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INTEREST RATE AND THE NIGERIA ECONOMY

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ABSTRACT

The study was carried out to investigate the relationship between Interest rate and Nigerian economic growth. The study used the period of 36 years spanning from 1986 to 2022, adopting Ordinary Least Square (OLS) technique to analyze the data. The data for the variables used were collected from Central Bank of Nigeria (CBN) Statistical Bulletin, 2023. Real Gross Domestic Product (RGDP) was used as a proxy for economic growth, while Interest rate, Inflation rate and Exchange rate were used as proxies for Interest rate. The study found that INF has a negative (-55.623) and insignificant (0.560) relationship with GPD. 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. INTR also has a negative (-1007.29) but significant relationship (.028) with GDP. This similarly implies that an increase in INTR would lead to a reduction in GDP. Contrary to the first two explanatory variables, EXCR has a positive (146.727) and significant (0.000) relationship with GDP. This portrays that an increase in EXCR would enhance GDP. The study recommended that there is a need to promote policies that stabilizes interest rates, CBN and other policy makers should work strappingly to stabilize inflation and interest rate in the economy.

Keywords: Interest Rate, Monetary Policy, Nigeria Economy

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INTRODUCTION

1.1 Background to the study

Because interest rates are crucial to the economy, lenders, economists, and borrowers have given them a lot of attention. The interest rate makes it easier for lenders and borrowers to transfer money. This represents what a borrower must pay the lender in order to use the funds, and it is known as the borrowing cost. Interest rates allow financial institutions including corporations, banks, mutual funds, and insurance firms fulfill their intermediary role by facilitating the flow of credit into the economy (Eregha, 2010). This implies that interest rates have a significant impact on the economic activity of any economy.

Oliver (2016) noted that the demand for and distribution of available funds are impacted by interest rates. Additionally, it affects the level of investment, as well as its amount and structure. An economic slowdown is encouraged by high interest rates since they make borrowing unappealing. Conversely, low interest rates promote borrowing and economic expansion because, all other things being equal, businesses expect to pay interest on borrowed funds equal to a small portion of their income, which increases with a lower interest rate (Mahmudul, Gazi Salah, 2009). As a result of the global economic crisis, the Nigerian economy suffered many difficulties that had an impact on total economic activity and crises that had disastrous effects on global commodity prices. This ultimately led to fundamental imbalances brought on by the drop in oil prices which adversely affected the Nation's revenue (Obansa et al., 2010). Nigeria's economy is presently being impacted by the global financial and economic crisis, which started in the US and swiftly spread to other parts of the world, particularly its banking industry (Obansa et al., 2010).

However, as interest rates rise, profit margins fall. In the modern world, money is used to exchange goods and services. People usually preserve all of the money that's left after paying for goods and services so they can make investments in the economy. To make things easier, there is usually an interest rate attached to the use of this money. In any event, the temporal worth of money, or the notion that most people desire to have money now, is reflected in the interest rate (Obute, 2012).

The long-term objective of interest rate deregulation, according to Osundina and Osundina (2016), was to foster a favorable link between interest rates and investment in Nigeria to assist development and economic progress. This was done to attract investment in the country's manufacturing and agricultural sectors. Economic scholars have demonstrated a relationship between interest rates and investment in Nigeria. This study, which will examine how interest rate variations effect investment, is therefore crucial.

The main objective of the study is to examine the nexus between interest rates and economic growth as determinant of firm's investment decision in Nigeria. The study covered the period of 30 years between 1989 and 2021.

1.2 Statement of the Problem

The main goal of this study is to try to identify the impact of interest rate of economic growth. The economy was still dealing with issues like interest rates and import substitution; however, with price stability at the forefront under the new CBN leadership, interest rates might move significantly lower, indicating that the initiative to maintain exchange rate stability be sustained (Agbaje, 2014).

It is anticipated that the interest rate would either positively or negatively affect economic growth. Accordingly, lowering interest rates as a result of an expansionary monetary policy may boost the economy by causing more activity in the market (Jelilov, Gylych; Chidigo, Mary; Onder, Evren, 2016). On the other hand, slow development may lead to a decrease in economic growth and may be brought on by a tight monetary policy with a regime of comparatively high interest rates (Foo-zor, 2009). The objective of the study is to investigate the effects of interest rate variations over time on the macroeconomic variables that we will be examining, such as investment.

1.3 Objectives of the Study

The general objective of the study is to analyze the impact of interest rate on Nigerian economy, while specifically, the objectives are as follow:

1. To analyze the impact of interest rate on Nigerian economic growth
2. To investigate the influence of inflation rate on Nigerian economic growth
3. To evaluate the impact of exchange rate on Nigerian economic growth

1.4 Research Questions

For the purpose of this study, the for following questions are raised;

1. What is the impact of interest rate on Nigerian economic growth?
2. To what extent has inflation influenced Nigerian economic growth?
3. How has exchange rate impacted Nigerian economic growth?

