

FOREIGN DIRECT INVESTMENT AND EXCHANGE RATE IN NIGERIA

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ABSTRACT

The study evaluates Foreign Direct Investment and exchange rate fluctuation in Nigeria. The objective of this study was to examine the effect of exchange rate fluctuation, interest rate, inflation, Gross fixed capital formation and Gross domestic product on Foreign Direct Investment in Nigeria. In this study, secondary data were collected from the CBN statistical bulletin for the period of 1980-2016 and was analyzed using the ordinary least square (OLS) method and E-View computer software. The results indicated Exchange rate fluctuation has a positive relationship with foreign direct investment. The result also showed that interest rate and inflation contributed positively to the inflow of foreign direct investment in Nigeria while variables such as Gross fixed capital formation and Gross domestic product has a negative relationship with the inflow of Foreign Direct Investment in Nigeria. It was recommended that government monopoly on key sectors should be removed. Also, the government should provide enabling infrastructural and financial development that will not only encourage greater financial inclusion in rural area but also attract the inflow of agricultural sector, solid mineral sector and agro allied industry

(Keywords: Foreign Direct Investment, Exchange Rate, Gross Fixed Capital formation, Gross domestic product)

INTRODUCTION

Foreign Direct Investment (FDI) is an investment in the form of a controlling ownership in a business enterprise in one country by an entity based in another country. Foreign Direct Investment (FDI) occurs when an investor in one country acquires an asset in another country with the intent to manage the asset. This investment involves not only the transfer of funds but also the transfer of physical capital, technique of production and making expertise product, advertising and business practices with the aim to make profit.

Macauley, E.D (2012) opined that Nigeria's Foreign Direct Investment can be traced back to the colonial era where the colonial masters had the intention of exploiting resources for the development of their economy. There was little investment by those colonial masters, with the research and discovery of oil but since then Nigeria's Foreign Direct Investment has not been stable. The Nigerian Government have recognized the importance of FDI in enhancing economic growth and development and various strategies involving incentive policies and regulatory measures have been put in place to promote the inflow of FDI to the country.

Foreign Direct Investment into Africa increased by 64% to \$87 billion while the number of FDI project declined by 6% to 660 in 2014. Coal, Oil and Natural gas were the top sector in the region by capital investment accounting for 38% of announced FDI. Between 2010 and 2014 FDI peaked in 2014 at \$87 billion following the announcement of a multitude of high project. One of the many influences on FDI activities is the behavior of exchange rate.

Foreign Direct Investment could be seen as the transfer of capital resources that involve both ownership and control between countries. It serves as key stimulus for international economy and globalization. To both the host and home countries, FDI is essential and a major driver of economic development. In

developing economics, FDI is also considered as a booster of economic growth. This is as a result of the fact that it influences economic growth by strengthening domestic investment, enhancing capital formation as well as ensuring transfer of technology among countries (Falki 2009).

Falki, (2009) highlighted employment increase, augmented productivity, improved export and high rate of technology transfer as a major effect of FDI on the host economy. He further claimed that the possible benefit that the host economy could derive from FDI involve the facilitation of the exploitation and use of local natural resources, introduction of current tools of organization and advertising creation of easy access to modern skills, provision of external inflow that can be used for finding current account deficit and the provision of a platform for increasing the stock of human capital via on- the- job training.

The rapid growth of interest in Foreign Direct Investment (FDI) stand from the perceived opportunities derivable from utilizing this form of foreign capital injection into the economy, to augment domestic savings and further promote economic development in most developing economies (Aremu, 2005).

Ebekozien, Ugochukwu and Okoye(2015) in their analysis of the trends of FDI inflows in the Nigerian construction sector, posited that to solve these deficiencies the Nigerian government have established the EFCC, the ICPC and NIPC in other to improve the cooperate environment. But their study shows that in as much as the industrial sector have a positive correlation with FDI, it has attracted little FDI into the country.

Olokoyo (2012) stated that Foreign Investment inflow particularly FDI is perceived to have a positive impact on economic growth of a host country through various direct and indirect channels. It augments domestic investment which is crucial to the attainment of substantial growth and development. The Government have been trying to lift the country out the economic crisis without achieving success as desired. Each of these governments has not focused much attention on investment especially FDI which will not only guarantee employment but will also impact positively on economic growth and development.

