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Foreign Direct Investment and Real Sector Performance in Nigeria

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ABSTRACT: *The study examined the relationship between foreign direct investment and real sector performance in Nigeria adopting time series data ranging from 1981 to 2018. Foreign direct investment was captured by exchange rate, remittance, trade openness and GDP while real sector performance was measured by manufacturing and agricultural sector output. Data involved in this study were secondary. ARDL regression technique was used to carry out the analysis. The co-integration results of the two models indicates that there is the existence of long-run relationship between foreign direct investment and real sector within the period of study, based on these findings, the study recommended that the government should focus on facilitating and providing incentives on the transfer of more remittance through official channels, adequate security and basic infrastructural amenities should be in place to attract foreign and domestic investment.*

KEYWORDS: foreign direct investment; manufacturing sector, agricultural sector; remittance, GDP, trade openness, exchange rate

INTRODUCTION

The place of investment to the realization of economic growth and development of any economy cannot be ignored or overemphasized. Scholars have continuously stressed on the outstanding impact of investment on national productivity. The direction of investment determines the future of the economy. Foreign direct investment is seen as a way of filling the gap between domestic available supplies of saving, government revenue, human capital skills and the desired level of resources needed to achieve growth and development targets. The acutely low level of domestic investment makes it compelling to attract significant foreign direct investment to augment aggregate investment. One of the reasons for less than satisfactory economic growth in countries of Sub-Saharan Africa is the low level of domestic investment. In Nigeria, gross domestic investment as percentage of gross domestic product has been on decline in recent times (Okaro, 2016).

Hymer (1976) was one of the first scholars who asserted that foreign direct investments were established to enhance the return of specific skills and ability like product and process innovation of the host country. The importance of foreign direct investment to economic progress in emerging

countries motivated the government of Nigeria to adopt relevant strategies to attract capital inflow from abroad. One of such strategies was the structural adjustment program (SAP) in 1986 (CBN, 2005). The main reasons for encouraging foreign investment are the acquisition of investment capital and technology for industrialization, creation of productive capacity and consequently the generation of domestic employment to boost national productivity. Foreign direct investment produces knowledge spillover effect which advances the real sector.

Nigeria has a large market size for goods and services and consequently, has attracted foreign investment over the years with little benefit to show for it (Orji et al, 2015). According to United Nations Conference on Trade and Development (2019) foreign direct investment flows into Nigeria in 2018 was 1.9 billion USD which was less than the 3.9 billion USD in 2017. The decline of foreign direct investment in Nigeria is due to the dependence of the economy on oil as the main source of generating revenue. This continued deterioration of budgetary allocation to the sector, decline in agricultural output and the perception that if properly taken into consideration, the sector could bounce back to its position motivated by the urge to investigate the alternative ways of revamping the sector through foreign direct investment (Oyelode, 2014).

The Nigeria currency is often oscillating and has caused external sector instability. Depreciation of the country's currency can possibly increase the cost of investment for foreign investors and the high cost reduces transaction and translation. Exchange rate instability and fluctuation has caused serious challenges in the economy. According to World Bank report in 2019, Nigeria is the largest market in Sub-Saharan Africa, accounting for over fifty percent of both Africa to Africa and global to Africa remittances. In 2019, remittance inflows to Nigeria were worth 23.8 billion dollar; Ghana 3.5 billion dollar and Kenya 2.8 billion dollar. Some Nigerians make use of unsafe and unofficial channels to send in money causing lots of remittance unaccounted for due to increased dependence on informal methods.

Insecurity is a plague to the country. Insurgency in the act of suicide attack and kidnapping in the north-east caused by the militant Islamic group has rendered about 2.5million people homeless and has crippled economic activities in the region (World Economic Forum, 2019). Insecurity poses some threat to life and properties of foreign investors. Poor electricity provision damages machinery and equipment due to electricity outage and voltage fluctuation. Limited access to finance, poor communication network and poor transport links makes it more difficult for businesses to operate as they delay delivery and shipping products. These inadequacies limits inter-sectorial quality of production, restricts manufacturing sector competitiveness, innovation and trade openness. Low savings and capital formation reduces economic growth rate in Nigeria.

