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Growth Effects of Domestic and Foreign Investment in Emerging Economies: The Nigerian Experience

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Abstract. This study investigates the effects of domestic and foreign investment on the Nigerian growth within a five-variate autoregressive distributed lag (ARDL) model covering the period from 1981 to 2018. With the aim of controlling the problem of variables omission bias, the study includes some control variables. The finding suggests the presence of a long-run relationship among domestic investment, foreign direct investment (FDI) and economic growth in Nigeria. More specifically, the result shows that FDI does not significantly influence output growth in short-run, albeit FDI's impact is significant in the long-run. This implies that foreign funds are put into investment that mature within short period and which can easily be repatriated from the country with the profit generated. Thus, there is need for government to ensure fund from foreign investors are channelled to sectors that have long-run linkage with the country's growth. Also, investment was found to be an important indicator that drives growth in the long-run. It means that government should encourage private investment by creating an enabling environment for investment to thrive. However, the adverse effects of domestic investment on growth in the short-run attest to the crowd-out effects of FDI on domestic investment in the country. The study suggests the need for government to ensure amiable and conducive environment for investors to operate and conduct their day-to-day business activities.

Keywords: Domestic investment, FDI, output growth, labour, exchange rate, Nigeria.

1. Introduction

In the last decades, foreign capital flows mainly in form of foreign direct investment (FDI) has increased tremendously into the emerging and developing countries. One of the major achievements of FDI inflows is that it has assisted the growing capital requirements to enhance the growth of economic activities as a greater height and also help in stabilizing the macroeconomic indices of an economy. Also, the inflows of direct investment relieve the strain on balance of payment disequilibrium (Ullan, Shah and Khan, 2014). Its influence on economic growth and development of developing countries has also been through the channel of technological transfer from the developed countries to the developing countries. According to Choong and Lim (2009), they argued that FDI influences development indices of beneficiary countries at both micro and macro levels. For instance, at the micro level, FDI inflow supports spill over of technology, manpower training and development of manpower skills etc. At the macro level, it is helpful to the real sectors of the recipient countries as it boost domestic investment, trade, employment, human capital development, and economic growth, among others (Ullan, Shah and Khan, 2014).

Further, the connection between domestic and foreign investment is germane to the development of an economy as they cause one another in an economy. Specifically, an increase in domestic investment results from an increase in private investment whereas an increase in government investment leads to an improvement in development infrastructures which will result to low cost in business expenses (Alimi and Alese, 2017). Ndikumana and Verick (2008) note that an improvement in domestic investment attracts more foreign capital flows because of high investment returns. The role of FDI inflow towards the domestic investment of recipient countries is uncertain because it can either crowd-in or crowd-out domestic investment. The former is beneficial to the host country while the latter is meaningless to the FDI beneficial nation.

The Nigerian economy has benefitted tremendously in FDI inflows mainly coming from investing countries like United States, China, United Kingdom, Netherland and France (Nordea, 2020). The total inflow of FDI to Nigeria in 2019 is US$3.3 billion, which amounted to a 48.5% drag in contrast to the total amount of US$6.4 billion recorded in 2018 (UNCTAD, 2020). In recent times, the country's FDI increased by US895.4 million in the second quarter of 2020 compared to an increase of US$276.0 million in the first quarter of 2020 (Central Bank of Nigeria, 2020). Within the period of 1981 till date, FDI inflow peaked at US$3.1 billion in the fourth quarter of 2012. However, the total amount of FDI to the size of the Nigerian's economy is relatively low as the country only has her FDI to GDP greater than 1% in 1989(1.81%), 1993(1.92%) and 1996(1.17%) respectively between 1981 and 2018 (World Bank, 2020). Despite the huge inflow of foreign investment, it has not been able to minimize the country's dependence of foreign debt. The level of public debt to GDP is high as the country recorded 20.3%, 23.4%, 25.3% and 27.2% in 2015, 2016, 2017 and 2018 correspondingly (World Bank, 2020). Thus, it is imperative to investigate the effects of both domestic and foreign investment on economic growth in Nigeria within the period of 1981 and 2018. The outcome of this study is helpful in formulating policies to attain the Economic Recovery and Growth Plan (ERGP) set by the federal government for the country. Also, the study used autoregressive distributed lag (ARDL) approach because of the small sample size of the datasets spanning from 1981 to 2018. Hence, regarding the structure of this study, the review of relevant literature is presented in section two; the third section provides the methodology; fourth section presents the empirical analysis and discussion; while the last section concludes.