Odili, (2014) defined exchange rate as the domestic currency price of a foreign currency. He maintains that exchange rate alongside their levels and fluctuations significantly influence Foreign Direct Investment activity.

According to Javed Z and Farooq M, (2009), exchange rate means how the unit of a domestic currency can be changed with the other nation's currency unit. They opined that demand and supply of currency are actually the main element of exchange rate instability. Policy makers therefore focus on the exchange rate of countries and then invest their money on those countries.

Hassan M and Manmood.H (2013) opined that change in exchange rate has two opposite effect on investment. When the domestic currency depreciates, the marginal profit of investing an additional unit of capital is likely to increase because there are higher revenues from both domestic and foreign sales. Yet, this positive effect is counter balanced by the rising variable cost and the higher price of imported capital. The current account balance of a host country can be viewed as an indicator of the strength of its currency.

A deteriorating current account balance is likely to lead to a depreciation of the host country currency. It is possible that potential multinational investors view current account deficit negatively because such deficit may lead to exchange rate variations and inflation. Therefore, foreign investors may gain or lose from a depreciating exchange rate. For instance, a depreciating exchange rate may boost exports and provide gains for resource seeking FDI. Foreign investors however may lose as well because they incur cost to prevent transaction and translation losses when currency depreciates. If they believe that depreciation will continue after they enter a country, they may conclude that the cost will be too high to justify their investment.

The direct exchange rate channel for monetary policy transmission affects inflation through domestic prices of imported goods and intermediate inputs which are components of consumer price inflation. (Ncube and Ndou, 2011). Appropriate macroeconomic policies are keys at ensuring economic stability and growth. Among the instruments that are crucial in economic management and stability of basic price is the exchange rate. As a relative price, the exchange rate is important in making spending and Foreign Direct Investment decisions. It affects the relative prices between domestic and foreign goods and also, foreign demand for domestic goods.

Inflationary pressure from exchange rate instability and fluctuations in Nigeria has caused a serious concern for economist, monetary theory authorities and policy analyst (Akpan, 2004). As a measure for measuring economic performance, the adverse consequence of exchange rate and inflation rate has in recent times heightened the worries of the public as to the fate of the Nigerian economy in the nearest future.

Babatunde, A.M,(2010) asserts that fluctuation of exchange rate account for economic instability in developing nations like Nigeria. Their position as presented in their work provoked by monetary agencies of developing countries to come up with adhoc economic models that will help sustain the equilibrium between exchange rate stability has not been achieved by the application of these intervention mechanism thereby leaving much to be desired.

In trying to correct all these problems in Nigeria, the government stuck to rather hostile policies for private sector development in general and foreign direct investment in particular. Appropriate macroeconomic policies are keys at ensuring economic stability and growth. Among the instruments that are crucial in economic management and stability of basic prices is the exchange rate. In addition, the Nigerian Investment Promotion council (NIPC) has been strengthened to enable it serve as a one-step office for clearing the entire requirement for investment in the country.

STATEMENT OF THE PROBLEM

Nigeria major foreign earnings is from oil hence volatility of crude oil prices in the world market has made the Nigerian economy highly susceptible to the ever changing exchange rate thus affecting the prices of goods and services in the Nigerian economy. Therefore, Nigeria depends significantly on oil exports for its foreign exchange earnings. The sharp decline in global oil prices in 2015 and 2016 hampered foreign exchange supply in the country whilst demand remained strong.

The quest for and deployment of foreign capital for national development have become a universal phenomena in global economic relations. Today, it is a strong economic philosophy that for the country to develop, the government must unequivocally attract foreign investment into the country. The rationale for this desperate quest for FDI is that FDI will afford Nigeria the opportunity to inject additional resources which are in short supply to the country. These includes: technology, capital and management resources. Foreign Direct Investment inflow in the country will facilitate job opportunities, increase capital efficiency and also the government can earn more revenue. However, viewed against the expected level of FDI inflow, FDI inflow has not been sufficient. In fact FDI inflow has been consistently characterized by rise and fall.

