# THE IMPACT OF FOREIGN DIRECT INVESTMENT ON UNEMPLOYMENT RATE IN NIGERIA (1986-2018)

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**Abstract**
The study examined the impact of foreign direct investment on unemployment rate in Nigeria from 1986-2018. While, specific objective are to evaluate the impact of foreign direct investment on unemployment in Nigeria, appraised the relational effect of foreign direct investment on Nigeria economic growth, and determined the short and long run effect of foreign direct investment and the levels of unemployment in Nigeria. The study utilized secondary sources of data. The study employed autoregressive distributive lag (ARDL) method to establish the effect of explanatory variable on dependent variable. Other estimation techniques used includes; multivariate Granger causality test (VAR), Augmented dickey Fuller unit root test, error correction model (ECM) and stability test. Based on the finding, the study revealed EXCH, GRRGDP and FDI are stationary at level and UEM, INF,FDI at first difference. A long run relationship exit among uem, ggrgdp, fpi, exchr, infl and FDI. The study concluded that there exit a causal relationship between economic variables and unemployment rate in Nigeria. Therefore, the study recommends that government at various levels should improve on the several programs and policies that are ongoing to encourage the influx of foreign direct investment and appropriate stringent policy measures to reduce the level of insecurity thus, creating a safe environment for potential investors.

**Keywords:** Unemployment rate, Foreign Direct investment, Foreign Portfolio investment, MVAR

## 1.0 INTRODUCTION
The problem of unemployment is one of the macroeconomic issues in which the government seeks tirelessly to address through divergent policy measures of which creation of enabling environment for foreign investment to thrive is central. Couple with the country's growing population and labour force, unemployment becomes a default occurrence in the economy and inarguably germane for every economy to proffer lifelong solutions to and accordingly, aim at the macroeconomic objective of attainment of full employment (Salami & Oyewale 2013). The significance of the influx of foreign investment can be viewed from two angles: the multiplier effect on the recipient/host country and the multiplier effect on the investing multinational corporations. By implication, foreign investment is said to be a key propellant of employment, capital formation, managerial skill, technical know-how, technological progress, productivity improvement, economic growth and also an important determinant of globalization and world economy. This came into being by the pro-foreign international schools which admitted to its potency on the host economy (Okoro, Matthew, & Atan 2014). Whereas the dependency school stood an opposing ground by seeing foreign investment as merely a means of mopping up local

financial resources to serve the interest of the multinational corporations' home countries and thus cannot lead to true industrialization in host economy. They viewed foreign investors as predators who exploit the host country and also crowding-out domestic investment (Okoro, Matthew, &Atan 2014).

Talking of unemployment, the chronic nature of the problem is relatable to the alarming rate at which many young higher institution graduates are joining the labor market, and yet with limited capacity to accommodate them. Prior to the dominance pursue of a monoculture economy in the early 80,s and for about two decades after independent; unemployment was never an issue until the oil sector became the main driver of the economy. This is so mainly because agriculture was the mainstay of the economy as at the time and a good number of the population engage in numerous farming activities in the rural areas while those in the urban area were gainfully employed (Nwankwo & Ifejiofor, 2014). Averagely, universities and other tertiary institutions in the country release about 120,000 graduates into the labour market each year while another 500,000 school leavers or college graduates are turned out each year with no hope for any job in place (NAPEP, 2003). Nigerian population is estimated at 200 million and couple with the abundance of the petroleum reserve endowment, this has place the country on a favorable stand in terms of foreign investment inflow the economy has thus far attracted. In the bid to accelerate a stout macroeconomic development, its actualization has brought about series of informed, thorough and logical economic reforms dated back to the mid 1980's. Included among the reforms are the adoption of a liberal and market oriented economic policies, stimulation of increased private sector participation and elimination of bureaucratic obstacles which hinder private sector investment and long term profitable business operations were put in place to foster the attractiveness of the investment opportunities in Nigeria and also boost the confidence of investors in the economy (Uma, Eboh & Nwaka, 2015).