1.5 Research Hypotheses

The following Hypotheses were formulated for the study:

HO_i: interest rate does not significantly impacted Nigerian economic growth

HO_{ii}: inflation does not significantly influenced Nigerian economic growth

HO_{iii}: exchange rate does not significantly impacted Nigerian economic growth

1.6 Significance of the study

This study will clarify some of the current debates on the relationship between interest rates and Nigeria's economic growth. Additionally, scholars and students may use the work as a point of reference. The conclusions and suggestions of the study will offer ways to achieve long-term, steady economic growth.

1.7 Limitations tor the study

The major constraints encountered in the course of the study are the limited time frame to carry out the study, the network issues and the inconsistency in the online data.

1.8 Definition of operational key terms

1.8.1 Interest rate

Interest rate is the amount a lender charges a borrower and is a percentage of the principal—the amount loaned. The interest rate on a loan is typically noted on an annual basis known as the annual percentage rate (apr).

Interest rate can also apply to the amount earned at a bank or credit union from a savings account or certificate of deposit (cd). Annual percentage yield (apy) refers to the interest earned on these deposit accounts.

1.8.2 Inflation

The steady and continual increase in the average level of prices for goods and services within an economy is referred to as inflation. There is no denying that inflation affects economies across the globe in varying degrees. Perhaps the variances can be attributed to differences in time, reasons, length, and current economic conditions. It is sufficient to state that prices are rising in all countries' economies, whether they are developed, developing, or undeveloped. Prices may rise steadily and continuously in some economies, whereas they may only fluctuate in others.

1.8.3 Exchange rate

Exchange rate is the value of one currency for the purpose of conversation to another. It is also regarded as the value of one country’s currency in relation to another currency.

2.1 CONCEPTUAL REVIEW

2.1.1 The Concept of Interest Rate

Interest rates are the expenses a borrower must pay while acquiring a loan in any market, Sanusi (2002). According to this definition, interest rates influence how much credit costs in an economy. Borrowers may be reluctant to take out loans when they should, which is one of the social effects of high interest rates. This could be the case because the total cost of the credit plus the credit itself could be too high for the borrower to afford to repay by the loan's specified due date. 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.

SSekuma (2011) claimed that there is a cost associated with borrowing money, and that cost is known as the interest rate. Apart from the manufacturing sector, those in the real estate industry also suffer from the increase in loan rates. An increase in interest rates affects the demand for mortgages, which drives up the cost of residential real estate. On the other hand, high interest rates proponents believe that these rates stimulate the market's supply of idle money, improving the cycle of funds and making it easier for enterprises to obtain the capital they need to succeed.

2.1.2 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. When a country's capital dividend by its entire population boosts sustainability, that country's economy is said to have risen (Akintoye & Olowulajo, 2008).

A nation's economic growth is said to have increased if its GDP rises. Furthermore, there are indicators of economic growth if the total products and services per person in an economy rise for a respectable period of time, say five years or more. On the other hand, when there are rapid swings in a country's per capita income, it might not be wise to assume that its economy is expanding. 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.

Teriba (2012) defined interest rate as the fee a borrower must pay the lender for using borrowed money; it is expressed as a percentage of the principle. It is often stated as a percentage of the entire loan amount (principal) for a year or for any other time period that was agreed upon at the time the loan was received by the borrower and the lender. The interest rate is the portion of the principal that is paid as a fee over a given length of time. For borrowers using credit and lenders gradually withdrawing cash, they might as well be referred to as lease payments. Interest rates can be expressed in nominal or real terms, depending on whether or not changes in price levels (inflation) are taken into account in their calculations. The interest rate is expressed in nominal terms if changes in price levels are not taken into consideration.

An interest rate that is not adjusted for inflation is called a nominal interest rate. It is essentially the most basic example of an interest rate (Teriba, 2012).

2.2 NEXUS BETWEEN INTEREST RATE AND OTHER MACROECONOMIC VARIABLES

2.2.1 Inflation

Inflation is another factor that affects interest rates, Tomori (2012). Because a positive real interest rate is necessary to stimulate other economies, the interest rate is expected to rise in tandem with the predicted pace of inflation. All other factors being equal, the interest rate would decrease if predicted inflation decreased.

Interest rates would normally climb in response to rising prices and inflation expectations, whereas they would typically fall in response to low inflation and improving inflation estimates, according to (Tomori, 2012). As a result, there is a positive relationship between inflation and interest rates. On the other hand, borrowers usually gain at the expense of savers when the rate of inflation exceeds the rate of interest. Higher interest rates than the inflation rate would provide saver protection.

2.2.2 Exchange Rate

Adebiyi (2017) asserted that an analysis of the link between the interest rate and the exchange rate may be done using the supply and demand of foreign currency in the foreign exchange market. Traders usually depend on growing interest rates in other countries to trade foreign exchange and make larger profits. For example, because of Nigeria's higher interest rate, investors from Ghana may purchase Naira-based assets there in an effort to improve their income.

