**TITLE PAGE**

**THE DETERMINANTS OF EXCHANGE RATE IN NIGERIA (1980-2014)**

**BY**

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**GOU/12/1791**

**A PROJECT SUBMITTED TO THE DEPARTMENT OF ECONOMICS, IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF BACHELOR OF SCIENCE IN ECONOMICS. (B.SC)**

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**DEDICATION**

This project work is dedicated to Almighty God who has given me life, inspiration, strength, wisdom and knowledge to complete this course and to my family, friends and well-wishers, who in their eyes and smiles, I had hope and always got the strength to keep pushing forward.

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**ABSTRACT**

This research study examined the determinants of exchange rate in Nigeria from 1980-2014. For this purpose, annual figures of interest rate, inflation and degree of trade openness at the economy were regressed on exchange rate in a framework of multiple models; ordinary least square (OLS) technique at estimation was employed.

The result revealed that inflation rate was an insignificant determinant of exchange rate. Also interest rate was revealed to be insignificant determinant of exchange rate while trade openness was revealed to be positive and significant determinant of exchange rate. On the basis of these, the study recommends the adoption of policies that would encourage and facilitate improvement in productivity in all sectors of the economy.

**CHAPTER ONE**

1. **INTRODUCTION**

**1.1 Background of the Study**

Exchange rate is the price of one country’s currency expressed in terms of some other currency. It determines the relative prices of domestic and foreign goods, as well as the strength of external sector participation in the international trade. According to Dornbusch (2004), exchange rate is the rate at which one country’s currency is exchanged for the currency of another country. While Mankiw (1997), defined it as the price at which exchange between two countries takes place.

The role of exchange rate and its effects on macroeconomic performance has continued to generate interest among economist. Many economists argue that exchange rate stability facilities production activities and economic growth. Exchange rate regime and interest rate remain important issues of discourse in the international Finance as well as in developing nation with more economics embracing trade liberation as a requisite for economic growth (Obansa et al, 2013). The relationship it has with other macroeconomic variables has been argued among economists. They are also of the view that misalignment in real exchange rate could distort production activities and consequently hinder exports growth and generate macroeconomic instability (Mamta Chowdhury, 1999). Mordi (2006) argued that the exchange rate movements have effects on inflation, prices incentives, fiscal viability, competitiveness of exports, and efficiency in resources allocation, international confidence and balance of payment equilibrium.

Prior to the late 1980s, fixed exchange rate was practiced in Nigeria, when the Naira was pegged against the British Pound and later on the American Dollar. After this period, flexible exchange rate policy was adopted and exchange rate was allowed to float which was determined by demand and supply forces. Since then the naira rate of exchange against the dollar has experienced significant fluctuations, such that naira/dollar rate of exchange moved from 0.6091, 0.6369, 3.3166, 9.001, 84.5, 92.52 in 1980, 1981, 1986, 1990, 1995 and 1999 respectively to 132.6, 147.6 and 156.35 in 2004, 2009 and 2013 respectively. Some of the policies employed to stabilize exchange rate in Nigeria include: Second Tier Foreign Exchange Market (SFEM), Autonomous Foreign Exchange Market (AFEM), The Dutch Auction System (DAS) etc. The policies were tried but still were unable to proffer a solution to exchange rate stability. The Naira continued to depreciate against the American dollar.

Some economists have attributed the recent depreciation to the decline in the nation’s foreign exchange reserves. Others argued that the activities of some market operators (speculators) and banks are responsible for the recent decline in the values of naira, while some argued that the over dependency on importation, heavy debt burden, weak balance of payments position and capital flight have explained the reasons for the behavior of exchange rate in Nigeria from the period of regulation to deregulation.