Perspectives in which FDI can affect employment are explained in three scenarios. The influx of FDI can lead to a direct increase in employment when new businesses string up and also by becoming a key stimulant of employment in the distribution phase of production. Furthermore, through the acquisition and restructuring of an existing firm, FDI can sustain employment and lastly, it can shrink employment by divesting and when domestic firms are forced to close down due to extreme competitions (Pinn, Ching, Kogid, Mulok, Mansor & Loganathan, 2011). Ways in which foreign direct investors may acquire voting power in an entity within an economy can be through merger or an acquisition of a separate enterprise, by incorporating a totally owned division or company in another location; through participation in an equity joint venture with a different investor or enterprise and also through the acquisition of shares in a related enterprise. Generally, foreign investment can lead to the transmission of soft skills through training and creation of job opportunities, access to R&D resources and the provision of more sophisticated technologies for the local market. Oftentimes, machines and production capacity transferred by the investing company are mostly older; however, as a result of lags in technology low level of development, the recipient country still finds them valuable and this is aimed at curtailing every tendencies of competition against its own products by the recipient economy or company (UNCTAD, 2010).

The questions as to whether foreign investments truly have a significant impact on the recipient country (in this case Nigeria) remain a frequent source of debate among scholars. Adekunle & Sulaimon 2018, perceived the phenomenon as having both linear and nonlinear perspective. In 2014, African countries (Nigeria inclusive) embraced rebasing of the gross domestic product (GDP). This process reveals in clearer picture the exact structure and size of an economy making it possible to re-evaluate their fiscal stand as well as potential returns in order to put stakeholders in a better position in their investment decisions. As a result, the Nigerian economy GDP figures were nearly doubled using 2013 as the base year; putting the economy figures at ₦80.2 trillion ($510 billion). In addition, the Nigerian GDP at purchasing power parity also ranks the economy as the largest in the West Africa Sub-region (Amadou, 2015).   Prior research works done in line with this study have overemphasized the nexus between FDI and employment generation in Nigeria, whereas very few studies were carried out on the overall foreign investment   In other to arrive at a panacea to these impending problems, it is therefore on this premise that the study seeks to examine the strength of both foreign direct investment and portfolio investment at solving the persistent level of unemployment in Nigeria and generally on the economic growth. Given the issues raised, this research seeks to bring to limelight a specific objective which is to evaluate the impact of foreign investment on unemployment rate in Nigeria.

This study will be of great importance to the researcher in particular, other researchers, the government and the entire public. In addition, it will be a good source of relevant and reliable information to the government to carry out proper and well thought out policies decision, strengthen our economy towards putting the menace of unemployment to check and appropriate policy implementation that will boost the influx of foreign investment into the country.

Against this background information, the study evaluates the impact of foreign direct investment on unemployment in Nigeria from 1986- 2017. This study shed light on how FGN has fared in its ability to maintain low unemployment rate and also make recommendations based on its findings. The remaining part of this article is structured as follows: the second section is focused on the review of relevant literatures, the method of analysis is explained in the third section, the fourth section deals with explanation of findings, recommendations and conclusion of the study is discussed in the fifth section.

## 2.0 LITERATURE REVIEW

### Foreign investment
According to Investment Policy Review of Nigeria carried out by the United Nations Conference on Trade and Development (1999), direct investment entails the type of international investment whereby a resident entity of a country obtains a lasting interest in an enterprise existing in another country. It however exits in twofold: foreign direct investment and foreign portfolio investment. While foreign direct investment is a physical investment in the form of a controlling ownership in a business in a country by an entity other than the investors'. It includes mergers and acquisitions, reinvesting profits earned from overseas operations, building new facilities and a lasting managerial interest in an enterprise.

## Unemployment

The concept of unemployment is defined by the Bureau of Labour Statistics [BLS] as the number of people who do not have a job, have actively search for work within the past four weeks and are currently available for employment. It also include those people who were laid off temporarily and were waiting to be called back to the job as well as anyone sixteen years or older who worked any hours within the past week be it paid employment or self-employed (BLS, 2008). Consequently, persistent high levels of joblessness wreck a huge havoc on an economy causing economic and social costs. The problems occur across a country but a bit intense in local and regional communities (Peter & Dennis, 2004).

## Theoretical Review

### Keynesian Theory

This theory was propounded by J.M Keynes in 1936. He opines that unemployment is caused as a result of inadequate effective demand. Keynes focused on aggregate demand function to deal with depression and unemployment. Therefore, employment relies on aggregate demand which in turn is influenced by consumption and investment demand respectively. Keynes (1936) was of the opinion that an increase in employment can occur by increasing consumption and/or investment. Consumption depends on income and when income increases, savings increases. Consumption can be raised by increasing the propensity to consume so as to increase income and employment. Thus, if the propensity to consume is stable, employment will depend on investment.