According to the release by the United Nations Conference on Trade and Development (UNCTAD), FDI into the country fell 27% from \$4.7 billion in 2014 to an estimated \$3.4 billion in 2015. UNCTAD attributed this to the fall in oil prices and projected further downturn due to the fragility in the global economy. So many researchers have studied on similar topics; they have positive and negative results. For the purpose of reliability and substitutability, I hope to focus more on their lapses to see how I can get better results. These researcher's work ended in 2013 but due to some government policies and activities over the years and global economic meltdown, there is need to update the study of Foreign Direct Investment in Nigeria to 2016 since it has been proved empirically that it enhances the economic growth of developing nations by generating job opportunities, improving human capital, enhancing technology and also a means of generating revenue for the government

OBJECTIVES OF THE STUDY

- i To examine the effect of exchange rate fluctuation on Foreign Direct Investment.
- ii To examine the effect of interest rate on Foreign Direct investment
- iii To examine the effect of inflation on Foreign Direct investment.
- iv To examine the impact of Gross fixed capital formation on Foreign Direct Investment.
- v To examine the impact of economic growth on Foreign Direct Investment.

REVIEW OF RELATED LITERATURE

CONCEPTUAL FRAMEWORK

Foreign Direct Investment is an investment made to acquire a lasting management interest, (normally 10% of voting stock) in a business enterprise operating in a country other than that of an investor, defined according to residency (World Bank, 1996). Such investors may take two forms, either “Greenfield” investment or merger and acquisition which entail the acquisition of existing interest rather than new investment.

Foreign Direct Investment is therefore a measure of foreign ownership of productive assets such as factories, mines and land. Increasing foreign investment can be used as one measure of growing economic integration and globalization (Gnansonuou, 2008).

In the past ten years, the classic definition of Foreign Direct Investment as noted above has changed considerably. This notion of a change in the classic definition however, must be kept in the proper context. Very clearly, over two third of Direct Foreign Investment is still in the form of fixtures, machinery, equipment and buildings.

Many governments, both in industrialized and developing nations, pay very close attention to Foreign Direct Investment because they believe that investment flows into and out of their economies may have a significant impact on growth (Asiedu, 2009). However there has been a dramatic increase in the number of technology start-ups and this together with the rise in prominence of internet usage has fostered increasing changes in foreign investment patterns

REVIEW OF EMPIRICAL LITERATURE

Nazima (2011) empirically studied the impact of exchange rate volatility on Foreign Direct Investment in the Pakistan economy. He adopted data on time series from secondary sources between the periods 1980-2010 in finding both short and long run estimates of his study, the Auto Regressive Lag (ARDL) was employed and finding the direction of causality existing using the Vector Correction Model (VECM). The results of his study revealed that FDI inflow is impacted negatively on a short run and positively on a long run by exchange rate volatility.

In Obiamaka and Omankhanlen’s (2011) study, government expenditure and gross fixed capital formation were used as control variables. The study utilized a linear regression analysis technique to examine the nature of the relationship between the variables namely; inflation, exchange rate, FDI inflows and economic growth. Inflation has been hypothesized to distort the tax system which would in turn discourage investors in the long run due to money illusion (Omankhanlen 2011).

According to Resarach (2014) who conducted a study on the role of interest rate in attracting FDI in Asian economies, the results shows that the determinants of Foreign Direct Investment are interest rate, inflation GDP, exchange rate, labour cost, money growth and political rights the researcher noted that there was no significant relationship between interest rate and the inflow of Foreign Direct Investment.

Omorokunwa and Ikponmwosa (2014) examined the performance of the exchange rate volatility and Foreign Private Investment from 1980-2011 using Error Correction Model (ECM) and Ordinary Least Square (OLS). The results shows that exchange rate volatility has a weak effect on the inflows of Foreign Direct Investment to Nigeria in both short run and long run.

Odili and Okwuchukwu (2015) evaluated the exchange rate volatility, stock market performance and Foreign Direct Investment in Nigeria from 1980-2013 using OLS. Their result shows that exchange rate volatility has negative and significant effect on the inflows of Foreign Direct Investment both in short run and long run.

Adelowakan, Adesoya and Balogun (2015) empirically analyzed the impact of exchange rate volatility on investment and growth in Nigeria covering 1986-2014; using VECM, impulse response function and OLS. The findings revealed that exchange rate volatility has a negative effect on investment and growth.

SUMMARY OF LITERATURE REVIEW

Many studies on this topic confirm that causal factors to be examined in this study significantly encouraged the inflow of Foreign Direct Investment into the country. In the work of Nazima (2011) who concluded from his findings that during the short run FDI inflow is impacted negatively by exchange rate volatility while in the long run, exchange rate volatility impacts positively on the inflow of Foreign Direct Investment.