This would also help foster respect for the Naira. In order to evaluate the worth of a currency, in this example the naira relative to the cedi, an increase in interest rates is thus anticipated. Conversely, a decrease in the interest rate would cause the value of the naira to decline (Uchendu, 2013).

THE IMPACT OF THE INTEREST RATE ON THE ECONOMY.

It is impossible to overstate how important interest rates are to the economy. An instrument used by financial intermediaries in the economy is the interest rate. It affects the choices made about investments and savings in economics. It also directs the money transfer between borrowers and investors. Financial intermediaries such as money and financial markets, insurance companies, mutual funds, government securities, and MDBs are used to channel these funds, etc. (Olaniyan, N. O., Adegboyo, O. S., Olumuyiwa, O. B., & Abidemi, A. A.,

2020). The way that individuals and businesses save and consume could serve as a powerful indicator of the interest rate's critical function in the economy (Acha & Acha 2011).

Interest rate changes would affect firm production and investment decisions, as well as consumer spending and household savings levels. The balance and imbalance positions of the money market and products sectors best describe this behavior. The currency sector depicts the link between the amount of money requested and the amount delivered, describing the credit market as the supply and demand of credit, while the products sector illustrates the income and interest rate combinations at equilibrium. The level of balance of production in the economy is consistent with the balance of the goods and credit market; therefore, any deviation from the point of balance in any market will result in an adjustment of an interest rate (Eregha, 2010).

MANAGEMENT OF INTEREST RATE IN NIGERIA

In 1962, interest rates were incorporated into Nigeria's monetary policy for the first time with the introduction of money market instruments. The interest rate was then made competitive to ensure the repatriation of funds stored aboard. For example, at times of high government borrowing, like the 1960s, interest rates were cut to reduce the expense of repaying public debt. Because of this, interest rates have been a crucial tool that the Federal Government of Nigeria has used over time to regulate monetary policy.

The Federal Government of Nigeria launched the Structural Adjustment initiative (SAP) in 1986. It was a comprehensive economic restructuring initiative that placed a strong emphasis on a greater reliance on market forces. According to Akingunla (2012), the SAP initiated a number of reforms, including structural changes, foreign exchange management, interest rate administration, and monetary policy. The development of financial sector institutions as well as the liberalization of financial markets were addressed by these changes. In Nigeria, the interest rate has been a crucial tool utilized by the Central Bank over the years. In charge of monetary policy is the central bank. Interest rates have remained one of the tools employed by the Federal Government of Nigeria to administer its monetary policy, despite the fact that their usage was predicated on two fundamental assumptions. Interest rate limitations can always be found in the Federal Government's Annual Budget document or the Central Bank of Nigeria's (CBN) Monetary/Credit Policy Circulars (Jelilov, Gylych; Musa, Muhammad, 2016).

2.3 THEORETICAL REVIEW

Theories of interest rates try to explain variables which determined interest rates. These theories differ because of differences of opinion as to whether rates are monetary or real phenomenon.

2.3.1 Mundell–Fleming Model

According to the traditional theory of interest rates, the interest rate is the factor that integrates investment and savings. The theory upholds the suggestion derived from the general balance theory of the interest rate, which is based on the supply and demand for capital. Whereas community savings drive capital supply, investment decisions drive capital demand (Porter & Gandhi, 2009). Based on the IS-LM model, the IS curve moves upwards with the LM curve intact, increasing the interest rate and output. Only for a small open economy with perfect capital mobility and a flexible exchange rate, the domestic interest rate is predetermined by the horizontal BOP curve, and thus by the LM equation given previously

there is exactly one degree of output that can draw the money market be in equilibrium at that interest charge per unit. (Chris & Anyingang, 2017)

The neoclassical theory of the interest rate on loaned funds, according to Dennis Robertson, is based on the ideas that investing and saving are the main drivers of long-term interest rates. According to Jingan (1997), the interest rate is the cost that corresponds to the supply and demand for marketable money. The expected rate of profit in relation to the interest rate determines the demand for credit money for investments like the acquisition of capital equipment, buildings, etc. Previous savings or savings, along with elastic interest, satisfy this desire. The loan fund views the money supply, hoarding, investments, and savings as the four factors that influence the interest rate (Ahuja, 2013).

2.3.2 Classic Interest Rate Theory

According to the traditional theory of interest rates, the interest rate is the factor that integrates investment and savings. The theory upholds the suggestion derived from the general balance theory of the interest rate, which is based on the supply and demand for capital. Whereas community savings drive capital supply, investment decisions drive capital demand (Porter & Gandhi, 2009).