Entrenching a realistic and sustainable macroeconomic policy in Nigeria has been a huge challenge for years. Although successive administrations have considered carious macroeconomic policies to strengthen the economy, reduce inflation and stabilize the Naira. Economists believe that much still needed to be done to get it right. Economists believe that many of the measures by previous administrations did not yield the desired results, as the Naira remained unstable. Despite efforts by government to maintain a stable exchange rate, the naira rate of exchange still remains volatile (Benson and Victor 2012, Aliyu 2011. This calls for further research efforts to determine the variable that account for levels of exchange rate in Nigeria. Against this background, this research study intends to investigate the empirical analysis of the determinants of exchange rate in Nigeria over a period of 35 years (1980 – 2014)

**1.2 Statement of the Problem**

Since the fall of Bretton – wood system in 1970s and the subsequent introduction of floating exchange rates, the exchange rates have in some cases become extremely volatile. It may be quite interesting to note that the naira remained quite stable in the mid 90s i.e. 84.57, 74.6, 84.3 and 92.53 against the American dollar in 19955, 1996, 1997, 1998 and 1999 respectively. In early 2007, the Naira depreciated to N117.968 against the American dollar which could be attributed to decline in foreign exchange reserves and sovereign wealth fund. In a nutshell, the exchange rate of Nigeria Naira to American dollar has been volatile and fluctuating over time. According to Obadan (2006), some of the factors that led to the depreciation of the Nigerian exchange rate include over importation and fragile export base economy.

Since the adoption of the Structural Adjustment Programme in 1986, Nigeria has adopted different types of exchange rate regimes to fixed/pegged regimes but it has not solved the problem of exchange rate fluctuation and maintaining both internal and external balance. As part of the measures taken to stabilize exchange rate in Nigeria could be forced to cut further the amount of oil revenue it uses for government spending if the global crude price continued to plummet. Another measure by CBN stipulates that customers who purchase foreign currency through interbank market or an authorized trader must use the funds within 48 hours. None of these could stabilize the naira against other major currencies.

Past specific Nigerian studies made attempts at determining the variables that account or levels of exchange rate in Nigeria. Some of these include; Udoye (2009), which examined the determinants of exchange rate in Nigeria for period of 1970 to 2006, using the Nigeria time series data. The result suggests that one year past value of exchange rate and immediate past value of trade openness are the major determinants of exchange rate in Nigeria. The result further indicates that there is evidence of long-run relationship between rate and two explanatory variables (gross domestic product growth and trade openness). Again, Ejim (2010) investigated the empirical analysis of the determinants of exchange rate in Nigeria for the period of 1989-2010 and found out that inflation is a key determinant of exchange rate in Nigeria.

According to Jhingan (2005), to maintain both internal and external balance, a country must control its exchange rate. This requires good knowledge of the variables that shape the levels of exchange rate. Therefore, given paucity of empirical evidence on this macroeconomic issue, it becomes necessary to reexamine the determinants of exchange rate in Nigeria. To do this, the study shall be guided by the following research question;

* What are the determinants of exchange rate in Nigeria?

**1.3 Objectives of the study**

The general objective of the study is to empirically determine the determinant of exchange rate in Nigeria for the period of 1980 – 2014.

Specifically:

1. To empirically asses the variables that determine the levels of exchange rate in Nigeria.
2. To make policy recommendations.

**1.4 Statement of Hypothesis**

1. There are no significant variables that determine the levels of exchange rate in Nigeria.

**1.5 Scope and Significance of the Study**

This research work is being carried out to empirically find out the determinants of exchange rate in Nigeria. The findings of this work will be great use to government ministries like, ministry of education and department and agencies at federal, state and local level in solving some macroeconomic problems even intellectual researchers who may be willing to improve the work subsequently.

The scope of the study covers a span of 35 years which is 1980 – 2014 and it is within the geographical area of Nigeria.

**1.6 Definition of Terms**

**Exchange Rate:** Exchange rate is the rate at which one country’s currency is exchanged for the currency of another.

**Inflation:** is a sustained increase in the general price level of goods and services in an economy over a period of time. When the price level rises, each unit of currency buys fewer goods and services. Consequently, inflation reflects a reduction in the purchasing power per unit of money – a loss of real value in the medium of exchange and unit of account within the economy.