2. Investment, FDI and Economic Growth: Brief Review of Literature

Various studies have investigated the connection between FDI inflows and output growth, however the issue is a long way from settled considering the blended discoveries came to. The focal point of the neo-liberal School also called the Pro-Foreign Investment School is that FDI can give critical assistance in modernizing the mechanical request for the less-developed nations. They additionally accepted that Transnational Corporations (TNCs), through their FDI, could give a significant part of the 'motor' required for economic growth in developing nations (Penrose, 1961; Chenery and Stout, 1966). Contrary to the assertions made by the dependency theorists that FDI prompts move of financial control and riches to developed countries thereby prompting a lesser monetary gains to FDI-host nations, the neo-liberals contend that FDI gives tremendous advantages to beneficiary firm and host economies of TNCs members (Matzner, 1996).

Right off the bat, they accept that FDI acquires critical western information and worth the type of unrivaled Western administration characteristics, business morals, enterprising mentalities, better work/capital proportion, and creation procedures. Besides, FDI makes conceivable industrial growth by tying firms of developing nations that hosted TNCs offshoots into world's Research and Development (R&D) networks, and hence bringing about innovation move just as giving a more noteworthy arrangement of venture funds (Fisher and Gelb, 1991). Also, FDI prompts the development of ventures by giving access to emerging markets. This development thusly gives a wellspring of new openings and animates interest for contribution from household providers. Thus, FDI presents new market entrant ahead of the domestic economies facilitating TNCs offshoots. As opposed to this presumption of the pro-foreign investment school, the dependency hypothesis advocates see FDI as the propelled watch for another innocent discretion to a new diplomacy of economic imperialism (Bailey, 1995; Ake, 1996). To them, new foreign investors' entrance into a host economy would result in 'disarticulated advancement'. They additionally stated that the integration of developing nations' economy into the global world of lasses faire economic system bring about their underdevelopment in what Wolf (1977), alluded to as "reliance causes underdevelopment".

As indicated by Aremu (2005), dependency theory keeps up that, developing nations are poor since they have been deliberately abused through: majestic disregard; overdependence upon essential items as fares to created nations; unfamiliar financial specialists' acts of neglect, especially through exchange of value mechanics; unfamiliar firm control of key monetary areas with swarming out impact of local firms; implantation of improper innovation in developing nations; presentation of global division of work to the burden of creating districts; anticipation of free advancement system designed around household innovation and indigenous speculators; twisting of the local work power through oppressive compensation; and dependence on unfamiliar capital in type of help that normally exasperated defilement and reliance disorder. In a similar vein, the dependency theorists have likewise centered on how FDI of multinational enterprises contort the economy

of developing countries. In the perspective on these researchers, misrepresentations includes the swarming out of national firms, rising joblessness identified with the utilization of capital-escalated innovation, and a stamped loss of political autonomy (Umah, 2007). It is also contended that FDIs are exploitative and imperialistic in nature, in this way guaranteeing the host nation totally relies upon the nation of origin and her capital (Anyanwu, 1993). From the abovementioned argument, dependency theorists accept that the support of developed nations by means of their FDI or some other methods can't be anticipated to deliver advantageous outcome in the developing economies.

Furthermore, economic models of endogenous development have been applied to investigate the impacts of FDI on output growth through the diffusion of technology (Barro, 1991; Barrels and Pain, 1997). FDI additionally advances economic growth through formation of dynamic relative points of interest that lead to innovative advancement (Ugochukwu, Okore and Onoh, 2013). Romer (1990) and Grossman and Helpman (1991) have adjusted Romer's (1986) model and accepted that endogenous innovative advancement is the primary engine of economic growth. Romer (1990) contends that FDI quickens economic output s through reinforcing human capital, the most fundamental factor in R&D exertion; while Grossman and Helpman (1991) stress that an expansion in competitiveness and advancement will bring about innovative advancement and improve productivity and, in this way, advance output growth over the long-run.

