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IMPACT OF INTEREST RATES ON THE GROWTH OF INDUSTRIAL SECTOR OF NIGERIAN ECONOMY

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ABSTRACT

This study on the effect of interest rates on growth of industrial sector was done on the thrust that interest rate is a major determinant of credit delivery to the productive sector of any economy. Due to several types of interest rates existing in the financial sector, it is worthwhile to determine the interest rates that aid efficient transmission of credit to the productive sector which is the driving force of any economy. The study employs the descriptive survey design used in studying the characteristics of variable of interest. The data was collated from central bank of Nigeria monetary and real sector data. The data covers the period of 2010 quarter 3 to 2020 quarter 1. The independent variable used are Inter-bank lending rate (IBR), Open Buy Bank rate (OBB), Standing Lending Facility rate (SLF), Standing Deposit Facility (SDF) and 91 days Treasury Bill Interest Rate (91TBR) while the GDP of industrial sector was used as the independent variable. The interest rates are the independent variables while economic growth of industrial sector proxied by industrial sector GDP is the dependent variable. The results of the study reveal that standing lending and standing deposit facilities have significant impact on the industrial sector of the Nigerian. The interbank rate and 91 days treasury bill rate do not have significant effect on the growth of the industrial sector of the economy. It is therefore recommended that banks should give optimum interest rates that maximizes their profit as a profit-making organization and aids the mobilization of credit to the productive sector of the economy. Central bank's monetary policies should also be in this regard.

INTRODUCTION

Interest rates is one of the major determinants of credit transfer, especially to the private sectors. Low in interest rates attract low deposits and high borrowing and vise visa. There are many types of interest rates in any economy reflecting varying risks and expectations. The markets for different assets influence the other as depositors move their portfolios between cash, equity in firms, interest-bearing securities, real estate, complex derivatives, antiques, etc. The behavior of large corporations and financial institutions will be different from those of small businesses and depositors. Interest rates are generally seen as prices (Patterson and Lygnerud,1999). It is a price payable for the money borrowed. Interest is also seen as the amount of charge to the debtors within the time of using the credit (Mutinda, 2014).

Interest rate is the primary instrument of monetary authorities use in stabilizing the prices in an economy. Interest rate is seen as effective channel of monetary policy transmission (Adekunle, *et al*, 2018). It has been found to influence macroeconomic variables such as gross domestic product growth, employment creation, equilibrium in the balance of payment and price stability in developing country (Precious, 2014).

Interest rates refers to the price for money and credit. It is the rate charged by suppliers of money and credit. Those borrowers for investment and consumption spending pay interest for the use of credit, as such increase in interest rates discourages burrowers from borrowing from banks and a reduction in interest rate encourages borrow from banks.

Interest rates are major factors that influence the growth of any economy. It is an economic tool used by any monetary authority to control inflation and to boost economic development (Corb, 2012). In general banks' profits increase with rising interest rates while economic growth slows down with increasing interest rates. this has been one of the major issues with credit delivery to the productive sectors as the banks are always out to optimize profits through increased interest rates. This became a serious regulatory role of most central banks as there need to be an optimal interest rates that could drive growth in the economy and makes deposit money banks to optimize profits also.

Economic growth is the increase in the amount of goods and services in a country at a time resulting in increase in real per capita income of a country over time. Economic growth implies raising the standard of living of the people and reducing inequalities of income distribution (Ufoeze, *et al*, 2018).

How real interest rates affects private investment spending and consequently the growth of the economy has been a topic of discuss in past decades up till now. A decrease in the real interest rate lowers the opportunity cost of capital and, therefore, raises the desired capital stock and investment spending. The real sector and more specifically, the industrial sector have been a major target of the central bank's interest rate policy in Nigeria. it is believed that the real sector is one of the major drivers of the Nigerian economy. The interest rate policies of the central bank are targeted at credit delivery to the sector in order to spur economic activities and growth.

How these interest rate policies of the central bank eventually affect the growth of the economy has become an issue of serious concern. Several studies have tried to ascertain the effect of interest rates on economic growth, the results are however not coherent. This study attempts to investigate the effect of interest rates on economic growth of the industrial sector of the Nigerian economy.

Objectives of the Study

The aim of study is to determine the effect of interest rates on economic growth of the industrial sector of the Nigerian economy. The specific objectives include:

1. To determine the effect of Inter-bank rate on the growth of industrial sector of the Nigerian economy.
2. To ascertain the effect of Open Buy Back Rates (OBB) on the growth of industrial sector of the economy.
3. To find out the relationship between Standing Lending Facility (SLF) and industrial sector growth.
4. To determine the effect of Standing Deposit Facility on the growth of industrial sector.
5. To determine the effect of 91days Treasury bill rates on the growth of industrial sector of the Nigerian economy.