In other words, can refer to either an increase in the money supply or a sustained increase in the general price level of goods and services in an economy over a period of time, normally owing to an increase in the money supply. In this study, inflation rate is expected to be negative because a moderate inflation will encourage investors. It is also one of the independent variables.

**Interest Rate:** is the proportion of a loan that is charged as interest to the borrower, typically expressed as an annual percentage of the loan outstanding. Higher interest rates attract foreign capital and cause the exchange rate to rise.

In other words, it is the amount of intrest due per period as a proportion of the amount lent, deposited or borrowed (called the principal sum). In this study, it is expected to be negative because a positive outcome depreciates the foreign exchange rate.

**Trade Openness:** It is a measure of economic policies that either restrict or invite trade between countries. For example, if a country sets a policy of high trade tariffs, thus restricting the desirability of international trade, it will inhibit other countries from sundry exports and accepting imports from the country.

In other words, this concerned with the degree at which the economy is left to interact, trade and mingle with other countries. If the economy is totally open, it has an effect on the balance of payment. Conversely, if the economy is allowed to be closed, the effect would also be seen on the economic activities of such country. In this study, the variable is expected to be negative hence, it appreciates foreign exchange rate with other countries.

**Fiscal Viability:** it is the ability of an entity to continue to achieve its operating objectives and fulfill its mission of continuous effectiveness.

**CHAPTER TWO**

**2.0 LITERATURE REVIEW**

**2.1 Theoretical Literature**

Exchange rate is the rate at which one’s country currency is exchanged for the currency of another (Dornbush, 2004). Monetry policy authority in Nigeria is faced with the problems of having a stable and realistic exchange rate which is in consonance with other macroeconomic fundamentals. The importance of exchange rate policies in economic adjustments cannot be overemphasized as it has become the subject of considerable debate in many economics in the world today.

Some economists in the world today have discovered that in the bid to achieve certain objectives that are economy wide in nature, the issue of exchange rate instability affects other macroeconomic aggregates positively or negatively over time. A realistic exchange rate is one that reflects the strength of foreign exchange inflow and outflow, the stock of foreign reserves as well as ensuring equilibrium in the balance of payments that is consistent with the cost and price levels of trading partners (Ojo, 1998). Mun (1870) explained that a nation with a low stock of money might be forced to sell cheap and buy high, thus diminishing its stock further, this will make the country to experience an unfavourable balance of trade.

Moreover, David Faulkner and Konstantin Makrelor (2008) opined that if a country has a positive net asset holding, it will enhance its capacity to import for some time. In addition, it will raise the country’s demand for domestically produced goods (both tradable and non-tradable) as well as their prices, thus leading to exchange rate appreciation. Another important factor that affects the exchange rate is the degree of openness of the economy. If an economy protects its domestic producers (and goods) by introducing high tariffs, exchange controls and quotas on imports, domestic demand and commodity prices will increase. These lead to exchange rate appreciation. However, if the economy becomes more open and protection is reduced, the demand for domestic goods and their prices will fall, thus resulting to exchange rate depreciation (David F aulkener and Konstantin Makrelor, 2008).

**2.1.1 Models o Exchange Rate Determination**

In general, three models of theoretical foundations of exchange rate determination exist; they include the traditional flow, the portifolio balance and the monetary models of exchange rate.

**2.1.2 Traditional Flow Model**

This model posits that exchange rate is simply determined by the market flow of demand and supply of foreign exchange. Thus, there is equilibrium when the supply equals the demand for foreign exchange. The model assumes that two basic variables interact to determine the exchange rate. The variable are: relative income and interest differential. This is justified since foreign demand for domestic goods is function of foreign income and depends on the differences between domestic and foreign interest rates.