### Eclectic Paradigm Theory

This theory was propounded by John H. Dunning in 1979 as an advancement in the development of the International theory. Eclectic paradigm is also referred to as the OLI Model or OLI Framework (meaning, Ownership, Location and Internalization). Ownership advantage indicates the competitive edge of the business firm in terms of Foreign Direct Investment engagement. The more the advantage enjoyed by the firm when it comes to competition, the greater the likelihood of foreign production engagement. Location advantages relates to the alternative nations or regions available for carrying out the activities of Multinational companies based on value addition.

### Empirical Evidences

The foreign Direct Investment showed positive relationship towards employment opportunity globally for instance, Chinyelu (2014) who examined the Foreign Direct Investment and Employment Nexus from 1981 to 2012, the study made used of multiple regression analysis, Johansen co-integration and Granger causality, his findings revealed that FDI plays a pivotal role on employment in Nigeria given the positive and a significant long run relationship which exists between the two indices. The study therefore suggests a uni-directional causality between the variables which indicates the stimulating effect FDI has on economics activities of the recipient countries in terms of employment.

Similarly, Elekwa, Aniebo and Ogu (2016) in their empirical investigation of the effect of foreign portfolio investment on employment growth in Nigeria employing single equation and

reduced form specification. The outcome of the study showed a positive relationship between portfolio investment and economic growth.

Also, Babasanya (2018) investigated the relationship between foreign direct investment and employment generation in Nigeria (1999 – 2016). The result indicated a positive relationship between foreign direct investment and employment rate in Nigeria. Okoro and Atan (2014) on the impact of foreign direct investment on employment generation in Nigeria: a statistical investigation employing single equation models, Ordinary least-square (OLS) method, Granger causality and unit root tests. Their study point towards a positive outcome relative to employment generation in Nigeria and called for a mindful efforts in discouraging importation of readymade products into the country.

In contrast, Onimisi (2014) analyzed the relationship between foreign direct investment and employment generation in Nigeria using multiple linear regression models for data which covers the period from 2002 to 2012. Concluded that FDI exhibit negative relationship with the level of employment in Nigeria while GDP, interest rate are positively related with the level of employment but none of the explanatory variables significantly impact on the level of employment in Nigeria within the period of the study. This therefore does not go in tandem with the popular positive relation claim of some researchers.

## 3.0 METHODOLOGY
The study adopts the Karl Marx dependency theory. The study employed a model similar to existing literatures of Nelson, Ekokeme, Okoyan & Dumani (2018); Salami & Oyewale (2013); & Kareem (2010) which is specified below as

UER = F (FDI, CF). This equation is transformed to a linear function thus:

$UER = b_0 + b_1FDI + b_2CF + \mu$ where;

FDI = foreign direct investment

UER = Unemployment rate

CF = Capital formation

$b_0$ = constant term

$b_1$- $b_2$ = coefficient of the explanatory variables

$\mu$ = Error term

In specifying the model for this study, the above model will be modified This is being explained below in order to give a clearer understanding of the steps involved in the specification of the model. The model assumes an underlying relationship between unemployment rate and a number of macroeconomic variables. The model presents employment generation measured by unemployment rate (UER) is a function of Foreign Direct Investment (FDI), Foreign Portfolio investment (FPI), Exchange Rate (EXCHr), Growth rate real domestic Product (GRRGP) and Inflation Rate (INF)

The mathematical form of the model in accordance with the above literatures is modified below:

$UER_t$= f (FDI, FPI, GRRGDP, EXCH, INF)$t$ ……………………………………. (3.1)

Where;

GRRGDP = Growth Rate Real Gross Domestic Products

FDI = Foreign Direct Investment

FPI = Foreign Portfolio Investment
UER = Unemployment Rate
EXCHr = Exchange Rate
INF= Inflation
The linear form econometric model is:
UER$t$= βo + β1FDI$t$ + β2GRRGDP$t$ + β3EXCH$t$ + β4INF$t$ + β5FPI$t$ + µt
…………………………. (3.2)
While the Linear-log form of the model is:
UER$t$= βo + β1 lnFDI$t$ + β2 lnGRRGDP$t$ + β3lnEXCH$t$ + β4INF$t$ + β5 lnFPI$t$ + µ$t$
…………………. (3.3)
Where:
βo = The parameter which represents the intercept
β1 – β5 = Coefficient or the regression parameters used in determining the significance of the effect of each of the independent variables β1 – β4 on the dependent variable UER
µt = Error or Random disturbance term.