LITERATURE REVIEW

The theoretical literature on how interest rates can affect economic growth are varied in terms of magnitude and direction of relationships that exists. Many of these literatures reveal that the relationship between interest rates and output is negative (Tobin, 1999). Interest theory explains the relationship between the nominal and real interest rates and inflation, this is referred to as the Fisher Effect.

The Fisher Effect posits that an increase in the rate of growth of the supply of money results in an increase in inflation and an increase in the nominal interest rate, which will match the increase in the inflation rate (Fisher, 1930). The theory further states that the nominal interest rate in any period is equal to the sum of the real interest rate and the expected rate of inflation and that the nominal interest rate could be decomposed into two aspects: a real rate and an expected rate of inflation. Fisher indicated that there exist a one to one relationship between interest rates and inflation in a perfect world. The real interest rate was postulated to be unrelated to the rate of inflation and determined entirely by the real factors in an economy.

Fisher's rate of interest is very important as it provides a basis of monetary policy being concerned with management of inflation expectations to keep real interest rates stable. Fisher (1930) examined the relationship between nominal interest rates and inflation rate using annual data over the 1890 to 1927 period for USA and 1820 to 1924 period for the U.K. The result of the study found that inflationary expectations were not instantaneously reflected in interest rates.

Kisseih (2017) investigated the impacts of interest rate fluctuations on the growth of Small and Medium Enterprises in Accra using a balanced data of six SMEs randomly selected and analyzed using ARDL, tables and percentage. The study found a co-integration relationship between EBIT and interest rate. The results also found that there is interdependence between the SMEs profitability and interest rate, the size of business and bank loans and recommended the re-introduction of minimum credit allocation by banks, clear-cut policy for the sector and many more.

Maigua & Mouni (2016) investigated the influence of interest rate determinants on the performance of commercial banks in Kenya using sample size was 26 out of 43 commercial banks in the country. The study used the multiple regression analysis in analyzing the outcome. The results showed that discount rates, inflation rates and exchange rates had positive influence on performance of commercial banks and reserve requirement ratio had negative influence. The study concluded that higher discount rates, exchange rates and inflation rates lead to higher performance in commercial banks in Kenya and that higher reserve requirement ratio result in lower bank performance in Kenya. The study recommends that the monetary authority in Kenya should set base reserve requirements that do not pressurize banks in their operations.

Maiga (2017) examined the impact of interest rate of economic growth in Nigeria from 1990 to 2013 using ordinary least square (OLS). The result of the study found that the interest rate has a slight impact on growth while arguing that the growth can be improved by lowering the interest rate which will increase investment. The study recommended that Nigerian authorities should set interest rate policies that will boost the economic growth.

Moyo and Le Roux (2018) examined the impact of interest rate reforms on economic growth through savings and investments in SADC countries for the period 1990-2015. The study determined the influence of interest rate reforms on savings; the effect of savings on investments and examined whether investments have a positive impact on economic growth. The study employed the Pooled Mean Group (PMG) estimation technique and the ARDL bounds tests for the individual countries to test for cointegration. The results of the study show that cointegration is detected in most countries for each one of the three specifications and interest rate reforms have a positive impact on economic growth through savings and investments. The study recommended that market forces should be allowed to determine real interest rates.

Jelilov (2016) examined the impact of interest rate on economic growth in Nigeria from 1990 to 2013 using the linear regression model. The result of the study reveals that the interest rate has a slight impact on growth; however, the growth can be improved by lower the interest rate which will increase the investment. As a result of study was found out that Nigerian authorities should set interest rate policies that will boost the economic growth. Therefore, proper measure should be taken in order to have a more rapid economic growth.

Harswari & Hamza (2017) investigated the impact of interest rate on economic development in Asian Countries using a sample of 20 out of 48 companies. The study employed descriptive statistics, correlation and regression Analysis. The results reveal that interest rate has a negative significant impact on Gross Domestic Product and Inflation has negative insignificant impact on Foreign Direct Investment.

Simon-Oke & Jolaosho (2013) assessed the impact of real interest rate on savings mobilization in Nigeria using the Vector- Auto Regression (VAR) and time series data from 1980 to 2008. The findings in the study showed that real interest rate has negative impact on the level of savings mobilization in Nigeria. The study revealed the need for government to bridge the gap between the lending rates and savings rates and increase per capita income level in other to stimulate savings for investment and economic growth.

Behera & Mishra (2017) investigated the existence of a threshold level of inflation and how such level affects the growth of Indian economy. The study also seeks to examine the dynamic short-run and long-run relationship between inflation and economic growth in India. By employing spline regression method to estimate the threshold level of inflation and the long-run and short-run relationships, the results show a statistically significant structural break in the relationship between inflation and economic growth at 4 per cent. The study also found that there are two cointegration vectors when gross domestic product and rate of interest are considered as the dependent variables and confirms the existence of the long-run equilibrium relationship between economic growth, inflation.