Aim and Objectives of the Study

The aim of this study is to analyze the impact of foreign direct investment on real sector performance in Nigeria. The specific objectives of this work are to;

a) examine the impact of foreign direct investment on the manufacturing and agricultural sector output respectively in Nigeria

b) investigate the influence of exchange rate on the manufacturing and agricultural sector output respectively in Nigeria;
c) analyze effect of remittance on manufacturing and agricultural output respectively in Nigeria, and
d) assess the impact of trade openness on the manufacturing and agricultural sector output respectively in Nigeria.
e) Assess the impact of GDP on manufacturing and agricultural sector output respectively in Nigeria

LITERATURE REVIEW

Theoretical Framework

Neoclassical Theory of Investment

This theory was introduced first by Solow and Trevor Swan in 1956. It exert that economic growth of any economy is enforced by labor, capital and technology. The theory explains investment behavior in fixed business with regards optimal capital accumulation which is determined by relative prices of factors of production. The neoclassical economist in this theory stipulated that the rate of investment is determined by the speed with which firms adjust their capital stocks towards the desired level. The fixed business investment includes the purchase of machines, construction of new factors, warehouse, office building etc. It is believed that so much time is required to build and install new machines, construct new factories, warehouses etc., and the firm cannot immediately achieve the desired level of capital stock. Therefore, the firms have to decide with what rate or speed per period it makes adjustment in their stock of capital to attain the desired level of capital stock. Firms use capital along with labour to produce goods and services for sale in the market. In deciding about the amount of labour and capital to be used for production the firms are guided by not only the prices of these factors but also the contributions they make to the production and revenue of the firms.

The neoclassical economists stressed that the addition to the stock of capital in an economy is determined by marginal product of capital (MPK) and user cost of capital. The firms try to maximize profits or maximize the present value. Therefore, as the value of marginal receipt exceeds the user cost capital, it will be profitable for the firm to add to its stock of capital. Profit is maximized when stock of capital at which marginal productivity of capital equals user cost of capital. This theory in this study is relevant to investment. It is appropriate in the selection of investment that will yield the benefit of maximum output.

Structural Change Theory

This theory is also referred to as the two sector model. Introduced by Arthur Lewis in 1955 and it dominated development theory between 1960s and 1970s. Structural change theory is based on the notion that developing economies try to transform their domestic economic structures from traditional subsistence agriculture-base to modern economic oriented-base as well as to more

urbanize and industrially diverse manufacturing and service economy. The theory attempts to establish a relationship between economic growth and industrialization. The theory postulated that underdevelopment result due to resources underutilization arising from institutional and structural factors, which originated from both international and domestic dualism. Thus, it advocated for structural transformations in line with the description of the Todaro & Smith (2011). To Todaro and Smith, the process of the transformation should be pursued vigorously in such a manner that the contribution of the manufacturing sector to national income exceedingly surpasses the share of the agricultural sector to the national income. According to Jhingan (2011), manufacturing sector plays very crucial role in the economic development of developing countries. This theory followed the Lewis work that argued that the underdeveloped economy comprises of two main sectors including a traditional economy, which involves over-populated rural subsistence sector with labour surplus and a highly productive modern sector in which the labour surplus is transferred to (Udodechinyere, 2018). This model focused on labour surplus transferred from the traditional sector that leads to output growth and employment in the modern sector. Lewis postulated that when the urban wages increases by 30% or more, more workers will migrate to urban areas thereby leading to more output growth and employment via the modern sector. For development to occur; there is need to increase the contribution of the industrial sector to economic and development and decrease the share of the agricultural sector in an economy. This theory is related to the manufacturing sector output growth as an engine for economic growth and development. One of the weaknesses of this theory is that it neglects the importance of the agricultural sector contribution to economic growth and development.

The Endogenous Growth Theory

This theory was postulated as a result of the unsatisfied explanation of the Solow's model about technology as an exogenous factor of economic growth. In this view, economists try to endogenize technology in 1980s by developing the endogenous growth theory, which includes a new concept of skills, human capital and knowledge that are responsible for increase in labour productivity. Human capital has increasing rates of returns as against the physical capital, which does not. Hence, there are constant returns to capital, and there is no steady state that will be achieved in the economy. As capital accumulates, growth does not slow down; however, growth rates depend on the kind of capital the country invested in. Romer (1987) explained that technological alteration is not a manner from heaven as its degree and trends can be directed. If this view holds, technology therefore is an endogenous growth, instead of being regarded as an exogenous factor as postulated by Solow's model. Investments and human capital in the innovation are considered as very important in the process. The growth theory looked at knowledge as a public good (Romer, 1990). The new growth theory differs completely to the law of diminishing returns, because the law of diminishing returns shows a reduction in output growth if inputs increases. This theory is relevant to investment in human and physical capital. It considers knowledge and technology as important drivers to attain increase in national productivity.