In Nigeria, it has been observed that the rate of Foreign Direct Investment inflow is low despite incentives been offered to foreign investors. Obiamaka and Omankhanlen (2011) concluded that inflation distorts the tax system which would in turn discourage investors in the long run due to money illusion. Furthermore, in the work of Omankhanlen (2011), his result shows that Foreign Direct Investment is viewed as a major stimulus to encourage economic growth.

This study is carried out to update the works of previous researchers. Thus, the need for empirical studies in this direction using country in a developing economy has become apparent.

METHODOLOGY

This section describes the model specified for the problem, the variables used and their definition. It also describes the different test that is to be carried out. This test refers to the diagnostic test such as; autocorrelation test, stationarity test, co-integration test, e.t.c. It also talks about the hypothesis test, method of data analysis and sources of data.

MODEL SPECIFICATION

Our model is a linear one of the form

$$FDI = (xi) \dots\dots\dots (1)$$

Where; FDI=Foreign Direct Investment

Xi= set of chosen explanatory variables

The chosen variables are reflected in the model as

$$FDI=f (EXCH, INT, INF, GDP, GFCF) \dots\dots\dots (2)$$

Where

FDI= Foreign Direct Investment

EXCH= Exchange Rate Fluctuation

INT= Interest Rate

INF= Inflation Rate

GDP= Gross Domestic Product

GFCF=Gross Fixed Capital Formation

In order to estimate equation 2,

We specify it in econometric form as:

$$FDI= \beta_0+\beta_1EXCH+\beta_2INT+\beta_3INF+\beta_4GDP+\beta_5GFCF+\mu \dots\dots\dots (3)$$

Where β_0 =Intercept

β_i (where $i=1,2,3,4,5$)= parameters to be estimated

μ =iid stochastic error term

However, a log-linear form is more likely to find evidence of a deterrent effect than a linear form, we therefore log-linearized equation as:

$$\ln FDI= \beta_0+\beta_1EXCH + \beta_2INT + \beta_3INF + \beta_4GDP + \beta_5GFCF + \mu \dots\dots\dots(4)$$

ln = natural log of their respective variables

UNIT ROOT TEST

To fully explore the data generating process, we first examine the time series properties of model variables using the Philip – perron test.

The Philip perron test regression equation with constant are:

$$\Delta Y_T = a_0 + a_1 Y_{t-1} + \sum_{i=1}^k a_i \Delta Y_{T-i} + E_t \dots \dots \dots (5)$$

where Δ is the first difference operator
 E_t is random error
 iid k is number of lag differences
 Y is the null hypothesis

$a = 0$ against the alternative hypothesis of $a < 0$. Once a value for the test statistics $PP_T = \frac{a}{SE(a)}$ (6)

is computed. We shall compare it with the relevant critical value of Philip perron test. If the test statistics is greater (in absolute value) than the critical value at 5% or 1% level of significance, then the null hypothesis of $a = 0$ is rejected and no unit root is present. If the variables are not stationary at level form and integrated of the same order, this implies evidence of co-integration in the model. The co-integration equation is stated in equation 7 as

Co-integrated equation

$$[\eta_m \log \ln FDI_t = \sum_{i=2}^p a_i \eta_m Z_{1-t} - [\eta_m \log \ln FDI_{1-t} - \sum_{i=2}^p \beta x_{1-t} + v_{2t}]] \dots \dots \dots (7)$$

Where $[\eta_m \log \ln FDI_{1-t} - \sum_{i=2}^p \beta x_{1-t}]$ is a linear combination of the null integrated vectors, X is a vector of the null co-integrated variables. The individual influence of the co-integrated variables can only be separated with an error correction mechanism through an error correction model shown below:

The Error Correction Model

$$\text{Equation } [\eta_m \log \ln FDI_t = a_1 + \sum_{i=2}^p a_i \eta_m Z_{t-1} - (\lambda ECM_{1-t} + v_{4t})] \dots \dots \dots (8)$$

Where $-\lambda ECM$ is the error correction mechanism, $-\lambda$ is the magnitude of error correction of each period specified on it's a priori expectation form so as to restore $\eta_{m \log \ln FDI}$ to equilibrium

Also, the optimum lag length of it was determined using the multi variant versions of information criteria of Akaike's Information criteria (AIC) and Schwarz's Bayesian Information Criteria (SBIC).