**2.1.3 The Portfolio Balance Model**

This approach to exchange rate determination conceptualizes exchanges rate as the result of the substitution between money and financial assets in the domestic economy and the substitution between and foreign financial assets (CBN, 1998). Macdonald and Taylor (1992) posited that an exchange rate determined at least in the short-run by the supply and demand in the markets for wide range of financial assets would not be automatic. This is an asset pricing view of the exchange rate. The idea is that agents have a portfolio choice decision between domestic and foreign assets. Those instruments (either money or bounds) have an expected return that could be arbitraged. This arbitrage opportunity is what determines the process of the exchange rate (Dornsusch, 19988).

**2.1.4 The Monetary Approach**

The shortfalls of the portfolio balance theory led to the development of the monetary approach. The approach is based on the importance of money as a unit of exchange, thus, it visualizes exchange rate as a function of relative shift in money stock, inflation rate and domestic output between a country and trading partner economy. Frankel (1978), posits that this model of exchange rate determination attains equilibrium when existing stocks of money in the two countries are willingly held.

Obioma (2000) holds the view that asset market or monetary approach attributes variation in exchange rate essentially to income expected rate of return as well as to other factors that influence the suppliers of and demand for the various national monies.

**2.1.5 Brief review of Exchange Rate Determination**

Given the potential impact of exchange rate on inflation prices, investment, balance of payment and interest rate, the issue of the determination of optimal exchange rate becomes imperative for the successful implementation of development programmes in the country. Chuka (1990) argues that the objectives of exchange rate policy are to increase output and its optimal distribution. A necessary condition for the achievement of the above objectives is that the exchange rate should be stable as possible. According to him, stability permits viability of the rate in response to changes in relative prices.

**2.2 Empirical Review**

There have been several empirical studies to determine the empirical analysis of the determinants of exchange rate in the recent decades. Jimoh (2006) examines the Nigerian data from 1960 to 2000 to see what support it provides for traditional theory of real exchange rate. He used the well – known Johasson’s (1992) methods for estimating model whose variables are non-stationary but con-integrated, the study found that the decisive trade liberalization programme of 1986 – 85 led to about 13 percent depreciation in the Nigerian real exchange rate and made the real rate more responsive to change in its terns of trade. He also found out that less decisive changes in trade regime produced no significant change in the real exchange rate.

Adebiyi and Dauda (1009) using error correction model argued that trade liberalization promoted growth in the Nigerian industrial sector and stabilized the exchange rate market between 1970 and 2006. On the contrary, Ajayi (2012) also investigated the effects of exchange rate is positive related to gross domestic product.

Ubok-Udom (1999) examined the issue surrounding the implementation of SAP in Nigeria and drew up a conclusion that the peculiar features o Nigeria reduced the efficacy of currency depreciation in producing desirable effects. Structural Adjustment Programme of 1986 was purely an economic experiment that failed to live up to its expectations. The structural adjustment programme gave room for a second tier foreign exchange market (SFEM) in September 26, 1986, when the determination of the naira exchange rate become an active instrument of economic management and the rate derived in the market served as a means for the allocation of foreign exchange as opposed to the former system where it was administratively determined.

Again, Devereux and Engel (2000) investigate the choice of exchange rate regime – fixed or floating in a dynamic, inter-temporal general equilibrium framework. They used an extended Devereuk and Engel (1998) framework to investigate the implications of internationalized production. They examined the role of price setting – whether prices are set in the currency of producers or the currency of the consumers in determining the optimality of exchange rate regime in an environment of uncertainty created by monetary shocks. They found that when prices are set in producer’s currencies, floating exchange rates are preferred when the country is large enough or not too risk averse. On the other hand, floating exchange rate are always preferred when prices are set in consumer’s currencies because floating exchange rates allow domestic consumption to be insulated from foreign monetary shocks.

