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Determinants of Foreign Direct Investment in Nigeria

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ABSTRACT

The main objective of this study is to investigate and determine that how much the factors has impact on the FDI in Nigeria. Time series data over the period 1987-2017 used for the analysis by applying the Ordinary Least Squared (OLS) method findings of the study show that DI and POP are significant and positively related to the FDI. These variables boost up the FDI of the country and attracts the foreigner's investors. UEMP is significant but has negative impact on the FDI. REM and INF are insignificant that means remittances and inflation are not taking the part in determining the FDI of the Nigeria.

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1 Introduction

Foreign direct investment (FDI) has got major importance for all the developing and developed countries from many years, economy can enter into the pace of the success and achieve the required level of the development. Advantages of FDI such as increasing the living standard and bring the prosperity in the economy of the nation could be equal to its shortcomings. Importance of FDI depend on its fundamental changes from other types of capital investment in which the nature and time of commitment is included (Barrell & Holland, 2000). To achieve the basic objectives like improving the living standard of the citizens and make sure economic growth is enhancing in the emerging markets as Nigeria and Sub-Sahara African (SSA) nations became fragile due to the low capital formation levels through malicious phases of small production, small income and small level of wages (Adepoju, Salau & Obayelu, 2007). Importance of Foreign Direct Investment (FDI) inflows in the developing states has become major element in the economic works (Adefeso & Agboola, 2012).

FDI and unemployment has no causal relationship in six out of thirteen states of the European Union (EU) while the uni-direction causal relationship is present in seven states (Strat, Davidescu & Paul, 2015).

Remittance has a positive and significant association with the FDI in the long run and bi-directional causality exist among them in the less developed countries (Shafqat, Xia, Bari & Baloch, 2017). Remittance and FDI both have positive effect on GDP, however FDI has greater effect in the investigated countries using the ceteris paribus hypotheses that make the research limited through other feasible factors (Comes, Bunduchi, Vasile & Stefan, 2018).

Effects of natural resources, scope of the market, corruption, investment strategy and absence in the stability of the political condition of the country is examined by the Elizabeth Asiedu (2002, 2006). Small inflation and

effective authorized system support the FDI while the corruption and the absence of the stability in the political condition of country have adverse impact is recommended by the Elizabeth Asiedu (2006).

Neoclassical growth theory described the economic growth derived from the enhancement in the capacity of production factors along with effectiveness of their allocation of resources that are externally produced (Uwubanmwen & Ajao, 2012).

FDI give the advantage to the poor nation like Nigeria, not merely through additional domestic investment, but also in the form of enhanced domestic rivalry, technological transformation, employment formation and other optimistic externalities (Ayanwale, 2007). Nigeria is a developing country which is rich in the labor but not has sufficient capital because of lack of utilization of the national savings that minimize the share of the capital formation and economic progress. However, production might be enhanced through the lavished supply of the capital and labor force that are produced at national level, lack of the imported inputs like machines might decreased the production at which developing countries produce the goods and services. That is the major effect of the global capital flow through which the developing nations could reduce the gap of the investment –savings.

Domestic investment takes the support from FDI in the capital accumulation process. Similarly, technological instruments enhance the entire factor of production and efficiently use of resources by the FDI. Trades of the host states could be increased along with enhancing competitiveness and generating the domestic production in bulk size. Though absorptive capacity of all that is determined by the quantity of human capital, openness level, sort of trade structure (Borensztein, Gregorio & Lee, 1998).

Current study gives us the understanding about the FDI determinants which are significant and important for appealing the foreign investments through different countries in Nigeria.

2 Literature Review

Sun, Tong and Yu, (2002) used the panel data and OLS and GLS methodology and Pooled Ordinary Least Square (POLS), Random Effects Model and Fixed Effects Model are used to estimate the economic determinant effect of FDI in agriculture. In the CEECs population of market size, GDP per capita, labor low wages and operation risk index are most important factor to affecting the inflow of foreign direct investment (Laura Resmini, 2000) in factor affecting of foreign investment used the panel data of CEECs 1985 to1997.

Okereke and Ebulison (2016) investigated inflow of foreign direct investment in Nigeria time series data 1970 to 2011 and Unit Root test Ordinary least Square (OLS), Error Correction Mechanism (ECM) and Co integration methodology used that exchange rate, degree of openness and GDP have a positive and significant relationship and interest rate and foreign direct investment have negative and insignificant relation.