Input-Output Theory

The input-Output theory was expounded in the twentieth century by Wassily W. Leontief, in which the interdependence of an economy's productive resources are noted by the products of various sectors both as a demanded commodity for final consumption and as a factor which will be used for production. It explained the inter-relationship that exist between industries in an economy as input in one industry is regarded as output of another industry. The development of the theory was focused towards evaluating and measuring the relationship that exist between major sectors of an economy. The theory proposed that all sectors of an economy are mutually dependent on one another as the output produced from one sector makes up the input of another sector in the same economy. For instance, the output from agricultural sector say maize is seen as a raw material input for the manufacturing sector for the manufacture of cornflakes, flour, starch, etc. Recognizing and harnessing the role inter-dependence of different sectors play as provided by the input-output theory is essential for greater economic growth. This theory is relevant to agricultural and manufacturing sector output growth.

Empirical Review

Orji et al (2015) considered the impact of foreign direct investment and Nigerian manufacturing sector spanning from 1970 to 2010. The study adopted ordinary least square techniques to analyze the work using foreign direct investment, private sector credit, domestic savings, and exchange rate as independent variables against manufacturing output as a dependent variable. The study found that foreign direct investment impacted negatively on the manufacturing sector. The study therefore recommends that competitive policies should be enacted by the government that will ensure proper functioning of the markets necessary to attract well targeted foreign investors in Nigeria.

Ekienabor et al (2016) assessed the effect of foreign direct investment on the manufacturing sector in Nigeria. The econometric regression model of ordinary least square was applied in evaluating the relationship between foreign direct investment and major economic indicators such as manufacturing output, exchange rate and interest rate. The model revealed a positive relationship between foreign direct investment and each of the variables (manufacturing output, exchange rate and interest rate). The study recommended that government should step up efforts in attracting foreign direct investment into the sector by ensuring that investor confidence is protected.

Tams-Alasia et al (2018) studied the effect of exchange rate deregulation on the performance of the manufacturing sector of Nigeria ranging from 1980 to 2016. The work used normalized co-integration procedure to test the long run relationship, the error correction model to analyze the short run connectivity between exchange rate and the manufacturing sector outcome. The result depicts that exchange rate lack significance influence but it is positively related to manufacturing sector outcome. The recommendation of the study states that monetary authorities should focus on strengthening relevant monetary policy instruments and diversify export program.

Adebanjo et al (2019) inspected the impact of exchange rate on manufacturing sector productivity in Nigeria spanning from 1990 to 2014. The study used unit root together with co-integration analysis, granger cause-effect test and error correction model to evaluate stationarity. It was deduce from the result that inflation rate alongside capacity utilization had some positive impact on manufacturing sector productivity while exchange rate, foreign direct investment and import showed a negative signed relationship and influence on manufacturing sector productivity.

Oyedele (2014) examined the impact of foreign direct investment on the agricultural sector development of the Nigerian economy. This work employs secondary time series data which spanned 1981 to 2012, Following ADF test for stationarity and a granger causality test, the study found a relationship among the variables as affirmed by the error parameter. The study found out that foreign direct investment positively impacted on agriculture not only in the short run but also in the long run. This will also engender domestic income diversification which will boost agricultural sector. Further, political instability adversely affected agricultural investments in the long run. A fundamental recommendation is an enabling environment should be provided to attract investment on short and long term basis.

Owutuamor and Arene (2016) investigated the impact of foreign direct investment and other macroeconomic variables on agricultural growth in Nigeria from 1981 to 2014. Data was analysed using trend analyses, unit root tests, co-integration tests, ordinary least squares (OLS) regression and Granger causality tests, while the hypothesis was tested with F-test. Results revealed very low foreign direct investment inflow into agriculture, not commensurate with the share of agriculture to GDP. Findings revealed that there was unidirectional causality running from foreign direct investment in agriculture, stock of gross external debts, and variability of consumers' price index to agricultural growth, while agricultural growth was significant in granger causing macroeconomic instability. The study recommended among others that government should not involve itself in business, but seek for and encourage more foreign direct investment for the agricultural sector, encourage joint ventures between foreign and domestic investors/entrepreneurs.