### *A Priori* Expectation
Basically, there is an expected inverse relationship between foreign domestic investment and the exchange rate. The same inverse relation exists between exchange rate and foreign portfolio investment. An inverse relationship is expected between inflation and foreign domestic investment as well as foreign portfolio investment. Finally, foreign investment (FDI and FPI inflows) are expected to have an inverse relationship with unemployment.

### Estimation Techniques
The estimation techniques involve the examination of the time series properties such that spurious results would be avoided. Quantitative methods were employed for this study. Different econometric analytic tools used in testing the hypotheses include: Augmented Dickey Fuller (ADF) unit root test, Autoregressive Distributed Lag (ARDL) and Multivariate Granger causality tests (VAR).

### Augmented Dickey-Fuller (ADF)
$\Delta K F t = \lambda 0 + \beta t + \gamma K F t - 1 \partial 1 \Delta K F t - P + \upsilon t$ ……………………………………. (3.4)
Where:
$\lambda_0$ is a constant,
$\beta_t$ is the coefficient on a time trend,
P is lag order of the autoregressive process, and
$\Delta$ is difference operator.

$\upsilon_t$ = error term assumed to be normally and randomly distributed with zero mean and constant variance.
t = time trend

### Autoregressive Distributed Lag (ARDL)
An ARDL form of the unit root equation is represented as bellow:

$\Delta UER = \alpha_0 + \sum_{i=1}^{n} \alpha_{1i} \Delta UER + \sum_{i=1}^{n} \alpha_{2i}\Delta LnFDI + \sum_{i=1}^{n} \alpha_{3i}\Delta EXCH + \sum_{i=1}^{n} \alpha_{4i}\Delta INF + \sum_{i=1}^{n} \alpha_{5i}\Delta FPI + \sum_{i=1}^{n} \alpha_{6i}\Delta LnGDP + \beta_1 UER(-1) + \beta_2 LnRGDP(-1) + \beta_3 LnFPI(-1) + \beta_4 INF(-1) + \beta_5 EXCH(-1) + \beta_6 FDI(-1) + u_t$ ……………………………………… (3.5)

Where:

$\Delta$ denotes the first difference operator;

$\alpha_0$ is the drift component

$\alpha_0$ is the usual white noise residuals.

The Unemployment rate is found on the left-hand side, while the six expressions with the summation sign *($\alpha_1$-$\alpha_6$)* on the opposite side connote the short run dynamics of the model and then the remaining expressions *($\beta_1$-$\beta_6$)* represent the long run relationship. In order to investigate the possibility of long run relationships among the UER, RGDP, FDI, FPI, INF, and EXCH, the study based the bound testing procedure on the F-statistic. This test is basically a test of the hypothesis of no co-integration among the key variables.

Represented as:

*$H_0$: $\beta_1$ - $\beta_6$ = 0*

## Causality Test

The precondition for multivariate causality existing between the variables is to estimate a corresponding VAR model. The VAR Granger specification is therefore shown in the model below:

$UER_t = \sum_{i=1}^{n} \beta_1 UER_{t-j} + \sum_{i=1}^{n} \beta_2 FDI_{t-1} + \sum_{i=1}^{n} \beta_3 FPI_{t-1} + \sum_{i=1}^{n} \beta_4 GRRGDP_{t-1} + \sum_{i=1}^{n} \beta_5 EXCH_{t-1} + \sum_{i=1}^{n} \beta_6 INF_{t-1+\mu 1t}$ ……………………………………… (3.6)

$FPI_t = \sum_{i=1}^{n} \phi_1 FPI_{t-1} + \sum_{i=1}^{n} \phi_2 FDI_{t-1} + \sum_{i=1}^{n} \phi_3 UEM_{t-1} + \sum_{i=1}^{n} \phi_4 GRRGDP_{t-1} + \sum_{i=1}^{n} \phi_5 EXCH_{t-1} + \sum_{i=1}^{n} \phi_6 INF_{t-1+\mu 2t}$ ……………………………………… (3.7)

