (GDP) were determined by our selected independent variables. However, our F-statistics which measures the fitness of our model was reported to be significant at 5% level with the value of 4.253120, and 0.006407probability; which implies that our model significantly captured interest rate management and Nigerian economy. On the side of serial correlation, our Durbin-Watson statistics of 2.09 approximately indicates the absence of serial correlation among the successive error terms as expected following the assumptions of classical linear regression. The parsimonious error correction model carried out as depicted in table one above, ECM was significant and rightly signed with -0.529994, which implies that over 53% of deviation from the equilibrium will be corrected over a year approximately.

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Analysis of Heteroskedasticity Results

Table 4. Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.325960	Prob. F(6,20)	0.9155
Obs*R-squared	2.405086	Prob. Chi-Square(6)	0.8789
Scaled explained SS	6.479951	Prob. Chi-Square(6)	0.3716

From the result estimation of Breusch-Pagan-Godfrey Heteroskedasticity test, the observed F-statistics of 0.325960 with probability of 0.9155 denotes that the absence of heteroskedasticity among our error terms which is in line with the classical linear regression assumption; and as such we accept the null hypothesis of no heteroskedasticity.

Serial Correlation LM Results

The Breusch-Godfrey Serial Correlation LM Test is a statistical devoted to the testing of serial autocorrelation among successive error terms in a multivariate model. The basic need for this test arose because of the postulations of the classical linear model assumptions.

Table 5 Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.952404	Prob. F(2,18)	0.4044
Obs*R-squared	2.583789	Prob. Chi-Square(2)	0.2747

From the result estimation of Breush-Godfrey serial correlation LM test, the observed probabilities were all greater than our critical probability of 5% and as such, we accept the null hypothesis that the data are not serially correlated which is in line with our Durbin-Watson postulation.

Table 6: Analysis of Pair-wise Granger Causality Results

Date: 01/20/16 Time: 11:45
Sample: 1 29
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
INVT does not Granger Cause GDP	26	1.21174	0.3177
GDP does not Granger Cause INVT	0.38539	0.6849	
INF does not Granger Cause GDP	26	0.32776	0.7242
GDP does not Granger Cause INF	1.90174	0.1741	
MPR does not Granger Cause GDP	26	0.05434	0.9472
GDP does not Granger Cause MPR	0.60006	0.5579	
MS does not Granger Cause GDP	26	0.88259	0.4285
GDP does not Granger Cause MS	2.47765	0.1081	
EXR does not Granger Cause GDP	26	1.33399	0.2848
GDP does not Granger Cause EXR	0.05527	0.9464	

As shown above, the result of granger causality test indicates the absence of causal or directional relationship of any kind among our employed variables. This implies that the selected variables of interest did not lend support to each other as shown by their F-statistics and probability values.

Hypothesis Testing

This is evidenced in the probabilities obtained which are all greater than our 5% critical probability.

Hypothesis one: There in no significant relationship between investment and gross domestic product in Nigeria.

With the probability of 0.9950 which is more than our 5% critical probability, this study therefore fail to rejects the null hypothesis in hypothesis one and as such, concludes that there is no significant relationship between investment and gross domestic product in Nigeria.

Hypothesis two: There is no significant relationship between inflation and gross domestic product in Nigeria.

From the analysis carried, investment reported a coefficient of -0.018650 and probability of 0.8321 with gross domestic product over the years of our study; and as such, we accept the null hypothesis in our hypothesis two since the calculated probability is more than our critical probability and conclude thereof, that there is no significant relationship between inflation and gross domestic product in Nigeria.

Hypothesis three: There is no significant relationship between money supply and gross domestic product in Nigeria.

As shown in OLS table depicted above, the coefficient of money supply with gross domestic product stood at 0.041751with 0.6412 probability level. Therefore, based on the probability which is higher than our 5% critical probability, this piece of work fail to sustain the alternate hypothesis and as such accept the null hypothesis and conclude that there is no significant relationship between money supply and gross domestic product in Nigeria over the years of our study.

Hypothesis four: There is no significant relationship between monetary policy rate and gross domestic product in Nigeria.

From the regression result obtained, monetary policy rate revealed a probability of 0.4769with coefficient of 0.274304and t-statistics of 0.724862. Therefore, based on the probability which is more than our 5% critical level, we accept the null hypothesis in our hypothesis four and conclude thereof that there is no significant relationship between monetary policy rate and gross domestic product in Nigeria.

Hypothesis five: There is no significant relationship between exchange rate and gross domestic product in Nigeria.

Having reported a coefficient of -0.042757 and probability of 0.6649, we therefore accept the null hypothesis at 5% level of confidence and conclude thereof that there is no significant relationship between exchange rate and gross domestic product in Nigeria.