As opposed to all these positive determinations, Reis (2001) examined a model that explores the impacts of FDI on economic growth when anticipated returns might be repatriated. The author expresses that after the opening up to FDI, local firms will be supplanted by foreign firms in the R&D industry. This may diminish local government assistance because of the exchange of capital comes back to foreign firms. In her empirical model, the impacts of FDI on financial development rely upon the general quality of the loan cost impacts. In the event that the world financing cost is higher than local loan fee, FDI negatively affects output, while if the world financing cost is lower than residential loan cost, FDI positively affects growth. Moreover, Firebaugh (1992) records a few extra reasons why FDI inflows might be less beneficial than local venture and may even be adverse. The nation may increase less from FDI inflows than household speculation in light of the fact that multinationals are less inclined to add to government income; FDI is more averse to energize domestic business enterprise; multinationals are less inclined to reinvest benefits; they are more averse to create linkages with local firms; and are bound to utilize improperly capital-intensive methods.

FDI might be impeding on the off chance that it swarms out domestic investment and animates unseemly consumption pattern. However, FDI has observationally been found to invigorate economic growth by various economic scholars (Borensztein *et al*., 1998; Glass and Saggi, 1999). Dees (1998) argues that FDI has been significant in explaining China's growth, while De Mello (1997) presents a positive connection for some Latin American nations. Inflows of foreign investment are expected to support speculation levels. Blomstrom *et al*. (1994) submit that FDI has a direct impact on economic growth, however, there is by all accounts an edge level of pay above which FDI has beneficial outcome on growth and beneath which it doesn't. The clarification was that only nations that have arrived at a specific income level can adopt new technology and take advantage from the innovation dissemination, and consequently harvest the additional merits that FDI can offer. Past works recommend human capital as one reason for the differential reaction to FDI at various degrees of income. This is on the grounds that it takes an accomplished populace to comprehend and spread the advantages of new technology to the entire economy.

Onakoya (2012) employs a macroeconometric model comprising private demand, supply, government and external sectors to examine the existing relationship between FDI and output growth in Nigeria. Adopting a three Stage Least Squares (3SLS) approach, the researcher finds that FDI significantly drive output growth positively. Thus, suggests FDI has an important engine of growth in the country. Similarly, Jibir and Abdul (2017) examined the links between FDI and economic growth in Nigeria using a yearly dataset from 1970-2014. The cointegration test reported that FDI and economic growth has a long-run relationship within the periods considered. The findings from the Granger causality test indicate a unidirectional causality relation from trade openness to economic growth. It was concluded that FDI is one of the major instruments used to ensure transformation of the Nigerian economy. Using a quarterly time series data from 2009-2016, Sunday and Ango (2017) investigate the existing relationship between FDI and economic growth in Nigeria. The estimation approaches used are Autoregressive Distributed Lag (ARDL), Vector Error Correction Model (VECM) and Granger causality tests. The results showed that a long-run relationship exists

between FDI and economic growth in Nigeria. More so, the result of the Granger causality test reported a one-way causality relationship from FDI to output growth. While investigating the effect of FDI on output in Nigeria within the period of 1981-2013, Uremadu, Umezurike and Odili (2016) using Ordinary Least Square (OLS) and VECM tests revealed that FDI positively influence economic growth in the long-run significantly.

Omaku and Okwori (2019) using an autoregressive distributed lag (ARDL) found that although a long-run relationship exists between FDI and economic growth, but the former adversely affect output growth in Nigeria between 1981 and 2017. The result of Granger causality test indicates that FDI has a one-way causal relationship between economic growth. Giwa *et al*. (2020) investigate the economic implication of external investment flows and economic growth towards achieving the Sustainable Development Goals-17.3 in Nigeria. Using a robust Generalized Method of Moments technique which accounts for endogeneity bite and autocorrelation inherent in OLS, they discovered that labour quality directly and significantly influence real output according to theory. Likewise, it was revealed that capital intensity has a negative and significant effect on real economic growth in Nigeria.