Imed Drine and Christophe Rault (2003) analyzed the main determinants of the real exchange rate in the Middle East and North Africa (MENA) countries, government consumption, real interest rate differentials and the degree of openness of the economy influences the real exchange rate. Frankel (2007) revealed that real exchange rate is positively related to terms of trade, real interest differential and lagged real exchange rate. However, capital account liberalization, risk premium and per capita income have negative effect on real exchange rate policy in two counties, he sued Sticky-price general equilibrium models in which households and firms optimize over an infinite horizon in an environment of uncertainty. The models are in the vein of the “new open economy macroeconomics” as exemplified by Obstfrld and Rogoff (1995). Chuka (1990) show in its study of optimal exchange rate determination that there is no such thing as “the optimal or best exchange rate policy”. It all depends on the underlying fundamentals , which may be both domestic and externals, as well as perceptions of policy credibility. Faia (2005) studied the optimal choice of exchange rate regime in two country model with sticky-prices and matching frictions in the labour market. Currency fluctuations by affecting the price of tradable goods tend to exacerbate movements in and out of the labour market and the volatility of vacancy creation which in turn tend to increase overall macroeconomic volatility.

Benigno and Benigno (2004) propose a theory of exchange rate determination under interest rate rules. They show that simple interest rate feedback rules can determine a unique and stable equilibrium without any explicit reaction to the nominal exchange rate in their two – country optimizing model with sticky prices.

Lastly, Kandil (2004) examines the effects of exchange rate fluctuations on real output growth and price inflation in a simple of twenty-two developing countries. The analysis introduces a theoretical rationale expectation model that decomposes movements in the exchange rate into anticipated and unanticipated components. The model demonstrates the effects of demand and supply channels on the output and price responses to changes in the exchange rate.

**2.3 Summary ad Gap in literature**

The reviewed literatures have attempted to show evidence of the determinants of exchange rate. Inflation rate, trade openness and interest rate have shown to be a core variable in determining the level of exchange rate. However, studies which have been carried out in Nigeria are very few and most studies on exchange rate either focused on the impact of exchange rate volatility on trade or on growth.

It is therefore the aim of this study to contribute to the existing literature in Nigeria, using time series data, to determine the variable that determine levels of exchange rate in Nigeria.

**CHAPTER THREE**

**3.0 RESEARCH METHODOLOGY**

This section presents the methods adopted for the study. This provides us with the framework for model specification, parameter estimation, evaluation techniques, data collection and transformation adopted for the study.

**3.1 Estimation Technique**

The techniques for evaluating the results of the regression imply the use of statistical criteria and econometric tests.

\* Statistical Criteria (First Order Test)

These tests include:

T-test: This is used to verify the individual significant parametric estimates of the regression.

F-test: this test measures the overall level of significance of the model.

R2: This is the coefficient of determination and it is used to measure the goodness of fit of a regression fine.

\* Econometric Test (Second Order Test)

Test for normality: This test is used to verify whether the error term is normally distributed. The Jargue Bera test for normality will be applied in these models.

Test for Multicollinearity: This is used for testing the linear collinearity or dependence among the explanatory variables. Then correlation matrix will be used.

Test of autocorrelation: This test is used to verify the randomness of the error term between members of the same series of observations. The Durbin-Watson ‘d’ statistics test will be used.

Test of Heteroscedasticity: This is necessary in order to determine the uniformity of the error variance. The white’s heteroscedasticity test will be applied in the model.

To evaluate the working hypothesis of this study, the economic criteria, statistical criteria and econometric criteria were estimated.

In statistical criteria, the coefficient of determination, student t-test and F-statistics were employed.

In econometric criteria, the normality test, heteroscedasticity and multicollinearity test were employed.

**3.2 Model Specification**

An econometric model stimulates some of the real economy. It concentrates on the point it is studying and leaves out the things not essential. This study will adopt the models Anyanwu and Erhijakpor (2007) to explain the empirical analysis on the determinants of exchange rate. The specification of the model is related to the information relevant to the study. The intended models to be adopted in this study is based on estimations of annual data of some macroeconomic indicators which are exchange rate (EXR), interest rate (INR), Trade Openness (TOP) and inflation (INFL). The correlation and multiple regression analysis of the ordinary least square (OLS) are the estimation techniques that are being employed in this study.