2.3.3 Keynesian Theory of Liquidity

The Keynesian theory of liquidity preference determines the interest rate by the demand and supply of currency in a stock exchange theory. He points out that the interest rate is simply a monetary phenomenon. This is an inventory analysis because it takes the given short-term currency supply and determines the interest rate by liquidity preference or currency demand. Keynesian theory suggests that low interest rates as a component of administered cost impede growth in savings and therefore investment demand. They argue that increase in the real interest rate will have strong positive effects on savings which can be utilized in investment, because those with excess liquidity will be encouraged to save because of the high interest rate, thus banks will have excess money to lend to investors for investment purpose thereby raising the volume of productive investment (Gujarati, & Porter, 2009).

2.2.4 Financial Liberalization Theory

The theory of financial liberalization advocated by Mckinnon and Shaw (1973) posits that the regulation of interest rates usually results in low and negative real interest rates, which hampers economic growth in developing countries. Financial repression that causes low interest rates discourages saving and hence reduces investment. Because initiatives conducted under a system of repression will have a poor rate of return, the quality of the investment will likewise be low. They argued that a rise in interest rates would result from the deregulation of interest rates, encouraging savings and investment and quickening economic growth. Both Mckinnon and Shaw argued that interest rate deregulation was necessary to address the problems caused by the financial repression strategy in developing countries.

In order to track the direction of investment flow during this time, this study looks at investment performance following the Nigeria Structural Adjustment Programme, which deregulated interest rates.

The literature reviewed indicates that much work has been done on interest rates and investment in the economy in developed countries. Few studies captured the connection between interest rate and economic growth over a long period in the broad sense in Nigeria and most of these studies have focused on the interest rate, as it positively influences the naira's behavior. But there has been no attempt to look at the impact of the interest rate and

economic growth as determinant for investment decisions in Nigeria, in view of this, the researcher is interested to undertake a study which hinged on the intent to examine interest rate and economic growth as determinants of firm's investment decision in Nigeria. We found a gap in this area and this is the contribution that this study will provide for policy making.

2.4 EMPIRICAL REVIEW

Olufemi et al (2023) study examined the nexus between interest rate and real gross domestic product (GDP) growth in Nigeria. To act as counterbalances, the study also introduced money supply and institutional quality as proxies for interest rate. The research is based on ex-post facto research design using a time series data of 68 quarters from 2006Q1 to 2022Q4). The Autoregressive Distributed Lag (ARDL) model was utilized to assess the effect of interest rate on real GDP growth in Nigeria. The study found that interest rate has long-run significant cointegrating relationship with real GDP growth rate (Adj R2 = 0.44; F-stat (4, 63) = 18.55 $p < 0.05$). The study came to the conclusion that interest rates have a major impact on Nigeria's real GDP growth and that one of the fundamental needs for emerging nations to achieve rapid economic growth is to maintain stable lending rates. Thus, the study suggests that in addition to implementing suitable fiscal measures to promote economic activity and support growth, policymakers may utilize interest rates as a short-term economic instrument to enhance real GDP growth.

Olaniyan et al. (2020) examined how economic growth and interest rates impacted enterprises' decisions to invest in Nigeria between 1989 and 2019. In accordance with the premise theories reviewed, the study broke down interest rate and economic growth into external borrowing, exchange rate, inflation rate, and gross domestic product. The Central Bank of Nigeria Statistical Bulletin provided the data. The study used the auto-regressive distributed lag (ARDL) technique to examine the data based on the variables' mixed level of stationarity as shown by the unit root test. The study computed the ARDLECM after the bound test demonstrated the existence of co-integration, or a long-run link, between all of the explanatory variables and the dependent variable. The results of the analysis indicate that interest rates, foreign borrowing, exchange rates, and economic growth have a special long-term relationship. The outcome also showed that there isn't any solid empirical support for the hypothesis that interest rates and investment choices in Nigeria are related. It was determined that the government needed to implement policies that would spur economic growth and pay attention to how interest rates behaved in the economy. This will guide the formulation of private sector development policy as an enabler of global economic growth in Nigeria.

Alasha (2021) looked into how exchange rate volatility affected investment and economic growth in Nigeria, Using the vector error correction (VEC) method. According to their research, currency rate volatility in Nigeria has a positive link with interest rates and inflation but a negative correlation with both investment and growth. In a similar vein, research by Rapetti et al. (2012) demonstrated that real exchange rate volatility lowers productivity and impedes economic growth in a wide range of industrialized and developing nations.

Omoke and Oruta (2020) investigated the potential correlation between inflation and economic growth in Nigeria by utilizing data spanning from 1970 to 2018. In evaluating the co-integration qualities of variables in a multivariate setting, he used the Johansen-Juselius Co-integration methodology, which is thought to be superior to Engle and Grager's (198) method. The findings indicated that there was no co-integrating relationship between Nigeria's economic growth and inflation. He came to the conclusion that inflation does, in

fact, have an effect on GDP after they used VAR-Granger causality at two lag periods to prove unidirectional causality from inflation to economic growth.