On the second hand, extant literature has also examined the relationship between domestic investment and economic growth but with different findings due to datasets, measurements and estimations technique. Villa (2008) applies a multivariate technique to examine the nexus between output, investment and government consumption in Italy within 1950-2005. The study finds that the causality is running from domestic investment to economic growth. On a contrary, observational discoveries from Qin, Cagas, Quising and He (2006) showing causal connection between residential investment and economic growth report that the causality is running from economic growth to domestic investment. Besides, Tang, Selvanathan and Selvanathan (2008) researched the causal connection between FDI, residential investment and economic growth for the period 1988-2003 in China, by applying a multivariate VAR framework and Error Correction Model (ECM). They discovered that domestic investment and economic growth are directly related, as enhanced economic growth causes domestic investment and the other way around. It means China's gross capital formation greatly spur growth than FDI. Then again, they found that China's domestic investment and GDP do not have a lot of effect on FDI inflows over the long-run. Oyedokun and Ajose (2018) examine the links between domestic investment and economic growth in Nigeria between 1980 and 2016. The cointegration results reported an existing long-run relationship between the investment and output. The Granger causality test found that domestic investment causes real output.

3. Data, Methodology and Estimation Approach

This study used a time series data spanning from 1981-2018, which was sourced from the Central Bank of Nigeria statistical bulletin (2019) and World Development Indicators (2019). The choice of periods resulted from the need to extend the frontier of knowledge beyond the existing studies and data availability. The main dependent variable is measured by real gross domestic product indicating the rate of output growth. As for the major confounding variables, they are foreign direct investment proxy by FDI inflow to GDP and domestic investment measured by gross fixed capital formation to GDP. Other controlling variables are exchange rate and labour force.

With regards to the model specification of the links among domestic investment, FDI and economic growth in Nigeria, the study adapts and modified the model of past studies like Uremadu, Umezurike and Odili (2016), Jibir and Abdul (2017), Sunday and Ango (2017), Oyedokun and Ajose (2018), Omaku and Okwori (2019), and Giwa *et al*. (2020) among others. Following the widespread output productivity model in literature, the growth model is specified as:

$$GDP_t = \phi_0 + \phi_1 GFC_t + \phi_2 FDI_t + \phi_3 LF_t + \phi_4 EXR_t + \mu_t \quad (1)$$

Where *GDP* denotes real output growth measured by real gross domestic product growth; *GFC* represents domestic investment proxy by gross fixed capital formation to GDP; LF is labour force; EXR is exchange rate i.e. US$1 to Naira; ϕ_0, ϕ_{1-4} are parameters; *t* is time; and μ is disturbance term. In regards to the theoretical expectation, a direct relationship is expected from domestic investment, FDI and labour force to output growth. As for exchange rate, a positive and negative relationship with output is presumed for currency depreciation and appreciation respectively.

The estimation technique employed in this study is autoregressive distributed lag (ARDL). The choice of this estimator resulted from the following inherent merits which is stated as thus: (a) the test is relatively simple and also employs the Ordinary Least Squares

(OLS) technique to test the long-run relationship; (b) the existences of the co-integration is tested irrespective of whether the unit root tests of the datasets are at level or first difference or a combination of both; (c) it is more efficient for studies with small samples because of its inherent strength to accommodate few observations without being biased; and (d) it is applicable where the regressors are endogenous" (Alimi, 2017; Mesagan, Ogbuji, Alimi and Odeleye, 2020).

4. Empirical analysis and discussion

4.1 Summary statistics and correlation analysis

On the summary of a descriptive statistics, it shows the preliminary analysis employed to explain the statistical features of variables which are presented in Table I. The data on each series are summarised according to the economic variable respectively. To begin with the descriptive statistics of the mean of gross domestic product (GDP) rate, FDI, GFC, LF, EXR are depicted in the table. The average rate of GDP growth is 4.00% and it implies that the level of output grew at an average rate of 4% in Nigeria. For the average values of foreign direct investment to GDP (FDI) and gross fixed capital formation to GDP (GFC), their mean values stood at 25.63% and 10.23% respectively between 1981 and 2018. This means that the annual growth rate of FDI and GFC, grew at a rate of 23.63% and 10.23% respectively. Regarding labour force (LF) and exchange rate (EXR), the mean values are 5.14% and 78.63% respectively.