The research techniques postulate a model to capture the objectives as follows:

EXR = f(INFR, INR, TOP) …..(3.1)

The mathematical forms of the models are specified as:

EXRt = B1 + B2INFRt + B3INRt + B4TOPt + **µ**t … (3.3)

Where EXRt = Exchange rate

INFRt = Inflation rate

INRt = Interest rate

TOPt = Trade openness

**µ**t = Stochastic term

B1 = Intercept term

B2, B3, B4 are partial slopes or parameters

**3.3 Evaluation of the A priori Expectation**

**Exchange Rate:** This is the dependent variable.

**Inflation rate:** This is one of the independent variables. The a priori sign is expected to be negative. This is so because a moderate inflation rate will encourage producers to increase investment and raise production. This will in turn lead to exchange rate appreciation.

**Interest Rate**: It is also one of the independent variables. The a priori sign is expected to be negative. This confirms the work of Annosofie Peterson (2005).

**Trade Openness**: This is one of the Independent variables. The a priori sign is expected to be negative; Aaron et al (1997) and Takaendesa (2006). Thus, the more the economy is open, the lower the demand for domestically produced goods. This in turn reduces prices of domestically produced goods, consequently exchange rate will appreciate.

|  |  |
| --- | --- |
| **Variables** | **Sign** |
| TOP | - |
| INR | - |
| INFR | - |

**3.4 Data**

The data to be carried out in this research is secondary in nature, ranging from 1980 to 2014 which gives a total of 35 observations. The data shall be gotten from various sources which are: CBN Statistical Bulletin (2014), Nigerian Bureau of Statistics (NBS) and online publications.

**CHAPTER FOUR**

**4.0 PRESENTATION AND ANALYSIS OF RESULTS**

In this chapter, the result of the ordinary least square (OLS) regression model is presented. The analysis of the result involves subjecting the parameter estimates of the model to various theoretical (a priori expectation), statistical first order test and econometric second order tests to determine their reliability. The OLS model was estimated to ascertain the determinants of exchange rate.

**4.1 The Determinants of Exchange Rate**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Coefficient** | **std Error** | **t-stat** |
| **INFR**  **TOP**  **INTR** | **0.165231**  **0.008619**  **3.343270** | **0.459607**  **0.002922**  **1.708766** | **0.35950**  **2.95000**  **1.95654** |
| **R2 = 0.302**  **D.W = 0.59**  **F.stat = 4.48** |  |  |  |

To analyze the result as in the above table, we subject the parameter estimates to various theoretical, statistical and econometric tests.

**4.2 Evaluation Based on Economic Criteria**

The OLS regression applied a linear model in order to determine the relative change in the dependent variable from a relative change in each of the explanatory variables.

The result has established a positive and insignificant relationship between inflation and exchange rate. This has been found to be inconsistent with the theory. This could be as a result of the type of inflation that caused or prevailed that caused investors or producers to decrease their investment and production.

The result also revealed that the degree of trade openness is positive but statistical significant in explaining exchange rate. This has been found to be inconsistent with the theory. This could be as a result of the degree at which the economy is left open without a restrictive measure coupled with the rate of dependency on imported goods.

The result revealed that interest rate is positive and statistically insignificant in explaining the exchange rate. It has been found to be inconsistent with the a priori expectation. This could be as a result of the degree and gap between Nigerian interest rate and the international rate.

**Table 4.2.1 Summary of the Signs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Expected Sign** | **Realized Sign** | **Remark** |
| INFR  TOP  INTR | Negative  Negative  Negative | Positive  Positive  Positive | Does not conform  Does not conform  Does not conform |

**4.3 Evaluation Based on Statistical Criteria**

**Coefficient of Determination (R2)**

This measures the goodness of fit of the regression model. From the table, adjusted R2 = 0.302 implies that about 30% variation in the exchange rate is explained by the explanatory variables. Durbin Watson statistics value of 0.59 shows the presence of negative autocorrelation. This may be as a result of the quality of data that was employed.

**Student t-Test and F-Statistics**

Two (TOP and INTR) out of the three explanatory variables are statistically significant in accounting for change in the dependent variable (exchange rate).