Bosworth, B. P (2014) explored the long-term determinants of interest rates, and the relationship between variations in interest rates and the rate of economic growth. The study employed data from several large economies to demonstrate the influence of foreign interest rates in an increasingly globalized world capital market. The result of the study suggests that capital markets are highly integrated at the global level and that it makes little sense to model, analyze and forecast interest rates within a framework of closed economy. The study also found weak relationship between real interest rates and economic growth.

Drobyshevsky, Trunin & Bozhechkova (2017) explored the mechanisms, direction and extent to which interest rates can affect economic growth by analyzing theoretical concepts and global economic practices in high-interest-rate environments to justify that high nominal and real interest rates may not dampen economic growth if there are mechanisms such as low inflation expectations, economy's attractiveness to foreign investors, the technological transfer effect, the accumulation of domestic savings. The study reveals that interest rate policy is partially efficient after the global financial crisis.

The industrial sector is one of the driving sectors of the Nigerian economy. It is part of the sectors targeted by the interest rate policies of the Central Bank of Nigeria with the goal of boosting output growth and ultimately driving growth in the economy. Ascertaining how the interest rates affects the sector will help policy making and implementation in this regard. The results found in literature have not been uniform. So this study is an up to date study of the effect of interest rate on the industrial sector of the Nigerian economy.

RESEARCH METHOD

The study employs the descriptive survey design used in studying the characteristics of variable of interest. The data was collated from central bank of Nigeria monetary and real sector data. The data covers the period of 2010 quarter 3 to 2020 quarter 1. The independent variable used are Inter-bank lending rate (IBR), Open Buy Bank rate (OBB), Standing Lending Facility rate (SLF), Standing Deposit Facility (SDF) and 91 days Treasury Bill Interest Rate (91TBR) while the GDP of industrial sector was used as the independent variable. The interest rates are the independent variables while economic growth of industrial sector proxied by industrial sector GDP is the dependent variable. The model of relationship between interest rates and growth of the industrial sector is presented below.

Industrial sector growth =*f*(monetary policy)

ISGDP=*f*(IBR, OBB, SLF, SDF 91TBR)

$$ISGDP= \beta_0+ \beta_1IBR+ \beta_2OBB+ \beta_3SLF +\beta_4SDF + \beta_591TBR +\varepsilon$$

Where β_0 is the intercept of the regression model

IBR is Inter-bank lending rate; OBB is Open Buy Bank rate; SLF is Standing Lending Facility rate; SDF is Standing Deposit Facility and 91TBR is 91 days Treasury Bill Interest Rate.

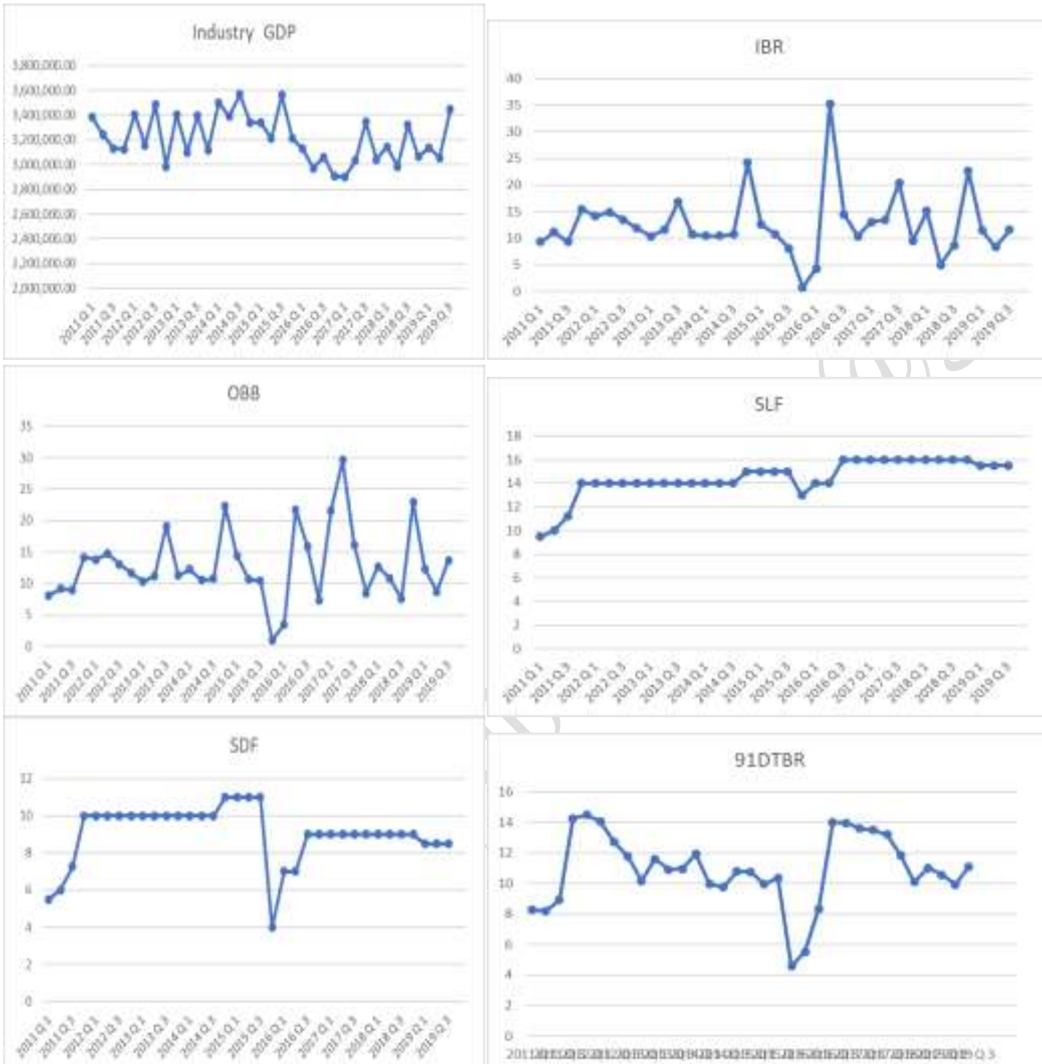
β_1, β_2 , β_3, β_4 and β_5 are rates of change of IBR, OBB, SLF, SDF and 91TBR on industrial sector GDP respectively.