MichaelI. Obadan (1982) explored empirical analysis of foreign direct investment in Nigeria used the time series data 1962 to 1974 and ordinary least square regression that the size of host country market size, growth and cheap raw materials are also more important to inflow of foreign direct investment.

Janicki and Wunnava (2004) explained mutual foreign direct investment between east European candidate (CEEC) and the European Union used the cross-sectional data Czech Republic, Estonia, Hungary, Poland, Slovenia, Slovak Republic, Slovak Republic of 1970 and regression that trade openness, cost of labor size of economy, healthy and stable socio-political economy and the host transportation infrastructure are also necessary.

Soumyananda Dinda (2008) showed empirical investigation of determining factor of foreign direct investment in Nigeria used the 1970 to 200 time series data and co integration, vector error correction model that market size trade openness are important determinant factor but economic and socio-political constancy and positive function of natural resources are necessary.

John Nkwoma Inekwe (2013) examined relationship of GDP, and foreign direct investment in Nigeria between 1990 to2009 time series data and Johansen co integration technique and the vector error correction model technique and the vector error correction model expose that FDI has negative relationship with employment rate in servicing sector and appositive relationship with employment in manufacturing sector and foreign direct investment and growth have two way relationship.

Blonigen and Piger (2014) examined the FDI studies does not support the various variables, like cultural distance factors, parent-country per capita GDP, relative labor endowments and regional trade agreements. This study suggests that many wider sets of covariates are not strong in view of the statistical consequence of the main hub variables in previous studies. This study also examines a literally economical condition of gravity variables for modeling FDI.

Janet Olatundun Adelegan (2000) observed the study base on four motives, firstly the determinants of GDP to change per capita income, growth rate of population, FDI, external public debt outstanding and growth in import price index in Nigeria. Secondly FDI is unnecessarily related to gross domestic investment (GDI), thirdly, weak FDI is another reason of failure to extensively increase export and fourthly, FDI has significant negative effect on gross domestic investment in Nigeria.

Elizabeth Asiedu (2000) to note that increase in FDI does not automatically to involve higher economic growth. But it is facts that uncertain relationship among FDI and economic growth. This study shows that support FDI to Africa also have a direct impact on long run economic growth.

Benassy-Quere1, Coupet and Mayer (2007) shows that there is positive impact of good institutions on FDI outflows, and good governance also have positive impact on both FDI inflows and outflows relatively large and developed countries. They also indicate the bureaucracy and corruptions, but banking sector and legal institutions are significant determinant of inward FDI. The good institutions would raise the expected of FDI while distance of institutes would decrease mutual FDI.

The study of Loree and Guisinger (1995) supports the views that it is simple approach for the countries to raise the amount of foreign investment by the increasing level of incentives.

Egwaikhide Christian Imoudu (2012) is used the methodology of Johansen Co-integration technique and Vector Error Correction which explain the relationship among the FDI and economic growth in Nigeria. This methodology shows the impact of disaggregated FDI on real growth i.e. agriculture, mining, manufacturing, telecommunication and petroleum sector especially in the long run.

3 Model, Data and Methodology:

We used the time series data over the period of 1987-2016 for Nigeria by applying the econometric techniques to analyze that how much determinants of FDI such as unemployment, remittances, population,

inflation and domestic investment have impact on FDI to attract the foreign investors in the country. Econometric techniques are Correlation Analysis, Multiple Regression Model.

Model of the Study

FDI inflows is a function of unemployment, remittances, population, inflation and domestic investment in this study. Foreign direct investment, net inflows (BoP, current US$), Gross capital formation (% of GDP) is used as the proxy of the domestic investment, Unemployment, total (% of total labor force) (modeled ILO estimate), Personal remittances, received (current US$), Inflation, consumer prices (annual %) and Population growth (annual %) are used in this study. Ordinary least squared (OLS) econometric technique is used for analysis of the study through the E-view version 9 software.

$$\textbf{FDI} = f(UEMP, REM, POP, INF, DI)$$

$$\textbf{FDI} = \alpha 0 + \alpha 1\ UEMP + \alpha 2\ REM + \alpha 3\ POP + \alpha 4\ INF + \alpha 5\ DI + \varepsilon$$

Where, $\alpha 0$ = the intercept or constant amount. $\alpha 1 - \alpha 5$

= are coefficients of the explanatory variables.