The F-statistics which is used to determine the overall significance of the entire regression model yielded an F-value of 4.48. This implies that the entire regression model is significantly different from zero.

**4.4 Evaluation Based on Econometric Criteria**

**Hetroscedasticity Test**

This test is conducted to check if errors have constant variance or not. We compared the estimated chi-square statistics with the critical chi-square statistics. The result obtained (x2 cal = 13.572) is less than (tabulated X2) critical at (x2 of 26), which is statistically insignificant and therefore does not reject the null hypothesis of no homoscedaticity. Presence of heteroscedaticity is however not enough reason to drop any regression model.

**Normality Test**

Result of the normality test produced a JB-statistical value 0f 2.612712 and the probability of obtaining this is put at 0.270805. This means that the variables are not normally distributed. This non-normal distribution can be attributed to the sample size of 34 observation which fails to meet the basic assumption of JB test. JB test is a large sample test and our sample of 34 observation which fails to meet the basic assumption of JB test. JB test is a large sample test and our sample of 34 observation cannot be said to be large, hence the result obtained from the test.

**Multicollinearity Test**

This test was carried out through the use of correlation matrix. Gujarati, (2009) suggests that if the pair wise correlation coefficient between two regressors is high say in excess of 0.8, then multicollinearity is a serious problem. From the result we can conclude that multicollinearity is not a serious problem in the model, given that 0.46 is the highest value which is less than 0.8.

**CHAPTER FIVE**

**5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS**

**5.1 Summary**

In this study, we set out to empirically investigate the determinants of exchange rate in Nigeria between 1980 – 2014. Secondary data were used; the source of data included CBN statistical Bulletin (2003), National Bureau of Statistics (NBS). In order to achieve the objective of the study, an econometric model was formulated using ordinary least square (OLS). Exchange rate was regressed on inflation rate, interest rate and trade openness.

Findings from the study include:

i. Among the variables whose impacts were examined in the analysis, TOP and INTR was significant. The implication is the fact that these variables shape the levels of exchange rate in Nigeria.

ii. Although result revealed that inflation was insignificant, this could however be a function of the nature of inflation that prevailed during the period under investigation.

**5.2 Conclusion**

In this study, we examined the determinants of exchange rate in Nigeria from 1980 – 2014. From our finding trade openness is positive and significant and shown to be the determinant of exchange rate. Also inflation rate and interest rate and interest rate have shown to be positive but have insignificant impact in determining exchange rate in Nigeria. The general conclusion is that interest rate, inflation rate and trade openness is paramount in determining exchange rate.

**5.3 Recommendations**

Based on the following findings of this study, the following policy recommendations are suggested.

1. The government should as a matter of urgency, step up its ongoing effort of diversifying the export base of the economy in the direction of non-oil export. This is imperative and needed to save the naira against major international currencies.
2. Relevant macroeconomic policies to reduces the cost of investment through the reduction of interest rate should be pursued.
3. The CBN should as a matter of urgency, set up its regulatory framework in the foreign exchange market.
4. The foreign exchange market should not be left to the dictates of demands and supply. Occasional interventions by government may also be considered.
5. Lastly, the government should check mate corrupt practices.

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**APPENDIX 1**

LONG RUN MODEL

Dependent Variable: EXR

Method: Least Squares

Date: 05/19/16 Time: 12:10

Sample: 1980 2014

Included Variations: 35

Variable Coefficient Std. Error t-Statistic Prob.