In the study of Samuel et al, (2017), they evaluated the impact of interest rates on Nigeria's economic growth. Using an error-correction mechanism, the researchers tested the short- and long-term relationships between saving deposits, real interest rates, and inflation. The results showed that the ECM was negative, and a subsequent Granger causality test revealed a unidirectional relationship between SD and GDP, meaning that savings deposits cause GDP. The study recommended that policies which would boost the saving accumulation in Nigeria that will increase Capital Formation are necessary for economic growth. This will also enhance lending to the real sector of the economy for productive economic activities. This could be done by increasing the deposit rate which would lure the people to deposit their money in banks thereby increasing the supply of loanable funds. This would lead to a fall in interest rate and eventually rise in investment.

Obamuyi and Olorunfemi (2011) looked into how Nigeria's economic growth was affected by interest rate behavior and financial reform. Utilizing cointegration and error correction models on time series data spanning from 1970 to 2006, they demonstrate how interest rates and financial reform have a major influence on Nigeria's economic growth. Given the empirical relationship between interest rates and investment, as well as between investment and growth, the results suggest that interest rate behavior is significant for economic growth. The majority of the time period was marked by a fixed and regulated interest rate regime, particularly in the early 1970s when military authority prevented the market from setting the interest rate. This study identifies the time frame during which economic policy liberalization had an impact on the economy, allowing policymakers to determine the most suitable interest rate regime to impact the nation's economic growth.

Utile et al. (2018) evaluated the impact of interest rates on the expansion of the Nigerian economy. The study's objective was to ascertain how the nation's gross domestic product was impacted by the rates of inflation, exchange, and deposit interest. The Central Bank of Nigeria's statistical bulletin covering the years 1980–2016 provided the study's data. Ex-post facto research design was the one used for this investigation. The data analysis method employed was multiple regression. The developed hypotheses were tested using the student t-test. It was discovered that the effects of EXR and INF on GDP are negligible and negative. Additionally, a strong and positive correlation between DIR and GDP was discovered.

Using secondary time series data, Adegoke et al. (2021) investigated the connection between interest rates and economic growth in Nigeria. The National Bureau of Statistics and the Central Bank of Nigeria Statistical Bulletin were the sources from which the data was gathered. After using the Augmented Dicker-Fuller (ADF) unit root tests to determine that the variables were out of order at the level, Autoregressive Distribution Lag (ARDL) was used in the study. The GDP served as a stand-in for economic growth, with the Treasury bill rate (TB), lending rate (LR), and exchange rate (EXC) serving as independent variables. The results showed that the dependent and independent variables have a very strong long-term relationship, and that the equilibrium's pace of adjustment was set at 79.4%. Additionally, although statistically insignificant, the results showed a negative association between the loan rate and GDP and a positive relationship between the GDP, Treasury bill rate, and exchange rate. According to the report, the lending rate has an impact on Nigeria's economic growth. The monetary authority should manage it carefully, and the government should figure out how to increase the Treasury bill rate's appeal to investors.

Richard (2018) investigated how Nigeria's economic development was impacted by the interest rate mechanism between 1986 and 2016. The study's sample was Nigeria, and it tested the effects of independent variables (interest rates and monetary policy rates) on the dependent variable (economic development, as measured by the Human Development Index) at the 5% level of significance. It did this by using the OLS, Co-integration, Granger-causality, and Error Correction model data analysis techniques. According to the study's findings, discount rate tools like interest and monetary policy rates have a big impact on economic growth. It suggests, among other things, that discount rates be predictable, business-friendly, and in line with prevailing economic conditions. It also suggests that, to the greatest extent possible, government fiat should be minimized when determining monetary rates.

In Udoka and Roland (2012), they used the ordinary least square multiple regression analytical technique to assess the impact of interest rate fluctuations on Nigeria's economic growth during the years 1970 to 2010. They conducted their analysis both before and after the interest rate deregulation policies. They employed secondary time series panel data from the Central Bank of Nigeria (CBN) statistical bulletin in their ex post facto study design. The results showed that interest rates and economic growth in Nigeria were inversely correlated.

Using time series data, Aydemir and Demirhan (2009) examined the behavior of interest rates and investments in Nigeria from 1976 to 2006 and discovered that investment behavior had a major impact on both the interest rate and the rate of inflation.

Kurihara (2016) looked at 23 countries' private investment factors in the least developed developing nations between 1975 and 1987 and discovered that real deposit interest rates had a negative effect on private investment.

Agenor and Montiel (2016) discovered that interest rates have a significant negative relationship with share prices for the markets of Australia, Bangladesh, Canada, Chile, Colombia, Germany, Italy, Jamaica, Japan, Malaysia, Mexico, the Philippines, South Africa, Spain, and Venezuela in their study on stock investment conducted in Jordan (based on monthly data from January 1988 to March 2003). They contended that there was a substantial inverse association between changes in interest rates and changes in stock prices for six of the nations in this sample.