UEMP = Unemployment

REM = Remittances

POP = Population

INF = Inflation

DI = Domestic Investment ε

= Error Term

4 Empirical Results and Discussion:

Correlation Analysis:

This method is used to explore the category and the strength of the association between the dependent and the hypothesized independent variables. For the measurement of the degree of multi-collinearity between all the dependent and independent variables used the correlation matrix in this model. This test is used to conclude the maximum significant elements in the hypothesized independent variables list.

Table 1: Correlation Matrix

	UEMP	REM	POP	INF	FDI	DI
UEMP	1					
REM	0.835246	1				
POP	**0.110474**	**0.528243**	**1**			

INF	-0.01	-0.16153	-0.51471	1		
FDI	-0.31459	0.132098	0.76082	-0.37122	1	
DI	0.303831	0.341046	0.290155	-0.0395	0.271085	1

Source: Software E-Views 9

Results of the table indicate the relationship of the series with one another. UEMP has positive relationship with REM, POP and DI while negatively related to the FDI and INF. REM has inverse association with the INF while positively related to the POP, FDI and DI. POP has negative relationship with INF but has positive relationship with FDI and DI. INF is inversely related to the FDI and DI. FDI has positive relationship with DI. **Table 2: Auto-Correlation**

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	**3.222807**	P.Value	0.0584

Source: Software E-Views 9

Findings of the table reveals that auto exist in the data because the p-value is less than 5%.

Table 3: Heteroskedasticity Test

Heteroskedasticity Test: White

F-statistic	**3.16294**	P.Value	0.0187

Source: Software E-Views 9

Findings of the table reveals that hetro exist in the data because the p-value is less than 5%.

Table 4: Regression Results

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
DI	153.3848	86.78776	1.767355	0.0894***
REM	0.998789	0.827258	1.207349	0.2386
UEMP	-1692.452	297.1155	-5.696276	0*
POP	68.68192	11.90219	5.77053	0*
INF	6.224125	8.934219	0.696661	0.4924
R-squared		0.775812		
Adjusted R-squared		0.739941		
Durbin-Watson stat		1.154459		

Source: Software E-Views 9

Note: DI (Domestic Investment), REM (Remittances), UEMP (Unemployment), POP (Population) and INF (Inflation). Significance level is checked at 1%, 5% and 10%," *"," **" &" ***" respectively.

Multiple regression analysis is used to evaluate the association among the dependent and independent variables to recognize the factors of the FDI inflow in the Nigeria. Criteria of the decision making is taken on the behalf of the values of the R-square, adjusted R-square, P- value and Durbin-Watson statistics. Model is using the P- value to test the statistical hypotheses for accepting or rejecting in this study.

The p-value of DI is 0.0894 and coefficient value is 153.3848 that predicts DI is statistically significant and has positive affect on the FDI. The p-value of UEMP is 0 and coefficient value is -1692.452 that show UEMP is statistically significant and has negative affect on the FDI. The p-value of POP is 0 and coefficient value is 68.68192 that means POP is statistically significant and has positive impact on the FDI. While the REM and INF are insignificant that show these variables are not affecting the FDI of the country.

Goodness-of-fit of the model is shown through the adjusted R^2 value in the multiple regression analysis. Almost 77.5% of changes in the Foreign Direct Investment is due to the Independent variables (DI, REM, UEMP, POP, INF) but the exogenous factors work only 22.5% from outside the model that only enclosed by the error term.

Conclusion

The main objective of this study is trying to investigate and determine that how much the factors has impact on the FDI in Nigeria. Time series data over the period 1987-2017 used for the analysis. By applying the Ordinary Least Squared (OLS) method findings of the study show that DI and POP are significant and positively related to the FDI. These variables boost up the FDI of the country and attracts the foreigner's investors. UEMP is significant but has negative impact on the FDI. REM and INF are insignificant that means remittances and inflation are not taking the part in determining the FDI of the Nigeria. The study suggested that infrastructure such as roads, communication system should improve.

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