According to Friday (2019) in his work remittance and economic growth nexus in Nigeria, investigated the effect of remittance and financial sector on economic growth in Nigeria. Autoregressive distributive lag (ARDL) was employed to analyze the long run and short run relationship between the variables. While in the short run, remittance was negative and significantly influences economic growth, in the long run, it was positively signed and significantly affected national output. Financial sector showed a negative relationship with economic growth.
Afolabi (2017) analyzed the influential effect of remittance and real exchange rate on tradeable and non-tradeable goods. DOLS regression technique was utilized to analyze annual data ranging from 1981 to 2013. The study revealed that remittance has a positive influence on trade agricultural, manufacturing and merchandise export sector relating to Dutch disease idea. The study recommended that significant encouragement be made for the agricultural sector and manufacturing investment spending rather than spending those remittance on consumption.

Lihua and Zhibiao (2013) explored the effect of migration and remittance on the performance of the agricultural sector in north-west China. The study adopted a cross-sectional household survey carried out in three towns and the data were analyzed using three-stage least square regression model. The finding expressed that in the short run migration consolidate labour shortages while remittance complement the loss to improve productivity.

The similar work of Ekienabor et al (2016) and Owutuamor and Arene (2016) explored the impact of foreign direct investment on real sector in Nigeria from the period of 1980 to 2016 and from 1980 to 2015 respectively. This study made an improvement by adding remittance and GDP as a variable for foreign direct investment and also extended the span of study from 1981 to 2018 to investigate the impact of foreign direct investment, exchange rate, remittance, trade openness and GDP on manufacturing sector output and Agricultural sector output in the Nigerian economy.

METHODOLOGY

The nature of the data employed in this study is secondary. The sources of data of this work are from World Bank and Central bank of Nigeria Statistical Bulletin. The range of the data employed covers the period of 1981 to 2018. This study employs Ex Post Facto research design.

MAN = F (FDI, EXCR, REMI, TOP, GDP)…… (1)
AGR = F (FDI, EXCR, REMI, TOP, GDP)……. (2)
The Non-Linear Cobb-Douglas specifications of the model are of the form:
$MAN_t = a_0 FDI_t^{a1} EXCR_t^{a2} REMI_t^{a3} TOP_t^{a4} GDPt^{a5} e^{u1t}$…… (3)
$AGR_t = \beta_0 FDI_t^{a1} EXCR_t^{a2} REMI_t^{a3} TOP_t^{a4} GDPt^{a5} e^{u1t}$ …… (4)
The estimation of the above models through the ordinary least square (OLS) requires the natural log of both sides of the models to be taken as follows:
$\log(MAN) = a_0 + a_1\log(FDI) + a_2\log(EXCR) + a_3\log(REMI) + a_4\log(TOP) + a_5\log(GDP)$…….(5)
$\log(AGR) = \beta_0 + \beta_1\log(FDI) + \beta_2\log(EXCR) + \beta_3\log(REMI) + \beta_4\log(TOP) + \beta_5\log(GDP)$…. (6)
Where: MAN = Manufacturing Sector Output
AGR = Agricultural Sector Output
FDI = Foreign Direct Investment
EXCR = Exchange Rate
REMI = Remittance Value
TOP = Trade Openness
GDP = Gross Domestic Product
a_0 = Constant Parameter
a_1-a_5 = Coefficient of the explanatory
U_{1t} = Random disturbance term
Log = Natural log notation
Based on apriori expectation a_1 to $a_5 > 0$

The logging of the variable allows for the interpretations of the coefficients via elasticity. It also ensure that the variables of high magnitude are transformed to approximately normal values.

RESULTS AND DISCUSSION

Table 1 Descriptive Statistics Results

	MAN	AGR	FDI	EXCR	REMI	TOP	GDP
Mean	2715.218	7693.524	4.24E+09	88.54421	7.69E+09	33.48132	33724.95
Median	1761.750	4772.305	1.87E+09	97.02000	1.25E+09	35.01500	23068.85
Maximum	6684.220	17544.15	5.88E+10	306.0800	2.43E+10	58.92000	69799.94
Minimum	1018.910	2303.510	1.89E+08	0.620000	2000000.	7.360000	13779.26
Std. Dev.	1793.442	5159.287	9.44E+09	87.13692	9.48E+09	14.89277	19577.60
Skewness	1.274876	0.610525	5.270558	0.802954	0.598301	-0.146831	0.734360
Kurtosis	3.100300	1.837097	30.99076	2.974313	1.453725	1.901448	1.996416
Jarque-Bera	10.30955	4.501904	1416.446	4.084371	6.052803	2.047336	5.010169
Probability	0.005772	0.105299	0.000000	0.129745	0.048490	0.359275	0.081669
Sum	103178.3	292353.9	1.61E+11	3364.680	2.92E+11	1272.290	1281548.
Sum Sq. Dev.	1.19E+08	9.85E+08	3.30E+21	280935.2	3.32E+21	8206.403	1.42E+10
Observations	38	38	38	38	38	38	38