$FDI_t = \sum_{i=1}^{n} \wp_1 FDI_{t-1} + \sum_{i=1}^{n} \wp_2 UEM_{t-1} + \sum_{i=1}^{n} \wp_3 FPI_{t-1} + \sum_{i=1}^{n} \wp_4 GRRGDP_{t-1} + \sum_{i=1}^{n} \wp_5 EXCH_{t-1} + \sum_{i=1}^{n} \wp_6 INF_{t-1+\mu 3t}$ ……………………………………… (3.8)

$GRRGDP_t = \sum_{i=1}^{n} \delta_1 GRRGDP_{t-1} + \sum_{i=1}^{n} \delta_2 FDI_{t-1} + \sum_{i=1}^{n} \delta_3 FPI_{t-1} + \sum_{i=1}^{n} \delta_4 UEM_{t-1} + \sum_{i=1}^{n} \delta_5 EXCH_{t-1} + \sum_{i=1}^{n} \delta_6 INF_{t-1+\mu 4t}$ ……………………………………… (3.9)

$EXCH_t = \sum_{i=1}^{n} \alpha_1 EXCH_{t-1} + \sum_{i=1}^{n} \alpha_2 FDI_{t-1} + \sum_{i=1}^{n} \alpha_3 FPI_{t-1} + \sum_{i=1}^{n} \alpha_4 GRRGDP_{t-1} + \sum_{i=1}^{n} \alpha_5 UEM_{t-1} + \sum_{i=1}^{n} \alpha_6 INF_{t-1+\mu 5t}$ ……………………………………… (3.10)

$INF_t = \sum_{i=1}^{n} \gamma_1 \, UER_{t-1} + \sum_{i=1}^{n} \gamma_2 FDI_{t-1} + \sum_{i=1}^{n} \gamma_3 FPI_{t-1} + \sum_{i=1}^{n} \gamma_4 GRRGDP_{t-1} + \sum_{i=1}^{n} \gamma_5 EXCH_{t-1} + \sum_{i=1}^{n} \gamma_6 UER_{t+ \mu 6t} \dots \dots \dots \dots \dots \dots \dots \dots \dots$ (3.11)

Where:

$\alpha i$, $\beta_j$, $\gamma_i$, $\phi$, $\infty$ and $\delta_j$ = parameters to be estimated

i = the optimal lag length.

μ = Error term

The direction of influence of a variable on another is statistically shown by the significance of the variables under study, this is usually arrived at on the basis of the p-values that are less than 0.05 (5% level of significance).

## 4.0 RESULTS AND DISCUSSIONS

### Table 1: Stationarity Test

| Variables | ADF Test Statistics Level(1ˢᵗ Difference) | Test critical values | | No of Lags | Order of Integration | Inference |
|---|---|---|---|---|---|---|
| UEM | -5.15 | 1% level<br>5% level<br>10% level | -3.66<br>-2.96<br>-2.62 | 0 | I(1) | Stationary |
| GRRGDP | -4.51 | 1% level<br>5% level<br>10% level | -3.65<br>-2.96<br>-2.62 | 0 | I(0) | Stationary |
| FDI | -4.071 | 1% level<br>5% level<br>10% level | -4.27<br>-3.56<br>-3.21 | 2 | I(0) | Stationary |
| INFL | -4.96 | 1% level<br>5% level<br>10% level | -3.66<br>-2.96<br>-2.62 | 3 | I(1) | Stationary |
| FPI | -2.87 | 1% level<br>5% level<br>10% level | -3.69<br>-2.97<br>-2.63 | 3 | I(1) | Stationary |
| EXCH | -3.87 | 1% level<br>5% level<br>10% level | -4.27<br>-3.56<br>-3.21 | 3 | I(0) | Stationary |

*Source: Authors Analysis,2019.*

Table 1, indicated that three of the variables are stationary at level I(0) while the rest of the variables became stationary after the first difference I(1). Thus, the results show that the unit root for the residual for all the variables is stationary at 5% critical values except for FPI which attained stationary at 10% critical value with the Dickey Fuller unit root. Unemployment became stationary at first difference critical values; the same is applicable to FPI and inflation rate, revealing the need to differentiate them once for them become stationary. And then growth rate

real GDP, FDI and exchange rate, are significant at level hence I(0) process. Therefore, the proof of unit root however is a necessary condition for co-integration between the dependent variable and its determinants. This thus called for further long-run co-movement among the variables using Autoregressive Distributive Lag technique to determine the number of co-integrating equations among the variables.