Using the two-step least square method, Olubanjo et al. (2010) simulated the link between interest rates, savings, and investment in Nigeria between 1993 and 2010. Their findings suggest that a significant drop in the real interest rate would not inevitably lead to a rise in domestic investment.

From 1990 to 2013, Fatoumata (2017) investigated the relationship between interest rates and economic growth in Nigeria. The findings indicated that while interest rates have a small effect on growth, growth can be enhanced by lowering interest rates, which will raise investment. The study's conclusion was that interest rate policies should be established by Nigerian authorities in a way that will promote economic growth. Thus, appropriate action needs to be done to achieve faster economic growth.

Eregha (2010) investigated changes in the interest rate and determination of investments in Nigeria and deduced that the investment has an indirect relationship to the change in interest rates and other variables used.

Obamuyi (2009) used time series data spanning 1970–2006 to examine the link between interest rates and economic growth in Nigeria. In order to capture the dynamics of the variables in the model over both the long and short terms, he used cointegration and an error correction model. The outcome showed that actual lending rates have a positive impact on economic expansion.

De Gregorio and Guidotti (2009) cited in Oosterbaan et al., (2000) suggest that the relationship between real interest rates and economic growth might resemble an inverted U-curve: Very low (and negative) real interest rates tend to cause financial disintermediation and hence reduce growth.

Malick and Agarwal (2007) discovered that there appeared to be no clear correlation between the three real interest rate metrics and the growth of real output in India. They explained this unexpected outcome by raising the notion that investment, a key growth predictor, is influenced by a number of variables besides only real interest rates. However, Mohanty and Chakrabort Gangadaran (2012) emphasized that real lending rates and growth have an inverse relationship in India, with actual data showing that real lending rates Granger cause growth in both the country's total GDP and its non-agricultural GDP.

Ke Zhang and Bing Liang (2007) examined the factors influencing swap spreads in the US interest rate market using a multivariate Generalized Autoregressive Conditionally Heteroscedastic (GARCH) model with Error Corrections Terms (ECM). They conducted an empirical investigation on the significance of the factors influencing interest rate swap spread in the US derivative market using monthly data spanning 106 observations. Additionally, they discovered that variations in the interest rate swap spread would positively correlate with variations in the implied volatility of the stock market; however, their hypothesis that variations in the swap spread would positively correlate with variations in the default premium in the corporate bond market was refuted. However, they discovered that, with z-statistics of 2.01 or above, swap spreads in the US market had a negative, substantial association with the default premium. They also came to the conclusion that there would be a negative correlation between changes in the business cycle and changes in the interest rate swap spread.

Hasanov (2010) investigated if inflation might have a threshold effect on the Azerbaijani economy's growth between 2000 and 2009. The Azerbaijani economy exhibits a non-linear relationship between economic growth and inflation, as evidenced by the estimated threshold model. The GDP growth threshold for inflation is set at 13 percent. Inflation below the threshold has a statistically significant positive impact on GDP growth; but, as inflation rises above 13 percent, this positive link turns negative. According to Nisha & Nishat (2011), economic activity can be generated by the distribution of reserves to the most profitable ventures, since investors often choose to engage in a limited number of carefully chosen businesses.

The study undertaken by Shahmoradi and Baghbanyan (2011) focused on the factors that determine foreign direct investment inflows in developing countries, covering the years 1990-2007. Obamuyi and Olorunfemi (2011) investigated how interest rate behavior and financial reform affected Nigeria's economic expansion. The study's findings suggested that interest rate behavior is crucial for economic growth and that financial reform and interest rates have a major impact on Nigeria's economic growth.

Khalid (2007) used four separate equations to measure the relationship between interest rate

deregulation and economic growth in Pakistan between 1981 and 2002. His conclusion was that interest rate liberalization has not impacted positively on economic growth in Pakistan as most of the indicators of the financial liberalization do not show any significant impact on saving, investment or growth.

Omar et al. (2007) evaluated the impact of interest rate liberalization on the economy of Bangladesh revealed that long-run economic growth in Bangladesh is largely explained by physical capital and real interest rate. They went on to state that financial liberalization has had significant negative impacts on economic growth implying that financial reforms failed to attract new investment. This they believe is due to the adverse investment climate existing in that country.

Oforegbunam (2012) examined the relationship between the money supply and interest rate indices between 1990 and 2007. Both an autoregressive analysis of the variable and an evaluation of the impact of interest rate indices on the money supply are conducted in this study. The findings demonstrate that the minimum rediscount rate and savings rate, among other things, have had a major positive influence on the money supply. However, the lending rate has had a negligible adverse effect on the amount of money in circulation. Based on his findings, he concluded that the inability of the monetary authority to narrow the gap between saving and lending rate remains a key to the problem of instability in money supply, hence concerted effort must be made to strengthen the capacity of regulatory authorities to use market-based options monitor and control periodic volatility in money supply through an effective interest rate regimes.