Source: Own Compilation Using E-views 10

From table 1, manufacturing sector output has a mean value of 2715.218 with a minimum value of 1018.910 and maximum figure of 6684.220. The mean of the agricultural sector output is 7693.524 with variation between 2303.510 and 17544.15. Foreign direction investment (FDI) and Exchange rate (EXCR) both have mean value of 4.24 and 88.544 respectively. FDI has a minimum of 1.89 and a maximum of 5.88 while exchange rate has a minimum of 0.62 and highest of 306.08. The mean value of remittance, trade openness and GDP are 7.69, 33.48 and 33724.95 respectively.

Unit Root Test

Table 2 ADF Unit Root Test Result Model 1

Variables	Levels	1st Difference	Order of Integration
MAN	2.606228 (1.0000)	3.869221 (0.00158)	1(1)
FDI	-3.484367 (0.0458)	-	1(0)
EXCR	-3.540328 (0.6083)	-3.540328 (0.0046)	1(1)
REMI	-1.709440 (0.7269)	-4.836626 (0.0021)	1(1)
TOP	-2.128091 (0.5138)	-4.322580 (0.0094)	1(1)
GDP	0.302011 -2.945842	-2.945842 -2.430180	1(1)

Source: Own Compilation Using E-views 10*).*

The Unit root result of model 1 in table 2 reveals that manufacturing sector output, exchange rate, remittance, trade openness and GDP were not stable at level but became stable in first difference and have integrated of order 1(1) while foreign direct investment is stationary at level with integrated of order 1(0). The variables are mixed series, we therefore proceed with ARDL bound test to ascertain the co-integration of the variables.

Table 3: ARDL BOUND TEST

Test Statistic	Value	K
F-statistic	4.854694	4
Critical Value Bounds		
Significance	**I(0) Bound**	**I(1) Bound**
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Source: Own Compilation Using E-views 10

From the above table 3, the F-statistics of 4.854694 is above the upper band of 3.49 at 5%. This signifies that the variables analysed in the model have long run relationship. Hence, the result becomes certain that there exists a long run relationship among the variables investigated in the model. This study further investigated the relationship between manufacturing sector output and foreign direct investment using error correction model (ECM).

Table 4 Parsimonious ECM Result MODEL

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MAN(-1))	1.143688	0.157982	7.239376	0.0000
D(MAN(-2))	-1.804709	0.216047	-8.353338	0.0000
D(FDI)	9.29E-08	4.38E-08	2.122260	0.0598
D(FDI(-1))	-4.84E-07	1.01E-07	-4.787286	0.0007
D(FDI(-2))	-1.74E-07	7.02E-08	-2.473322	0.0329
D(FDI(-3))	-1.51E-07	4.30E-08	-3.520929	0.0055
D(EXCR)	7.213253	2.618755	2.754459	0.0203
D(EXCR(-1))	-4.623839	2.379114	1.943513	0.0406
D(EXCR(-2))	-6.458748	2.377389	2.716741	0.0217
D(REMI)	-3.30E-08	1.75E-08	-1.885427	0.0887
D(REMI(-1))	1.93E-07	4.08E-08	4.738831	0.0008
D(REMI(-2))	1.12E-07	3.32E-08	3.357988	0.0073
D(REMI(-3))	1.27E-07	2.84E-08	4.481764	0.0012
D(TOP)	-5.317147	3.883697	-1.369094	0.2009
D(TOP(-1))	-15.30638	4.762760	3.213763	0.0093
D(TOP(-2))	-13.53217	4.176230	3.240283	0.0089
D(TOP(-3))	-10.38045	3.556804	2.918476	0.0153
D(GDP)	0.143808	0.038873	3.699397	0.0009
CointEq(-1)	-0.309699	0.060954	5.080876	0.0005