**Table 2: The Long-run and Short-run Analysis of Foreign Investment and Unemployment**
The study rejected the null hypothesis of no co-integration among the variables with the test showing the computed F-statistic of 3.64 which is greater than the lower and upper bounds critical values of 2.26 and 3.35, respectively at the 10 percent level of significance. This therefore points toward long run relationship among uem fpi, grrgdp, exch, infl and fdi, Pesaran et al (2001).

| Dependent variable | Critical Value | F-statistic 3.64 | |
|---|---|---|---|
| | | Lower bound | Upper bound |
| uem (fpi, grrgdp, exch, infl and fdi) | 1% | 3.41 | 4.68 |
| | 5% | 2.62 | 3.79 |
| | 10% | 2.26 | 3.35 |

*Source: Authors Analysis, 2019.*

**Table 2: Long Run Analysis**

Table 2, showed the long run coefficient estimates of FPI, EXCH, GRRGDP and INFL appeared to have the expected signs leaving only FDI which do not conform to the a priori bases. Three out of the variables are statistically significant at the 1% significant level whereas INFL and EXCH become significant at 5% level. The coefficient also indicates that a 1% cent increase in FDI increases real UEM rate by 1.45%. Other coefficient such as FPI shows a negative effect on UEM rate even though it remains significant at 5%.

| Dependent Variable: UEM | ARDL Long-run Coefficients | *p-value* |
|---|---|---|
| C | 0.382026 | 0.8949 |
| FDI | 1.453929 | 0.0218** |
| FPI | -17809.67 | 0.0113** |
| EXCH | -0.058894 | 0.0001*** |
| GRRGDP | -0.313644 | 0.0120** |
| INFL | -0.081823 | 0.0740* |

***, **, * indicate the critical values at 1%, 5% and 10%.

| R-squared | 0.944635 |
|---|---|
| Adjusted R-squared | 0.905553 |
| F-statistic | 24.17090 |
| Durbin-Watson statistic | 2.303566 |

**Source**: Author's analysis, 2019

**Table 3: Estimates of the Long Run Coefficients ARDL (1,2,0,3,1,0)**
The coefficient of GRRGDP is significant at 5% level, although it is evident from the result that is has a negative impact with the value of – 0.31%. Lastly, the estimated coefficients of exchange rate and inflation are both significant and also exhibit negative effect with values of -0.06 and -0.08 respectively.

**Table 4: Short Run Analysis**

|  | *Coefficient* | *P-value* |
|---|---|---|
| C | 20.25242 | 0.0000*** |
| $\Delta FDI_t$ | -1.217623 | 0.0393** |
| $\Delta FPI_t$ | 16.83769 | 0.0061** |
| $\Delta GRRGDP_t$ | -0.403851 | 0.0004** |
| $\Delta GRRGDP_{t-1}$ | 0.303573 | 0.0017** |
| $\Delta EXCH_t$ | -0.159542 | 0.0001*** |
| $\Delta EXCH_{t-1}$ | 0.063329 | 0.0004*** |
| $\Delta INFL_t$ | -0.194491 | 0.0018*** |
| $\Delta INFL_{t-1}$ | 0.630876 | 0.0001*** |
| $ECM_{t-1}$ | -0.451132 | 0.0000*** |

NB: ***, ** and * indicate level of significance at 1%, 5% and 10% respectively.

| R-squared | 0.955777 | Adjusted R-squared | 0.887431 |
|---|---|---|---|
| F-statistic | 13.98454 | P-value (F) | 0.000041 |
| Log-likelihood | -40.45990 | Akaike criterion | 4.031718 |
| Schwarz criterion | 4.880384 | Durbin's Watson | 2.599402 |

**Source:** Author's Analysis, 2019.

**Table 4: Error Correction Model of ARDL Regression (1, 4, 3, 4, 4, 4)**
The short run analysis results indicate a negative and highly significant estimate of the lagged error correction term ($ECM_{t-1}$). The coefficient of each of the variables indicate a corresponding statistically significance at different levels in the error correction model. Most of the variables attained significance at either one percent or five percent level; for instance, $\Delta FDI_{t-1}$, $\Delta FPI_{t-1}$ and $\Delta GRRGDP_{t-1}$ are statistically significant at five percent while $\Delta EXCH_{t-1}$ and $\Delta INFL_{t-1}$ respectively are significant at one percent. In the short-run, the response of FPI is positive which goes against the a priori expectation. Lastly, the other variables respond negatively to the changes in UEM in the short run which is in line with the expectation.