Adekunla and Akungba (2009) used time series analysis using annual data from 1970 to 2006 to examine the relationship between interest rates and economic growth in Nigeria. The long-run and short-run dynamics of the model's variables were captured by the co-integration and error correction models. The empirical findings show that actual loan rates have a positive impact on economic growth. Additionally, there is a distinct long-term relationship between interest rates and other factors that influence economic growth. Given the connections between interest rates, inflation, and growth, the findings suggest that interest rate behavior affects economic growth. Therefore, in order to encourage economic growth in Nigeria, financial policies that improve investment-friendly rates of interest must be developed and put into action.

Nicholas (2010) in his study, the dynamic relationship between interest rate reforms; bank based financial development and economic growth in South Africa, using co-integration and Error correction models, the study finds a strong support for the positive effect of interest rate reforms on financial development. The study also discovered that interest rate reforms do not Granger cause investment and economic growth.

METHODOLOGY

3.1 THEORETICAL FRAMEWORK

3.1.1 Keynesian Theory of Liquidity

The foundation of this study is the Keynesian theory of liquidity preference, which uses supply and demand in a stock exchange theory to calculate interest rates. He makes the observation that interest rates are merely a product of money. Because it uses the given short-term currency supply to calculate the interest rate based on liquidity preference or currency demand, this approach is classified as an inventory analysis. According to Keynesian theory, low interest rates as part of administered costs hinder the demand for investments by

preventing savings from growing. According to their argument, a rise in the real interest rate will have a significant positive impact on savings that can be invested in. This is because individuals with excess liquidity will be incentivized to save due to the high interest rate, which will leave banks with excess funds to lend to investors for investment purposes, potentially increasing the amount of profitable investments made (Porter & Gujarati, 2009).

3.2 Research Design

Quantitative research designed was adopted for the study. The secondary data used in the study were gotten from the Central Bank of Nigeria (CBN) Statistical Bulletin, 2023. The Dependent variable is Economic growth proxy, which is the Real Gross Domestic Product, (RGDP), while the Independent variables are; interest rate (INTR), inflation rate (INFR), and exchange rate (EXCR). The study is designed to examine the impact of the independent variables on the dependent variable.

3.3 Sources of data

The secondary data used in the study were gotten from the Central Bank of Nigeria (CBN) Statistical Bulletin, 2023. The data were for the period of 36 years spanning from 1986 to 2022. The variables in which the data were collected on are; The Real Gross Domestic Product (RGDP), interest rate (INTR), inflation rate (INFR), and exchange rate (EXCR). The study is designed to examine the impact of the independent variables on the dependent variable.

3.4 Population/Sample size

The Nigeria economy serves as the sample of this study and the outcome of this study would be beneficial for policy implication especially for Africa countries.

3.5 Method of data analysis

Ordinary Least Squared (OLS) of E-view 9 was used to carry out the analysis. The Description of the variables was statistically provided, also the model summary of the variables were analyzed.

3.6 Model specification

In order to examine the impact of Interest rate on the Nigerian economic growth, the model for the study is specified thus;

RGDP= F(INTR, INFR, EXCR) …… (1)

Where:

RGDP = Real Gross Domestic Product

INTR= Interest Rate

INFR= Inflation Rate

EXCR= Exchange Rate

The model in its econometrics linear form can be written as:

$RGDP = \beta_o + \beta_1 INTR + \beta_2 INFR + \beta_3 EXCR + U$ ..... (2)

U = stochastic or random error term

β_o = constant intercept

β_1 - β_4 = coefficients of associated variables.

3.7 A-priori Expectations

This states the theoretical predictions of the signs of the parameters employed in the model. Specifically, it explains what theories have predicted about the impact of independent or explanatory variables on the dependent variable. However, in an econometric term, the A-priori expectations for the model can be written thus: $\beta_1>0$, $\beta_2>0$, $\beta_3>0$ and $\beta_4>0$

DATA PRESENTATION AND ANALYSIS OF RESULT

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 1986-2022. The section 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 E-view 9.

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 below:

Table 4.1 Descriptive Statistics

	EXCR	INFR	INTR	RGDP
Mean	141.2524	19.77432	13.71622	42025.56
Median	127.0000	12.20000	13.50000	36431.37
Maximum	431.2800	76.80000	26.00000	74752.42
Minimum	3.320000	0.200000	6.000000	17180.55
Std. Dev.	118.1770	17.93900	3.738948	20844.16
Skewness	0.958076	1.815129	0.751791	0.330110
Kurtosis	3.178472	5.237413	5.016366	1.462630
Jarque-Bera	5.709550	28.03489	9.753342	4.315739
Probability	0.057569	0.000001	0.007622	0.115571
Sum	5226.340	731.6500	507.5000	1554946.
Sum Sq. Dev.	502769.1	11585.08	503.2703	1.56E+10
Observations	37	37	37	37

Source: Author compilation using E-view 9.