Table I: Summary Statistics

	GDP	FDI	GFC	LF	EXR
Mean	4.000021	25.63340	10.23284	5.142641	78.63379
Maximum	33.73578	397.6006	198.2305	20.48193	253.4923
Minimum	-10.75170	-68.80016	-50.33754	2.057457	0.673461
Std. Dev.	7.160042	89.12912	43.64909	4.999172	71.79462
Skewness	1.683789	2.521921	2.435481	1.749162	0.384887
Kurtosis	10.08410	10.26716	11.28628	4.819370	1.979017
Jarque-Bera	89.72395	114.1174	134.7335	22.67473	2.384315
Probability	0.000000	0.000000	0.000000	0.000012	0.303566
Observations	38	38	38	38	38

Source: *Author's computation (2020).*

Further indications on Table I show the standard deviation values as they indicate the dispersion of indices from the mean values. Correspondingly, the standard deviation of gross domestic product (GDP), foreign direct investment (FDI), and gross fixed capital (GFC) are 7.16%, 89.13%, and 43.65% while the long-run mean deviation of labour force (LF) and exchange rate (EXR) are 4.10% and 71.79%. The values of skewness and Kurtosis indicate that the variables are not normally distributed.

Table II: Correlation matrix

	GDP	FDI	GFC	LF	EXR
GDP	1				
FDI	-0.069535	1			
GFC	0.298386	-0.092473	1		
LF	-0.204949	0.225772	-0.250481	1	
EXR	0.312372	-0.136594	0.376248	-0.543408	1

Source: *Author's computation (2020).*

Table II reports the correlation analysis of the variables as it indicates domestic investment is positively correlated with real output growth but a negative coefficient was discovered between FDI and economic growth. Also, in relation with output growth, the correlation coefficients of labour force and exchange are negative and positive respectively. Likewise, the correlation analyses of the controlling variables are reported in the table. As well, the coefficients are moderate as they indicate the absence of multicollinearity problem.

4.2 Unit root and cointegration tests

The stationarity and cointegration tests of the variables are reported in this sub-section. We provide the unit root test in log levels and first difference. It is used to examine the stationarity of variables in macro economy before being used in regression. This is because variables that are non-stationary tend to have inconsistent estimates of standard errors which lead to a false reference. For this study, the Augmented Dickey-Fuller (ADF) test is employed and the results are presented in Table III.

Table III: Unit Root Test

Variables	ADF Stat at level	Critical value	ADF Stat at first difference	Critical value	Remarks
GDP	-4.722832 (0.0031)	1%-4.252879 5%-3.548490 10%-3.207094	-	- - -	Integrate of order 0
FDI	-9.067656 (0.0000)	1%-4.252879 5%-3.548490 10%-3.207094	-	- - -	Integrate of order 0
GFC	-5.772563 (0.0002)	1%-4.252879 5%-3.548490 10%-3.207094	-	- - -	Integrate of order 0
LF	-3.853740 (0.0256)	1%-4.252879 5%-3.548490 10%-3.207094	-	- - -	Integrate of order 0
EXR	-1.455494 (0.8252)	1%-4.252870 5%-3.548490 10%-3.207094	-3.906913 (0.0230)	1%-4.262735 5%-3.552973 10%-3.209642	Integrate of order 1

Source: *Author's computation (2020).*

The estimated results confirmed that gross domestic product (GDP), gross fixed capital formation (GFC), foreign direct investment (FDI), and labour force (LF) do not accept the null hypothesis i.e. they are stationary at levels [I(0)]. However, exchange rate (EXR) was found not to reject the null hypothesis at level, after several estimations on first difference, it was later found to reject the null hypothesis I(1), and this means that the variable is integration of order one [I(1)].

Afterwards, noticing that majority of the series are integration of order zero with a single variable of order one, the co-integration test is employed to examine the long-run relationship between the variables using ARDL bound test. The estimation approach is found appropriate for data with the above features. In summary, ARDL is used as it s suitable for variables at different order of integration. It is important to test a convergence in the model so as to prove if there is a long-run relationship among series. The test shows the long-run relationship among domestic investment, foreign direct investment and economic growth. Table IV presents the cointegration result as it is indicated as the F-statistics estimate.