TEST OF HYPOTHESIS

In testing the hypothesis, we use probability of T-Statistics at 5% level of significance.
 Decision Rule: if the probability of T-Statistics is less than 0.05, we reject the null hypothesis (H_0) otherwise do not reject.

METHOD OF DATA COLLECTION

The model will be estimated by the use of ordinary least square (OLS) technique of the classical regression model. The choice of the model and the technique is justified by the BLUE properties of its estimation. E View 3.1 is used in the estimation of parameters of the model.

SOURCES OF DATA COLLECTION

The data was collected from the CBN statistical bulletin

ANALYSIS OF DATA AND PRESENTATION OF RESULTS

INTRODUCTION

This section covers the analysis of data and presentation of results, the hypothesis tested and the findings of the study were also discussed.

4.2 REGRESSION RESULT

This section presents the analysis of results from OLS estimate.

Table 4.1 BASIC REGRESSION RESULT

Dependent Variable: FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXRF	0.008315	0.018901	0.439949	0.6630
INT	0.131590	0.076197	1.726961	0.0941
GFCF	-0.079945	0.049081	-1.628859	0.1135
INF	0.052658	0.018963	2.776949	0.0092
GDP	-1.30E-08	1.93E-08	-0.675091	0.5046
C	0.809009	1.749255	0.462487	0.6470
R-squared	0.637931			
Adjusted R-squared	0.563404		F-statistic	7.217923
Durbin-Watson stat	2.291419		Prob(F-statistic)	0.000140

Source: Author’s analysis, 2018

4.3 DIAGNOSTIC TEST

The following diagnostic tests of the data and model were carried out using abridged diagnostic test result presented in Table 4.2.

Table 4.2 SELECTED DIAGNOSTIC TEST RESULTS

Test type	Test value
R ²	0.637931
Adjusted R ²	0.563404
Durbin Watson	2.291419
F-statistic	7.217923
F- probability	0.000140

Source: Author’s analysis, 2018

GOODNESS OF FIT: R^2 the coefficient of multiple determinations was used for this test. From the regression result in Table 4.2, the value of R^2 is 0.637931. This suggests that changes in the independent variables explain 63% of the changes in foreign direct investment (the dependent variable) . After Adjustment of the degree of freedom the adjusted R^2 value is 0.563404.This indicates that changes in the independent variables explain 56% of the changes in the dependent variable, foreign direct investment. The level of explanatory power was considered satisfactory for the study.

OVERALL SIGNIFICANCE OF THE REGRESSION

In order to determine if all the explanatory variables have significant effect on the dependent variable, the F-test was used. The decision rule stated in chapter three was followed. From the result presented in Table 4.2, the value of F-probability is 0.000140; we therefore reject the null hypothesis at 5% level of significance and conclude that the independent variables have significant impact on the dependent variable

AUTOCORRELATION

Durbin Watson statistic was used to test for the presence of autocorrelation. **DECISION RULE;** if a computed value of Durbin Watson (d) is less than the lower limit (dl), there is evidence of first order serial correlation, if it is greater than the upper limit (du), there is no evidence of first order serial correlation but if it lies between the lower and upper limits, it is inconclusive. From the result presented in table 4.2, the Durbin Watson (d) Statistic is 2.291419. Therefore, since the d value is greater than the upper value (du) which is 1.193; we conclude that there is no evidence of first order serial correlation.

STATIONARITY

To avoid the generation of spurious result, there was need to test for stationarity. The Phillips Perron test was used. **DECISION RULE:** if the Phillips Perron test statistic is greater than the critical values both in absolute terms, we reject the null hypothesis that the time series is nonstationary otherwise we do not reject the null hypothesis.

The summary of the stationarity test is shown in Table 4.3

Table 4.3 Phillips Perron (PP) unit root test results

Variables	Level	1 st Difference	Order of integration
FDI	-1.625054	-9.658485*	I(1)
EXRF	-1.673772	-9.043245*	I(1)
INT	-2.320695	-6.626983*	I(1)
GFCF	-2.524636	-3.548644*	I(1)
INF	-2.282218	-5.709943*	I(1)
GDP	1.710675	-3.525700*	
CRITICAL VALUE			
1%	-3.6171	-3.6228	
5%	-2.9422	-2.9446	
10%	-2.6092	-2.6105	

(*) (**) (***) signify significance at 1%, 5% and 10% respectively.

Source: Author’s Analysis, 2018.