DISCUSSION OF RESEARCH FINDINGS

The variables subjected to the error correction test reveals that the **investment** parameter is positively but insignificantly related to gross domestic product. The relationship is positive but insignificant. This implies that when Investment Increases, the demand for loanable funds will increase which will increases the Interest Rate (Price of Money).

By implication an increase in domestic investment will definitely lead to a positive change in economic growth and development. In the model, **money supply** contributes positively to gross domestic product but in an insignificant manner. This implies that a change in money supply by the apex bank-central bank will result to an increase in gross domestic product.

Inflation carried a negative sign in the multivariate equation of the error correction model. This basically imply that high inflation tends to discourage economic development as such individuals tend to redefine themselves and their income to best fit persistent rise in prices of goods and services. This suggests that increase in Inflation will reduce the value of money and increase interest rate for loanable funds, thereby reducing borrowing by investors and in turn diminishing the output level of goods and services.

Monetary policy rate possess a positive relationship with gross domestic product.

Judging from the result, this variable failed the test of significance at 95 percent confidence level which is inconsistent with our appriori. MPR is perceived to be a major determinant of interest rate in an economy and a positive relationship between MPR and GDP implies that an increase in MPR and by extension Interest rate will lead to a rise in GDP. This result though it is against the appriori could be occasioned by other factors other than the price of money (Interest Rate).

Concerning **Exchange rate**, a direct but insignificant relationship exists between the two variables. Large inflow of funds from outside occasioned by increase in export due to a rise in the exchange rate of the local currency will increase money supply which will in turn reduce interest rate . This will stimulate investment thereby increasing the output level of goods and services.

The ECM result however, showed an inverse relationship which is not consistent with our appriori and known economic theory. According to the World Bank, the history of the exchange rate of the Naira to the U.S $ has been N1.75/$ in 1986, N9.91 in 1991,N21.88/$ in 1996, N111.23 in 2001, N128.65 /$ in 2006, N154.74 in 2011 and N157.31/$ in 2013 showing a steady fall in the value of the Naira to the U.S $.

In the following indices given by the same World Bank (2014) for measuring the stability of exchange rate of any countries currency: Countries income levels, level of development, economic structure, unemployment, corruption , rule of law and governance, financial development, Economic freedom, Globalization ,Internal and external balances, Infrastructural development, Energy production and use, Health and education, Nigeria ranked low in most of them, little wonder why the Naira kept falling even in times of seemingly increasing GDP. Drawing implication from the above, we conclude that exchange rate did not contribute to the performance of Nigerian economy given the GDP growth rate. Furthermore this result testifies the fact exchange rate depreciation retard economic development while currency appreciation encourages or promotes developmental processes.

From the result of the co-efficient of determination which denotes that approximately 56% of the variations in gross domestic product were determined or explained by our selected independent variables with unexplained variations of about 44% which is ascribed to forces outside the model.

The F-statistics confirms how the variables are jointly related at 5% significant level given the probability value. This further implies that our model significantly captured interest rate management and a good performance of the Nigerian economy. Also the Durbin-Watson statistics of 2.09 approximately indicates the absence of serial correlation among the successive error terms as expected following the assumptions of classical linear regression. Generally drawing conclusion from the performance of the parsimonious error correction model carried out in the analyses, we can accept our results without caution or fear since the is significant and rightly signed at -0.529994 implying that over 53% of deviation from the equilibrium will be corrected or adjusted over a year approximately.

The Breusch-Pagan-Godfrey test for Heteroskedasticity reveals the presence of no heteroskedasticity in the model. This implies that the variance and mean of the error terms is not constant and this thus obeys the classical linear regression postulations. In like manner, the result of Breush-Godfrey serial correlation test also allows us to accept the null hypothesis that the data we employed in the analyses are not serially correlated with their respected error terms.

Having ascertained the presence of long run relationship in the ECM and co integration tests in the model, The result of Granger causality test did not established these correlations rather it went further to indicates the absence of

unidirectional or bidirectional relationship of any kind among our employed variables; meaning that the selected variables of interest in the model did not lend full support to each other. This empirical evidence is due from the insignificant nature of the parameters in the Error Correction Model.

CONCLUSION

All in all, the study could demonstrate that interest rate management has no critical effect on economic growth in Nigeria. This repudiates the generally established relations between interest rate deregulation and these variables, as introduced by the Mckinnon–Shaw money related freedom theory.

This may notwithstanding, be because of the inadequate deregulation and the effects of the other factors already mentioned.

From the findings of study, it was observed that there is no significant relationship between interest rate management and gross domestic product which is in conformity with the economic expectation.

Since economist are of the opinion, that investable funds for economic development can largely be sourced through the banking system, high monetary policy rate retard the economic growth in Nigeria; after critical consideration of the effect of inflation.