Table IV: Long-Run Relationship Using ARDL Bound Test (1, 1, 3, 3, 4)

Test Statistic	Value	K
F-statistics (*GDP | FDI GFC LF EXR)*	5.5546	4
Critical Value Bounds		
Significance (*GDP | FDI GFC LF EXR)*	I0 Bound	I1 Bound
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Source: *Author's computation (2020).*

We found that the F-statistics of the normalized equations whose estimate at $F_{arb} = 5.5546$ is greater than the lower and upper critical bound at 1% significance level, means that the null hypothesis of no long-run relationship is not accepted at 5% significance level. Inherently, the implication of the above estimation is that there exists a long-run relationship between domestic investment FDI and real economic growth in Nigeria.

4.3 Long-run and short-run estimates

This section provides answer to the research question on the growth of domestic investment and FDI in terms of signs and magnitudes using the ARDL approach. The estimated ARDL model is a composite of short-run and long-run estimates of interrelationship among the considered series. The clear evidence of our empirical estimates of foreign direct investment (FDI), investment measured by gross fixed capital formation (GFC), labour force (LF), exchange rate (EX) on economic growth proxied by real gross domestic product growth (GDP) are depicted in Table V. The estimator automatically choose the lag length on all variables as the model was set at four to ensure sufficient degree of the freedom based on automatic selection of Akaike Information Criterion.

The short run estimate indicates that the first lag of real gross domestic product growth has positive and significant impact on the current changes in real income growth at 5%. The short-run parameter of foreign direct investment was found to be positive and statistically insignificant at 5% indicating that it does not influence changes in GDP growth. Similar result was reported for labour force but its lag two was found to be significant whereas its lag one was not. However, the coefficients of gross fixed capital and exchange rate at first lags were negative and statistically significant at 10% and 5% respectively. Thus, this means that Naira depreciation do not influence GDP growth in the short run.

Table V: Results of Estimated ARDL Model

Dependent Variable: Real GDP growth				
Selected Model: ARDL(1,1,3,3,4)				
Sample: 1981 2018				
Short-run estimates				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Δ(GDP(-1))	0.227481	0.028028	8.116205	0.0000
Δ(FDI(-1))	0.003927	0.013886	0.282762	0.7812
Δ(GFC(-1))	-0.060999	0.032861	-1.856257	0.0832
Δ(GFC(-2))	-0.042598	0.026530	-1.605667	0.1292
Δ(LF)	0.484760	0.355119	1.365063	0.1924
Δ(LF(-1))	0.503983	0.399708	1.260878	0.2266
Δ(LF(-2))	0.803583	0.237349	3.385663	0.0041
Δ(EXR(-1))	-0.129361	0.031344	-4.127151	0.0009
Δ(EXR(-2))	-0.112842	0.033441	-3.374372	0.0042
ECT(-1)	-0.542974	0.081453	-6.666117	0.0000
Long-run estimates				
FDI	0.082074	0.035346	2.376573	0.0158
GFC	0.191365	0.033533	5.706790	0.0000
LF	-0.526357	0.302481	-1.740134	0.1023
EXR	0.303591	0.077297	3.927609	0.0013
C	28.00593	4.741819	5.906158	0.0000
R-squared	0.7650	F-stat	240.82(0.000)	
Adj. R-squared	0.6372	D-Watson	1.8074	

Source: *Author's computation (2020).*

The short-run estimation results also show the error correction mechanism which measures the speed or degree of adjustment. This is the rate of adjustment at which real GDP growth changes due to changes in explanatory variables. The coefficient of the ECM is found to be negative and statistically significant at the conventional level. The ECM value (-0.5430) implied that in order to return to the long run equilibrium, it is of the opinion that the model corrects its short-run disequilibrium by 54.3% speed of adjustment.