The result presented in Table 4.3 shows that the variables were stationary at first difference since the absolute value of the Phillips Perron (pp) unit root test was greater than 5% our chosen critical value.

LONG-RUN RELATIONSHIP

The Johansen co-integration test was used to obtain the long-run estimate.

H₀: there is no long –run relationship

H₁: there is no long –run relationship

DECISION RULE: reject the null hypothesis if the likelihood ratio of possible combination of two variables or more is greater than the chosen critical value otherwise you do not reject the null hypothesis.

TABLE 4.4 JOHANSEN- CO-INTEGRATION TEST RESULTS

Eigenvalue	Likelihood Ratio	5 Percent Critical Value	1 Percent Critical Value	Hypothesized No. of CE(s)
0.540672	69.52739	68.52	76.07	None *
0.400013	42.29769	47.21	54.46	At most 1
0.272967	24.41803	29.68	35.65	At most 2
0.221915	13.26061	15.41	20.04	At most 3
0.120108	4.478445	3.76	6.65	At most 4 *

*, ** signifies rejection at 5 % (1%) significance level

source: author’s analysis, 2018.

From the result above in Table 4.4 we conclude that the variables are co-integrated since the likelihood ration of one possible combination is greater than the critical value at 5%.

SHORT RUN RELATIONSHIP

The error correction mechanism (ECM) was used to obtain the short-term estimate.

Table 4.5 SHORT-RUN ESTIMATE RESULT

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DFDI(-2)	-0.121122	0.179928	-0.673172	0.5073
DEXRF	0.122494	0.349293	0.350692	0.7289
DINT	-0.137337	0.432825	-0.317303	0.7538
DINT(-3)	0.330403	0.523382	0.631284	0.5338
DGFCF	-0.028621	0.070757	-0.404503	0.6894
DINF(-2)	0.028963	0.054051	0.535852	0.5970
DINF(-3)	0.034010	0.016603	2.048448	0.0516
DGDP(-3)	13580.10	44137.74	0.307675	0.7610
C	905522.0	835311.3	1.084053	0.2891
ECM(-1)	-0.220897	0.151406	-1.458971	0.0375
R-squared	0.562595			
Adjusted R-squared	0.513932	F-statistic		9.949617
Durbin-Watson stat	2.163032	Prob(F-statistic)		0.042814

Source: Author’s Analysis, 2018.

From the result in Table 4.5, since the coefficient of ECM (-1) which is -0.220897 is negative and less than one, we say that there is convergence and also since the probability of ECM is 0.0375. We follow the decision rule and conclude that ECM is significant at 0.05 our chosen level of significance.

NORMALITY TEST

This test was conducted to check if the error term follows the normal distribution. The Jarque-Bera test of Normality was used.

H₀: the error term follows a normal distribution

H₁: the error term does not follow a normal distribution

DECISION RULE: if the probability of the Jarque-Bera statistics is less than 0.05 our chosen level of significance, we reject the null hypothesis otherwise we do not reject.

The result from the Jarque-Bera normality test is presented in Table 4.6

Table 4.6 NORMALITY RESULT

VARIABLE	Value
Jarque-bera	10.16805
Probability	0.006195

Source: Author’s Analysis, 2018

From the result in Table 4.6, the probability of the Jarque-Bera is 0.006195. We therefore reject the null hypothesis since the probability of the Jarque-Bera is less than 0.05 our chosen level of significance; we conclude that the error term do not follows a normal distribution.

HETEROSCEDASTICITY TEST

White heteroscedasticity (no cross terms) was conducted to ascertain whether the variance of the error term has a constant variance. The hypothesis to be tested is:

H₀: There is Homoscedasticity

H₁: There is no Homoscedasticity (there is Heteroscedasticity)

DECISION RULE: reject the null hypothesis if the probability of the F-statistics is less than 0.05; otherwise we do not reject the null hypothesis when the probability of F-statistics is greater than 0.05.

The result obtained from the white heteroscedasticity test is presented in Table 4.7

TABLE 4.7 WHITE HETEROSCEDASTICITY TEST RESULT

F-statistic	3.183481	Probability	0.088537
Ob*R-square	20.36642	Probability	0.055971

Source: Author’s Analysis, 2018

From the result in Table 4.7, the probability of F-statistics is 0.088537. Since 0.088537 is greater than 0.05, we do not reject the null hypothesis and conclude that there is homoscedasticity.