RECOMMENDATIONS

From the discussion of findings, the following recommendations are necessary:

- Provision of adequate security and other infrastructure in the banking sub-sector will engender savings culture on the citizenry, this will minimize leakages and naturally increase liquidity making loan able funds available at an affordable rate.
- Enforcing accountability especially in the financial sector will even encourage people to save for longer periods thereby guaranteeing liquidity in the economy at all times.
- Competition should be encouraged among the providers of loan able funds; this in the long-run will bring interest rate down.
- Inflation should be put at a reasonable level that will encourage no negative real interest rate thereby making credit affordable to investors and as such, boost the output level of goods and services.
- Corruption needs to be brought to its knees as well as improve our energy generation and consumption; this will help a great deal in stabilizing the exchange rate of the naira.
- CBN should continue with the interest subsidy on agriculture as this is capable of increasing Foreign Exchange earnings through export of Agricultural products.
- The Bank will undertake a careful review of the liquidity ratio, Cash Reserve ratio to enable Deposit Money banks have available more fund to loan out to their customers
- A careful review of the NDIC premium should also be undertaken in a bid to reduce cost of funds to Deposit money banks

SUGGESTIONS FOR FURTHER RESEARCH

The findings of this study has contributed to existing knowledge as it has empirically and scientifically revealed a strong link between interest rate management and economic growth in Nigeria. The study contributes to the existing body of knowledge as it helps to fill up all loopholes arising from other research works. Also, the findings of this study will aid an effective and efficient financing decision of projects by banks and other financial institutions in Nigeria. It will guide analysts, consultants, other professionals, leaders and even the entire populace especially as it relates to the effects of Interest Rates and its effect on Productivity.

It is important to equally state here that further research work could be carried out on the effect of interest rate on the Nigerian Economy using Fiscal Deficit as an additional variable and testing separately for the pre and post deregulation periods.

Furthermore, this further work can apply other econometric tools to achieve its objectives. To this extent therefore this research work is suggesting the use of correlation analysis or discriminate analysis. All these will enable other researchers to evaluate the extent of the impact of interest rate on Productivity in Nigeria.

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Table 7: Data for the Study consists of investment, inflation, GDP growth, money supply, monetary policy rate and exchange rate between 1986 - 2017

YEAR	INVESTMENT % OF GDP	INFLATION %	GDP GROWTH RATE %	MONEY SUPPLY(N bns)	MRR/MPR %	EXCHANGE RATE N /$
1986	15.7	5.72	-8.75	1.95	10	1.75
1987	12.66	11.29	-10.75	22.41	12.75	4.02
1988	9.85	54.51	7.54	32.91	12.75	4.54
1989	11.75	50.47	6.47	12.93	18.50	7.36
1990	14.43	7.36	12.77	32.7	18.50	8.04
1991	13.79	13.01	-0.62	37.38	14.50	9.91
1992	12.8	44.59	0.43	63.26	17.50	17.30
1993	13.61	57.17	2.09	53.76	26.00	22.07
1994	11.2	57.03	0.91	34.5	13.50	22.00
1995	7.08	72.84	-0.31	19.41	13.50	21.90
1996	7.3	29.27	4.99	16.18	13.50	21.88
1997	8.37	8.53	2.8	16.04	13.50	21.89
1998	8.62	10	2.72	22.32	14.31	21.89
1999	7.01	6.62	0.47	33.12	18.00	92.34
2000	7.03	6.93	5.32	48.07	13.50	101.70
2001	7.59	18.87	4.41	26.38	14.31	111.23
2002	7.02	12.88	3.78	18.82	19.00	120.58
2003	9.91	14.03	10.35	13.51	15.75	129.22
2004	7.4	15	33.74	20.68	15.00	132.89
2005	5.47	17.86	3.44	22.6	13.00	131.27
2006	8.27	8.24	8.21	36.35	12.25	128.65
2007	9.26	5.38	6.83	64.92	10.00	125.81
2008	8.33	11.58	6.27	58.53	10.00	118.55
2009	12.09	11.54	6.93	17.21	13.00	148.90
2010	17.29	13.72	7.84	6.82	13.00	150.30
2011	16.21	10.84	4.89	13	13.00	154.74
2012	14.91	12.22	4.28	16.79	13.00	157.50
2013	14.72	8.48	5.39	12.45	13.00	157.31
2014	15.8	8.05	6.3	15.69	13.00	158.6
2015	15.5	9.01	2.7	16.53	11.00	192.4
2016	12.6	15.7	-1.6	17.91	14.00	253.5
2017	4.5	16.5	0.82	19.17	14.00	305.3

SOURCES: International Monetary Fund, International Financial Statistics and the World Bank