ε is the error term associated with the model.

The significance of the variables is tested at 5% level of significance.

RESULT AND DISCUSSION OF FINDINGS

Figure 1: Plots of IBR, OBB, SLF, SDF and 91TBR and ISGDP



The plots of the variables are shown in figure 1 above. The plot of industrial sector GDP reveals and up and down movement in the GDP of industrial sector around 3.2 billion naira quarterly. The inter-bank interest rate has moved around the 10% axis over time with few up and down swings. Open buy back (OBB) and 91 days treasury bill interest rate have similar trend still moving around 10%. The standing lending facility is usually higher than the standing deposit facility but followed similar trend.

Table 1: Model Results of interest rates and ISGDP

	COEFF	STD ERR	T STAT	P-VALUE	VIF

Intercept	3530141	278889.1	12.65787	2.45E-13	
IBR	-1337.2	7315.621	-0.18279	0.856237	2.265007
OBB	-2356.25	8536.774	-0.27601	0.784497	2.740431
SLF	-49180.3	22139.99	-2.22133	**0.034295**	1.467159
SDF	76195.61	24399.18	3.122876	**0.004038**	1.741368
91TBR	-22195.4	17347.99	-1.27942	0.210891	1.891931

Level of significance=5% (0.05)

The result of model of interest rates and industrial sector growth is presented in table 1. The results of the coefficients (COEFF) standard error (STD ERR) T-statistics (T STAT, P-value and variance inflation factor (VIF) are presented in table 1. A comparison of the p-values of the coefficients to their respective level of significance reveals that standing lending facility and standing deposit facility have significance impact on the economic growth of the industrial sector. The interbank lending rate and 91 days treasury bill interest rate and open buy back rate do not have significant impact on the growth of the industrial sector of the Nigerian economy. The significance of the standing lending facility and standing deposit facility suggests that credits to industrial sector are being transmitted through the medium. The standing lending facility and standing deposit facility determine the credit delivery to the industrial sector of the Nigerian economy. The findings in this study is in line with the findings of Maiga (2017) who found that interest rate has slight significance with economic growth. In the contest of this present study, only some of the interest rates significantly affect the growth of the industrial sector of the Nigerian economy.

CONCLUSION

This study on the effect of interest rates on growth of industrial sector was done on the thrust that interest rate is a major determinant of credit delivery to the productive sector of any economy. Due to several types of interest rates existing in the financial sector, it is worthwhile to determine the interest rates that aid efficient transmission of credit to the productive sector which is the driving force of any economy. The results of the study reveal that standing lending and standing deposit facilities have significant impact on the industrial sector of the Nigerian. The interbank rate and 91 days treasury bill rate do not have significant effect on the growth of the industrial sector of the economy. It is therefore recommended that banks should give optimum interest rates that maximizes their profit as a profit-making organization and aids the mobilization of credit to the productive sector of the economy. Central bank's monetary policies should also be in this regard.

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