MULTICOLLINEARITY

Correlation matrix was used to check for the problem of multicollinearity among the explanatory variables
DECISION RULE: based on the rule of thumb, if the pair or zero order correlation coefficient between two regressors is high say in excess of 0.8, then multicollinearity is a serious problem.

TABLE 4.8 CORRELATION MATRIX

	FDI	EXRF	INT	INF	GFCF	GDP
FDI	1	0.074994	0.58241	0.574579	-0.4598	-0.23845
EXRF	0.074994	1	-0.15982	0.144488	0.093421	-0.32068
INT	0.58241	-0.15982	1	0.379194	-0.59307	-0.03085
INF	0.574579	0.144488	0.379194	1	-0.11869	-0.32836
GFCF	-0.4598	0.093421	-0.59307	-0.11869	1	-0.04291
GDP	-0.23845	-0.32068	-0.03085	-0.32836	-0.04291	1

Source: Author’s Analysis, 2018

From the result in Table 4.8, the correlation between any two variables is not up to 0.8.hence we conclude that there is no problem of multicollinrearity.

SPECIFICATION TEST

This test was conducted to check if the model is correctly specified. The Ramsey RESET test was adopted.

H₀: the model is not mis-specified

H₁: the model is mis-specified

DECISION RULE: If the f-probability is less than the chosen level of significance, then reject the null hypothesis

The result obtained from the Ramsey RESET is presented in Table 4.9

Table 4.9 SPECIFICATION TEST RESULT

F-statistic	1.657645	Probability	0.173144
Log likelihood ratio	12.39220	Probability	0.053770

Source: Author’s Analysis, 2018

From the result in Table 4.9, the probability of F-statistics is 0.173144. Since 0.173144 is greater than 0.05 level of significance, we do not reject the null hypothesis and conclude that the model is not mis- specified.

TEST OF HYPOTHESES

The hypotheses were tested at 5% level of significance using the t-statistics.

Decision rule: if the t-probability is less than 0.05 our chosen level of significance, then reject the null hypothesis (H₀).otherwise do not reject the null hypothesis

HYPOTHESIS ONE

H₀: Exchange rate fluctuation has no significant impact on foreign direct investment in Nigeria.

H₁: Exchange rate fluctuation has significant impact on foreign direct investment in Nigeria.

Exchange rate fluctuation has no significant impact on foreign direct investment in Nigeria. This can be seen from the result presented in table 4.1, where the t-probability of exchange rate fluctuation is 0.6630. It is greater than 0.05 our level of significance, we follow the decision rule and refuse to reject the null hypothesis. We conclude that exchange rate fluctuation has no significant impact on foreign direct investment in Nigeria.

HYPOTHESIS TWO

H₀: Interest rate has no significant impact on foreign direct investment in Nigeria.

H₁: Interest rate has significant impact on foreign direct investment in Nigeria.

Interest rate has no significant impact on foreign direct investment in Nigeria. This can be seen from the result presented in table 4.1, where the t-probability of Interest rate is 0.6630. It is greater than 0.05 our level of significance, we follow the decision rule and refuse to reject the null hypothesis. We conclude that Interest rate has no significant impact on foreign direct investment in Nigeria.

HYPOTHESIS THREE

H₀: Gross fixed capital formation has no significant impact on foreign direct investment in Nigeria.

H₁: Gross fixed capital formation has significant impact on foreign direct investment in Nigeria.

Gross fixed capital formation has no significant impact on foreign direct investment in Nigeria. This can be seen from the result presented in table 4.1, where the t-probability of gross fixed capital formation is 0.1135. It is greater than 0.05 our level of significance, we follow the decision rule and refuse to reject the null hypothesis. We conclude that gross fixed capital formation has no significant impact on foreign direct investment in Nigeria.

HYPOTHESIS FOUR

H₀: Inflation has no significant impact on foreign direct investment in Nigeria.

H₁: Inflation has significant impact on foreign direct investment in Nigeria.

Inflation has significant impact on foreign direct investment in Nigeria. This can be seen from the result presented in table 4.1, where the t-probability of inflation is 0.0092. It is less than 0.05 our level of significance, we follow the decision rule and reject the null hypothesis. We conclude that inflation has significant impact on foreign direct investment in Nigeria.

HYPOTHESIS FIVE

H₀: Economic growth has no significant impact on foreign direct investment in Nigeria.