Adjusted R-squared	0.922744	S.D. dependent var	561.7484
S.E. of regression	156.1380	Akaike info criterion	13.23869
Sum squared resid	365686.3	Schwarz criterion	14.09166
Log likelihood	-206.0578	Hannan-Quinn criter.	13.52958
Durbin-Watson stat	2.472362		

Source: Own Compilation Using E-views 10

The above parsimonious error correction model in table 4 depicts the relationship between manufacturing sector output and foreign direct investment in Nigeria. The result shows a negative and significant relationship after one time lag of manufacturing sector output and foreign direct investment. However, the relationship between manufacturing sector output and exchange rate is positive and statistically significant. Likewise, the relationship between manufacturing sector output and remittance which reveals a positive and statistically significant. Trade openness and manufacturing sector output's relationship also reveal a positive and statistically significant. The coefficient of the ECM is -0.3097 and it is statistically significant. This means that, there is a long run stable relationship among variables in the model. The coefficient of the ECM indicates the

adjustment speed in the occurrence of disequilibrium. Specifically, about 31 percent of disequilibrium in the previous and current year is corrected within a year. The Adjusted R^2 is 0.9227, this implies that variation in manufacturing sector output is accounted by 92 percent changes in foreign direct investment, exchange rate, remittance, trade openness and GDP in Nigeria within the period of study.

Model 2 Analysis

Table 5 Unit Root Test

Variables	Levels	1st Difference	Order of Integration
AGR	-1.525093	-5.683974	
	(0.8025)	(0.0002)	1(1)
FDI	-3.484367	-	1(0)
	(0.0458)		
EXCR	-3.540328	-3.540328	1(1)
	(0.6083)	(0.0046)	
REMI	-1.709440	-4.836626	1(1)
	(0.7269)	(0.0021)	
TOP	-2.128091	-4.322580	1(1)
	(0.5138)	(0.0094)	
GDP	0.302011	2.945842	1(1)
	(-2.945842)	(-2.430180)	

Source: Own Compilation Using E-views 10

The Unit root test result of model 2 in table 5 reveals that Agricultural sector output, exchange rate, remittance, trade openness and GDP were not stable at level but became stable after first difference. Hence, they are 1(1) series. However, foreign direct investment was stable at first level, which makes it a 1(0) series. Having established that the variables are mixed series, we therefore proceed with ARDL bound test to ascertain the co-integration of the variables.

Table 6 ARDL BOUND TEST

Test Statistic	Value	K
F-statistic	6.30560	4
Critical Value Bounds		
Significance	**I(0) Bound**	**I(1) Bound**
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Source: Own Compilation Using E-views 10

From the above table 6, the F-statistics of 6.30560 is greater than the upper band of 3.49 at 5%. This means that the variables investigated in the model have long run relationship. Therefore, the result is evident that there exists a long run relationship among the variables analyzed in the model.

Table 7 Parsimonious Error correction model result model 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(AGR(-1))	-0.028293	0.105779	-0.267473	0.7927
D(FDI)	14.87261	104.6988	1.393254	0.0138
D(FDI(-1))	-13.40406	133.9332	-1.018423	0.0246
D(FDI(-2))	-13.26278	111.3611	-1.196718	0.2500
D(EXCR)	0.738091	2.848064	0.259155	0.7990
D(EXCR(-1))	-26.90570	4.356236	-6.176364	0.0000
D(EXCR(-2))	-29.17627	4.344989	-6.714924	0.0000
D(REMI)	-8.56E-09	2.26E-08	-0.378941	0.7100
D(REMI(-1))	-6.19E-08	2.35E-08	-2.635575	0.0187
D(REMI(-2))	-4.44E-08	2.35E-08	-1.891179	0.0781
D(TOP)	-15.89738	5.489967	-2.895715	0.0111
D(TOP(-1))	19.76633	6.527593	3.028120	0.0085
D(TOP(-2))	13.96420	5.259812	2.654887	0.0180
D(GDP)	-1.69E-93	6.527593	1.04E-07	0.9871
D(GDP(-1)	0.120052	0.13932	0.861672	0.3959
CointEq(-1)*	-0.715074	0.083831	-8.529959	0.0000
Adjusted R-squared	0.755140	S.D. dependent var		488.0658
S.E. of regression	241.5114	Akaike info criterion		14.11509
Sum squared resid	1108227.	Schwarz criterion		14.82610
Log likelihood	-231.0140	Hannan-Quinn criter.		14.36053
F-statistic	7.990311	Durbin-Watson stat		2.114486
Prob(F-statistic)	0.000026			