**Table 5: Multivariate Causality Analysis (Vector Autoregressive Model)**
The direction of causality between the economic variables in the model is shown in the table below indicating a joint causal effect of the entire variables on UEM at the 5 percent level of significance but all the variables do not granger cause UEM on individual bases. Although, UEM appeared to granger cause Foreign Portfolio Investment (Uni-directional flow). On the aggregate, the result confirmed the postulation that there is a causal relationship between the economic variables and unemployment rate in Nigeria.

| Equation | Eqn 1 | Eqn 2 | Eqn 3 | Eqn 4 | Eqn 5 | Eqn 6 |
|---|---|---|---|---|---|---|
| Variable | UEM | FDI | FPI | GRRGDP | EXCH | INFL |
| UEM | DV | (0.46) {0.79} | (10.807) {0.0045}** | (3.259) {0.196} | (4.97) {0.08}* | (2.50) {0.29} |
| FDI | (0.89) {0.64} | DV | (0.96) {0.62} | (1.57) {0.46} | (1.65) {0.43} | (8.74) {0.01}** |
| FPI | (1.64) {0.44} | (0.10) {0.95} | DV | (0.25) {0.88} | (0.25) {0.88} | (0.31) {0.86} |
| GRRGDP | (0.14) {0.93} | (0.26) {0.88} | (0.58) {0.75} | DV | (0.12) {0.94} | (0.25) {0.88} |
| EXCH | (4.39) {0.11} | (0.84) {0.66} | (0.45) {0.80} | (4.41) {0.11} | DV | (5.53) {0.06}* |
| INFL | (1.13) {0.57} | (3.60) {0.17} | (0.03) {0.98} | (4.47) {0.10}* | (4.654) {0.097}* | DV |
| ALL | **(18.76) {0.044}**** | **(25.25) {0.005}**** | **(1.98) {0.10}*** | **(1.35) {0.10}*** | **(9.61) {0.48}** | **(13.07) {0.220}** |

**Source:** Author's Analysis, 2019. Key: DV = Dependent Variable. Values in ( ) represent Chi-Sqr while { } depict Prob. **, and * represent significant levels at 5% and 10% respectively.
Table 4.5: Multivariate Granger Causality Test (VAR)