The above table indicates that a total of 37 observations were analyzed in this study. For example, the table shows that RGDP which is the dependent variable has a mean of 42025.56. This implies that considering the time under investigation using the predictor variables in the study ignoring other factors, the average RGDP can be predicted to be 42025.56. The study

further shows that the deviation of the GDP from the mean is low (20844.16), also the minimum and maximum are 17180.55 and 74752.42 respectively.

THE OLS REGRESSION RESULT

Dependent Variable: RGDP
Method: Least Squares
Date: 09/25/24 Time: 23:09
Sample: 1 37
Included observations: 37

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	36216.06	6580.333	5.503681	0.0000
EXCR	146.7274	13.73718	10.68104	0.0000
INFR	-55.62257	94.54375	-0.588326	0.5603
INTR	-1007.290	438.1371	-2.299029	0.0280

R-squared	0.823986	Mean dependent var	42025.56
Adjusted R-squared	0.807984	S.D. dependent var	20844.16
S.E. of regression	9133.824	Akaike info criterion	21.17916
Sum squared resid	2.75E+09	Schwarz criterion	21.35332
Log likelihood	-387.8145	Hannan-Quinn criter.	21.24056
F-statistic	51.49495	Durbin-Watson stat	0.404315
Prob(F-statistic)	0.000000		

Source: Author compilation using E-view 9.

The above table shows the model summary of the variables. The coefficient of determination (R squared) which measures the goodness of fit of the model which is 0.824 shows that the explanatory or independent variables can account for over 82% of the variation in the dependent variable. Meaning, the independent variables of the model, i.e, INTR, INFR and EXCR can jointly account for about 82% variation in the Economic growth proxied by (RGDP). The value of the adjusted R squared of 0.808 indicates that after adjusting for degree of freedom from the R squared, the independent variables can still account for about 83% of the changes in the dependent variable. The value of DW statistics of less than 2.00 indicates that there is presence of auto/serial correlation in the model. The F-statistic of 51.495 at 0.000 indicates that the relationship is significant at the traditional level of 1% significant level.

TEST OF HYPOTHESES

HO_i : *Interest rate has no significant impact on economic growth in Nigeria*

The test of this hypothesis is based on the coefficient of INTR in the OLS regression results above. In the result, the coefficient of INTR is 0.0280 significant at the 5 percent level ($p < 0.05$). This implies that the null hypothesis is rejected, in this case, demonstrating that interest rate has a negative and significant impact on economic growth in Nigeria for period under review. Thus, there is need to maintain interest rate by the policy makes so that it can bring about a positive impact on the economy.

HO_{ii}*: Inflation has no significant influence on economic growth in Nigeria*

The test of this hypothesis is based on the coefficient of INFR in the OLS regression results above. In the result, the coefficient of INFR fails the test of significance at the 5 percent level ($p > 0.05$). This implies that the null hypothesis cannot be rejected, this means that inflation rate has an inverse but insignificance impact on Nigerian economic growth for the period under review.

HO_{iii} *: Exchange rate has no significant impact on economic growth in Nigeria*

The test of this hypothesis is based on the coefficient of EXCR in the OLS regression results above. In the result, the coefficient of EXCR is 0.000 significant at the at the 1 percent level ($p < 0.01$). This implies that the null hypothesis is rejected, in this case, exchange rate has significant impact on economic growth in Nigeria.

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 80% of the variation in GDP. But more specifically, it was discovered that:

i. INF has a negative (-55.623) and insignificant (0.560) relationship with GPD. 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. INTR also has a negative (-1007.29) but significant relationship (.028) with GDP. This similarly implies that an increase in INTR would lead to a reduction in GDP.

iii. Contrary to the first two explanatory variables, EXCR has a positive (146.727) and significant (0.000) relationship with GDP. This portrays that an increase in EXCR would enhance GDP.

5.2 Conclusion

The study used three proxies to represent interest rates; that is, inflation rate, exchange rate and interest rate. On the average, the result demonstrates that interest rate has a negative but insignificant relationship with GDP. This is demonstrated by the negative association of (INF & INTR) two out of three explanatory variables in this study to the GDP. However, the EXCR 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) EXCR was also found to have a positive association with GDP. This positive association may be as a result of the high level of EXCR fluctuating in the Nigerian economy. There is need to improve exchange rate management policies which centers on measures to enhance exchange rate stability. It is recommended that exchange rate should be strengthened in order to give more value to our currency.

iii) Finally, there is also the need to promote policies that stabilizes interest rates, CBN and other policy makers should work strappingly to stabilize inflation and interest rate in the economy.

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