Source: Own Compilation Using E-views 10

The short run relationship of the model reveals the relationship between Agricultural sector output and foreign direct investment in Nigeria. Specifically, the coefficient of foreign direct investment is -13.40406 and it is negative after the period of lag one. This means that, an increase in foreign direct investment will reduce agricultural sector output by 13.40%. Likewise, the relationship between exchange rate and agricultural sector output, as -26.9057 is the coefficient of exchange rate. A 1% increase in exchange rate reduces agricultural sector output by 26.9%. Remittance also have a negative coefficient of -6.19E-08 after lag one which implies that a 1% reduction in remittance will increase agricultural sector output by 6.1%. However, the coefficient of trade openness after lag one is 19.76633. It implies that a 1 % rise in trade openness invariable increases agricultural sector output by 19.8% and the co-efficient is GDP is 0.12. The adjusted R^2 is 0.755140. This attest that 75% variation in agricultural sector output is accounted for by foreign direct investment within the period of the study. The adjustment speed which is captured by the ECM coefficient is -0.715074. It signifies that 71% of any disequilibrium is adjusted within a year. Again, the ECM (-1) coefficient is statistically significant and implies a valid and stable short run equilibrium relationship.

CONCLUSION AND RECOMMENDATIONS

Foreign direct investment has proved to be vital and played a pivotal role to Nigeria's economic growth and towards achieving development. It is necessary to increase the domestic inflow of foreign direct investment in Nigeria as this work have shown the significant effect of foreign direct investment on real sectors of the economy especially agriculture and manufacturing output. From the result, foreign direct investment, given the establishment of strong effective and efficient internal structures; legal, political and financial as well as the availability of infrastructures will improve the performance of the real sector in Nigeria. The study recommends the following:

i. The Nigerian government should through the Central bank of Nigeria and other related regulatory agencies enforce the minimization of exchange rate volatility or fluctuation to ensure the availability of foreign currencies in the country. This is because, stability of exchange rate will help stable the Nigerian currency against other currencies of the world and in turn provide value for the country's currency.
ii. The government should adopt import justification strategies to increase its export revenues and thereby increasing external reserves, which will reduce the pressure on the naira.
iii. Although we found foreign direct investment to be negatively related to real sector output in Nigeria, this unhealthy relationship can be reversed if the country receives increased foreign direct investment inflows into critical sectors that support the necessary inputs and raw materials needed by the local industries. Foreign companies that kill local productive and manufacturing efforts should not be allowed to operate in the local business environment.
iv. The government should engage in public private partnership in increasing its infrastructure stock and thereby reduce the cost of doing business in the country and improve productivity.

v. The Nigerian government should focus more on increasing infrastructures, open policies through trade liberalization as a long term plan. Trade restriction should be reduce and appropriate incentive implemented so as to boost the real sector performance.
vi. The Nigerian government at all levels through the financial institutions should provide inputs and loans to private sectors for investment at subsidized rate and such loans and inputs be made available at the right time. This will facilitate entrepreneurship in the real sector and improve the performance of the sector.
vii. Since increase in remittance improves real sector productivity, the government should focus on facilitating and providing incentives on the transfer of more remittance through official channels. The Central Bank should in its directives also state strict sanctions including withdrawal of operating licenses shall be imposed on any individual or institutions found to be aiding, abetting or directly contravening these guidelines. Priority should be given to improving the deficiency of the financial sector, correcting dual exchange rate practices and unofficial transfer of remittance. This should be done by strengthening institutional framework, promoting entrepreneurship and curbing corrupt practices so as to gain the full benefit of remittance.
viii. Adequate security should be in place in Nigeria to guarantee potential and existing investors of their safety and the safety of their investment.
ix. The government need to do some level of population control in the country and reduce the pressure on unemployment and insecurity caused by lack of opportunities for the fast growing population.

CONTRIBUTIONS TO KNOWLEDGE

This work added to knowledge by improving on what previous scholars have done in the sense that, remittance and GDP was incorporated as a variable for foreign direct investment and also extended the span of study from 1981 to 2018 to investigate the impact of foreign direct investment, exchange rate, remittance, trade openness and GDP on manufacturing sector output and Agricultural sector output in the Nigerian economy.

REFERENCES

Adebanjo, J. F., Oluasegun, E. A., Festus, A.,Peter, O. (2019). Impact of Exchange rate on the Manufacturing Sector in Nigeria. *International Journal of Mechanical Engineering and Technology,10(2), 1568-1583 http://www.iaeme.com/IJMET/issues.asp*.