C -1996565 33.39578 -0.059785 0.9527

INFR 0.165231 0.459607 0.359505 0.7217

TOP 0.008619 0.002922 2.950000 0.0060

INTR 3.343270 1.708766 1.956541 0.0595

R-squared 0.302723 Mean dependent var 73.83287

Adjusted R-Squared 0.235245 S.D. dependent var 62.60665

S.E. of regression 54.74970 Akaike info criterion 10.95063

Sum Squared resid 92923.40 Schwarz criterion 11.12839

Log likelihood -187.6360 F-statistic 4.486220

Durbin-Watson stat 0.592863 Prob(F-statistic) 0.009975

**NORMALITY TEST**

Series: Residuals

Sample 1980 2014

Observations 35

Mean 1.30E-14

Median 7.582597

Maximum 83.37771

Minimum 85.19154

Std. Dev. 52.27850

Skewness -0.067826

Kutosis 1.668395

Jarque-Bera 2.612712

Probability 0.270805

10

8

6

4

2

100

75

50

25

-0

-25

0

-50

-75

-100

**WHITE HETEROSKEDASTICITY TEST**

F-statistic 2.955876 Probability 0.023089

Obs\*R-squared 13.57233 Probability 0.034796

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 05/19/16 Time: 12:40

Sample: 1980 2014

Included observations: 35

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable Coefficient Std.Error t-Statistic Prob | | | | |
| C  INFR  INFR^2  INTR  INTR^2  TOP  TOP^2 | 1738.636  -38.43770  0.112425  -20.43865  5.348247  0.44329  9.52E-06 | 2960.428  59.67814  0.757703  353.3777  9.622668  0.346752  1.99E-05 | 0.587292  -0.644083  0.148376  -0.057838  0.555797  0.127841  1.99E-05 | 0.5617  0.5248  0.8831  0.9543  0.5828  0.8992  0.6367 |
| R-squared  Adjusted R-squared  S. E. of regression  Sum squared resid  Log likelihood  Durbin Watson stat | 0.387781  0.256591  1898.812  1.01E+08  -309.9723  1.546406 | Mean dependent var  S. D. dependent var  Akaike info criterion  Schwarz criterion  F-statistic  Prob (F-statistic) | | 2654.954  2202.258  18.11270  18.42377  2.955876  0.023089 |

**MULTICOLLINEARITY TEST**

EXR INFR INTR TOP

EXR 1.000000 -0.021137 0.326064 0.461302

INFR -0.021137 1000000 0.014071 -0.177665

INTR 0.326064 0.014071 1.000000 0.068890

TOP 0.461302 -0.177665 0.068890 1.000000

**APPENDIX II**

YEARS EXR INFR TOP INTR

1980 0.6091 9.97 5.20858 2.3

1981 0.6369 20.81 9.505152 2.4

1982 0.6702 7.7 7.69147 2

1983 0.7486 23.21 7.12134 2.57

1984 0.8083 17.82 7.157739 1.99

1985 0.9996 7.44 7.423879 0.32

1986 3.3166 5.72 5.781652 0.72

1987 4.1916 11.29 18.83706 0.87

1988 5.353 54.51 19.11281 3.62

1989 7.65 5.5 30.10307 5.77

1990 9.0001 5.4 47.35275 5.52

1991 9.7545 10.2 64.21029 5.13

1992 19.6609 38.3 103.4019 6.72

1993 22.6309 40.9 112.2201 8.41

1994 21.8861 7.5 106.8417 7.39

1995 84.575 44.5 463.7112 6.7

1996 79.6 57 509.8259 6.78

1997 74.625 57 552.464 10.63

1998 84.3679 72.8 4.091135 8.08

1999 92.5284 29.3 249.6552 7.48

2000 109.55 85 71.07733 9.58

2001 112.4864 10 747.1653 8.18

2002 126.4 6.6 720.889 8.1

2003 135.4067 6.9 1044.65 6.5

2004 132.67 18.9 910.1109 5.48

2005 130.4 12.9 17880.02 7.42

2006 128.27 18.9 1759.061 7.16

2007 117.968 12.9 1926.951 6.65

2008 130.75 14 2283.974 3.51

2009 147.6 15.1 8284.927 5.07

2010 148.67 17.9 2467.588 11.06

2011 156.2 8.2 2934.698 10.32

2012 155.2567 12.22 2712.576 8.39

2013 156.35 8.48 2410.283 8.78

2014 172.56 8.6 2710.367 9.4

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