**Stability Test**
Cumulative Sum (CUSUM) and the Cumulative Sum of Squares (CUSUMSQ) tests were also carried out to test for stability of the estimated error correction model. It is therefore required to explore stability of the entire coverage period for the above long and short run relationships.
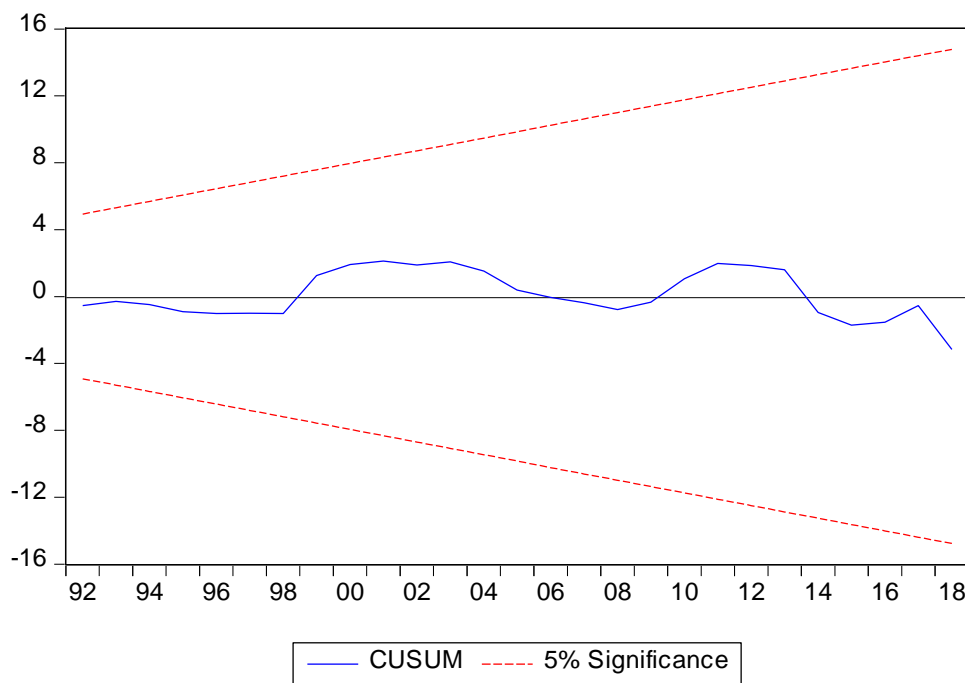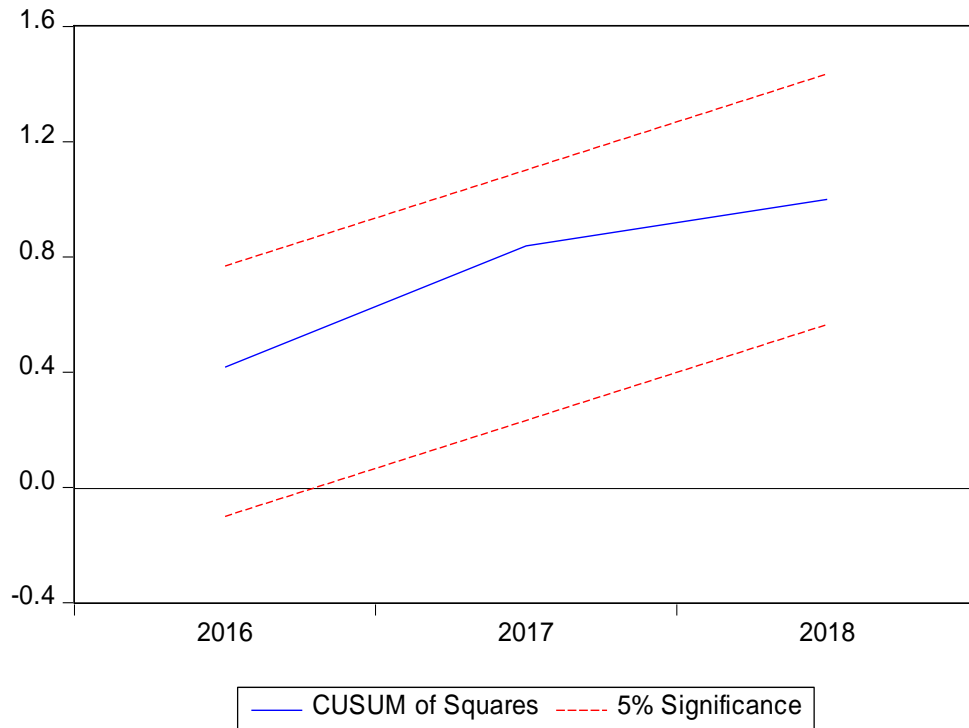


Figure 1: Cumulative Sum

Figure 2:  Cumulative Sum of Squares

Figure 2, it is showed clearly that since the plots of CUSUM and CUSUMSQ fall within the upper and the lower limits (five percent critical bound), the alternative hypothesis was rejected and thus concluded that the model exhibit long-run stability; indicating that the parameters of the model lack any structural instability for the study period.

## 5.0 CONCLUSION AND RECOMMENDATIONS

Based on the findings, the study concluded that foreign investment has significant impact on Nigeria's unemployment level. This however goes in line with the underlying principle of Karl Marx dependency theory where he opined that the underlining forces which drives the world system and international relations remain economic power and exploitation.

The study therefore recommends that policies to be formulated should be that which will exploit to the fullest the positive impact of foreign investment in the long run on a disaggregated level for across all the sectors of the economy and block every loopholes for that can cause this adverse effect on the economy such corruption, nepotism, bureaucracy, favoritism, government policy summersault, and so on.

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