The long-run estimates in Table V indicated that changes in foreign direct investment, gross fixed capital formation and exchange rate have positive impact on output growth in Nigeria. The result shows that the three indicators were in tandem with the theoretical expectations. In magnitude basis, a 10% increase in foreign direct investment, gross fixed capital formation and exchange rate lead to an increase in change in output growth by 0.82%, 1.91% and 2.04% respectively. However, the table reported that changes in output growth react indirectly to change in labour force, which does not conform to a'priori expectation. A 10% increase in labour force reduce change in real output

growth by 5.26%. In terms of partial significance, FDI, gross fixed capital formation and exchange rate are statistically significant at 5%, while labour force does at 10% for the reviewed periods.

Furthermore, the coefficient of determination (Adjusted-R^2) is high (0.6273) indicating that about 62.72% of the total variations in output growth was explained by the explanatory variables in the model. The overall test using the F-statistic (240.82) is statistically significant at 5% level of significance as it shows that the model is well specified and statistically significant. The Durbin Watson statistic (1.8074) shows that there is absence of serial autocorrelation in the model.

4.4 Diagnostic Test

Regarding the diagnostic tests, the study checked the estimated model for problems relating to heteroskedasticity, serial correlation, functional form misspecification, parameter stability and normality. The results from these tests are shown in the Table VI.

Table VI: Diagnostic Tests

Model	
Serial Correlation: 1.6516 [0.1629]	Normality Test: 0.5946 [0.7428]
Functional Form: 0.6633 [0.5284]	Heteroskedasticity Test: 0.3597 [0.9750]

Source: *Author's computation (2020).*

The estimated ARDL model revealed that the models passed the serial correlation test indicating that the error terms are not correlated up to order 4. At the conventional rate, the null hypothesis of normality and heteroskedasticity tests were not rejected. It implies that the error terms are normally distributed and have same variance. Similarly, the functional form test using the Ramsey RESET test was satisfactory indicating that the ARDL model is not mis-specified.

5. Discussion of Findings and Conclusion

This paper examines the growth effects of domestic and foreign investment in Nigeria using an annual time series data spanning over a period of 1981 to 2018. We employed an ARDL bound estimation approach to investigate the dynamic interaction between domestic investment, foreign direct investment and economic growth, including labour force and exchange rate as control variables. The findings show that foreign direct investment does not significantly influence output growth in short-run, albeit the impact of FDI is significant in the long-run. It indicates that, in the short-run, foreign funds are put into investment that mature within short period and which easily be repatriated from the country with profit generated. A large sunk of these funds are invested in the capital market and government securities. This attest to the submission of Aremu (2005) in reference to the dependency theory that "developing nations are poor since they have been deliberately abused through: majestic disregard; overdependence upon essential items as fares to created nations; unfamiliar financial specialists' acts of neglect, especially through exchange of value mechanics; unfamiliar firm control of key monetary areas with swarming out impact of local firms; implantation of improper innovation in developing nations; presentation of global division of work to the burden of creating districts; anticipation of free advancement system designed around household innovation and indigenous speculators; twisting of the local work power through oppressive compensation; and dependence on unfamiliar capital in type of help that normally exasperated defilement and reliance disorder". Its long-run impact on growth are in tandem with the findings of Onakoya (2012), Uremadu, Umezurike and Odili (2016), Jibir and Abdul (2017), and Sunday and Ango (2017) that FDI drives economic growth in the long-run. It negates the adverse findings of FDI and output growth by Omaku and Okwori (2019). There is need for government to ensure fund from foreign investors are channelled to sectors that have long-run linkage with the country's growth.

Meanwhile, investment was found to be an important indicator that drives growth in the long-run which implies that government should encourage private investment by creating an enabling environment for investment to thrive. The negative effects of domestic investment on growth in the short-run attest to the crowd-out effects of FDI on domestic investment in the country. The significant effects of domestic investment on long-run growth support the submission of Villa (2008), Tang, Selvanathan and Selvanathan (2008) and Oyedokun and Ajose (2018). The study suggests the need for government to ensure amiable and conducive environment for investors to

operate and conduct their day-to-day business activities. The coefficient of exchange rate denotes that Naira depreciation against US Dollar drive growth by boosting patronage of local commodities against foreign goods. The direction of labour force implies the need for human capital investment in order to drive growth positively and meaningfully. Finally, to enhance productivity and boost economic growth, government should allocates resources to human capital development and also ensure that they are efficiently utilized.

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