H₁: Economic growth has significant impact on foreign direct investment in Nigeria.

Economic growth has no significant impact on foreign direct investment in Nigeria. This can be seen from the result presented in table 4.1, where the t-probability of economic growth is 0.5046. It is greater than 0.05 our level of significance, we follow the decision rule and refuse to reject the null hypothesis. We conclude that economic growth has no significant impact on foreign direct investment in Nigeria.

DISCUSSION OF FINDINGS

Exchange rate fluctuation has a positive relationship with foreign direct investment. This implies that an increase in exchange rate fluctuation will bring about an increase in foreign direct investment. This is not in consonance with the a priori expectations and also the findings of Chukwu (2007) who studied the effect of exchange rate volatility on foreign direct investment. Exchange rate fluctuation has no significant impact on foreign direct investment. This implies that Exchange rate fluctuation has no real impact on foreign direct investment. The findings agree with the findings of Odior (2012) who concluded that Exchange rate fluctuation has no significant impact on foreign direct investment.

Interest rate has a positive relationship with foreign direct investment. This implies that an increase in Interest rate will bring about an increase in foreign direct investment. This is not in consonance with the a priori expectations and also the findings of Rasheed (2010) who investigated the impact of macroeconomic variables and foreign direct investment. Interest rate has no significant impact on foreign direct investment. These findings agree with the findings of Ekpo and Umoh (2012) in their study of the impact of leading interest rate and foreign direct investment.

Inflation has a Positive relationship with foreign direct investment. This implies that an increase in inflation will bring about an increase in foreign direct investment. This is in not in consonance with the a priori expectations and also the findings of Kirandeeep,(2014) who empirically investigated the relationship between inflation and FDI. Inflation has significant impact on foreign direct investment. This implies that inflation has real impact on foreign direct investment.

Gross fixed capital formation has a negative relationship with foreign direct investment. This implies that an increase in gross fixed capital formation will bring about a decrease in foreign direct investment. This is in not in consonance with the a priori expectations.

Gross Domestic Product which is used as a proxy for Economic growth has a negative relationship with foreign direct investment. Gross Domestic product has no significant effect on foreign direct investment.

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

This works attempts to ascertain the impact of Foreign Direct Investment and Exchange Rate Fluctuation in Nigeria. Data were obtained from Central Bank of Nigeria (CBN) statistical bulletin and World Development Indicators ranging from 1986-2016. Multiple regression models were used in which Exchange Rate Fluctuations, Inflation Rate, Interest Rate, Gross Fixed Capital Formation, Gross Domestic Product were used as the independent variable while Foreign Direct Investment was used as the dependent variable.

Ordinary least square method was used to estimate the parameters using E –View computer software. The results showed that Exchange Rate Fluctuation has a positive relationship with foreign direct investment and has no significant impact on Foreign Direct Investment in Nigeria. Variables such as: Gross Fixed Capital Formation and Gross Domestic Product have a negative relative with the inflow of Foreign Direct

Investment in Nigeria while Inflation and Interest rate have a positive significant effect on Foreign Direct Investment in Nigeria.

RECOMMENDATIONS

From the foregoing, we recommend the following;

1. Break government monopoly that shuts foreign investment out. Nigeria has the potential to attract and retain significant inflows of Foreign Direct Investment into its large network of infrastructural sectors including rail transportation, gas pipeline and electricity transmission as it has successfully done in telecommunication. Nigeria stock of Foreign Direct Investment is currently concentrated into telecommunication, oil and gas. There are only two sectors in which the government has liberalized entry of Foreign Direct investment. Government monopoly in key infrastructure sectors like rail transportation, gas pipelines and power transmission obstructs beneficial Foreign Direct Investment inflows. The Nigerian government needs to take immediate measures to break government monopoly in critical infrastructure sectors to allow the inflow of needed foreign investment.
2. Government should create stable and peaceful political environment so as to attract foreign investors and encourage domestic employment of resources which could enhance inflow of capital.
3. There is need for the Nigerian government to formulate investment policies that will be favorable to local investors in order to complement the inflow of investment from abroad.
4. The government in collaboration with the Central Bank and other policy making bodies in Nigeria should make policies that will help the economy attain a stable exchange rate regime. This will not only attract real inward FDI but will also boost domestic production as it will help the domestic firms compete favorably with the multinationals.

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