Afolabi, A. (2017). Remittance Inflows, Real Exchange Rate Movements and Sectoral Performance in Nigeria. *European Journal of Economics and Business Studies,3(1) 78-88*.

Central Bank of Nigeria (2005). *Statistical Bulletin.* Abuja: CBN.

Central Bank of Nigeria (2010). *Statistical Bulletin.* Abuja: CBN.

Dogruel, S.,Izmen U. (2010). Changes in Exchange Rate and the Performance of the Manufacturing Sectors in Turkey. *Topics in Middle Eastern and African Economic,12,1-17*.

Ekienabor, E., Aguwamba, S., Nuruddeen, L. (May 2016). Foreign Direct Investment and Its Effect on the Manufacturing Sector in Nigeria. *International Journal of Scientific and Research Publications, 6(5),* 671-679.

Friday, A. (2019). Remittance and Economic Growth Nexus in Nigeria: Does Financial Sector Development play a Critical Role. *International Journal of Management, Economics and Social Sciences, 8(2), 116-135*.

Hymer, S. H. (1976). *The MNE and International Business.* Cambridge, MA: MIT, Press.

International Monetary Fund (2006). Making the Global Economy Work for All.

Jhingan, M. L. (2011). History of Economic Thought. Vrinda Publications (P) Ltd.

Lihua, Li; Chenggang, W., Eduardo, S. (2013). Migration, Remittance and Agricultural Production in Small farming system in Northwest China. *China Agricultural Economic Review, 5(1), 5-23 http://dx.doi.org/10.1108/17561371311294739*.

Ogu, C. (2019). Foreign Direct Investmant and Exchange Rate in Nigeria. *Global Journal of Applied Management and Social Sciences. 16, 132-145* .

Oji-Okoro, U., Adetunji, E., Abba, S. (2015). FDI trade and its effect on agricultural development in Nigeria: Evidence from time series analysis. *International Journal of Management Science and Business Administration. 1(1), 28-40*.

Okaro, C. (2016). Foreign Direct Investment and Real Sector Inflow of Nigerian Economy. *Journal of Policy and Development Studies (JPDS)*, 128-139.

Oloyede , B. B. (2014). Impact of Foreign Direct Investment on Agricultural Sector Development in Nigeria, (1981-2012). *2Kuwait Chapter of Arabian Journal of Business and Management Review, 3(1)*, 14-24.

Orji, A., Anthony-Orji, O. I., Johnson, N. E. (2015). Manufacturing Output and Foreign Direct Investment in Nigeria: A New Evidence. *International Journal of Academic Research in Economics and Management Sciences, 4(3)*, 16-28.

Owutuamor, Z. B., Arene, C. J. (2016). The Impact of Foreign Direct Investment (FDI) on Agricultural Growth in Nigeria (1979-2014). *Review of Agricultural and Applied Economics Acta Oeconomica et Informatica*, 40-54.

Romar, P. M. (1990). *Endogenous Technological Change.* Chicago: Journal of Political Economy; University of Chicago Press.

Romer, P. M. (1987). Growth Based on Increasing Returns Due to Specialization. *American Economic Review, American Economic Association, 77(2), 56-62*.

Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. *Journal of Economics, 70 (1)*, 65 – 94.

Tams-Alasia, O., Olokoyo, F, Okoye, L. U. (2018). Impact of Exchange Rate Deregulation on Manufacturing Sector Performance in Nigeria. *International Journal of Environment, Agriculture and Biotechnology, 3(3), 994-1001 http://dx.doi.org/10.22161/ijeab/3.3.36*.

Todaro, M. P., & Smith, S. C. (2011). Economic Development Eleventh Edition.(M) Singapore: Pearson Education .

Ududechinyere, C. (2018). An analysis of the effect of manufacturing sector on the growth of the Nigerian economy. *Journal of Business and Management (IOSR-JBM), 20(4), 34-46*.

UNCTAD. (2009). *World Investment Report 2009.* Geneva, Switzerland.

UNCTAD. (2015). *World Investment Report. Investors Nationality: Policy Challenges.*

World Bank. (2004). *World Development Indicators.* Washington D.C. .

World Bank Annual Report. (2009). Global Development Indicators. *Washingto D.C.*

World Economic Forum. (2019). Global Competitiveness Report. *Geneva*.