



## Foreign Direct Investment and Growth Nexus in Nigeria: Evidence from Kripfganz-Schneider Bounds Test

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### Abstract

*This study examines the relationship between Foreign Direct Investment on Economic Growth in Nigeria for the period 1981 to 2020, using the Bounds testing approach in Kripfganz and Schneider (2018) which generates and apply critical values that are valid and appropriate for testing the existence of a level relationship in conditional equilibrium correction models. The study variables include Gross Domestic Product, Foreign Direct Investment, and Remittances. The results from the bounds testing show the existence a statistically significant long run relationship between Foreign Direct Investment and Economic growth in Nigeria. In the short run, the changes in FDI equally have an immediate impact on the changes in GDP. The study therefore, recommends that government policies aimed at inducing FDI should be continued.*

**Keywords:** Foreign Direct Investment, Economic Growth, Bounds testing, Kripfganz-Schneider critical values

**JEL Code:** F21, F24, F43, C12

### Contribution to/Originality

This study contributes to the existing body of literature on foreign direct investment and economic growth nexus. The study, unlike the previous studies, applies a recent approach to bounds testing and finds a long run relationship between FDI and economic growth in Nigeria, with short run effect on growth.

### 1.0 Introduction

Foreign Direct Investment (henceforth, FDI) is a composite package that includes physical capital, production techniques, managerial skills, products and services, marketing expertise, advertising and business organizational processes as defined by Thirlwall (1999) and Zhang (2001). Theoretically, it is argued that FDI has important growth effects on host economies. It can boost the host country's economy via capital accumulation, the introduction of new goods, and foreign technology (according to the Exogenous Growth-theory view). It can also enhance the stock of knowledge in the host country through the transfer of skills, according to the endogenous growth theory (Elboiashi, 2011). In Africa, Nigeria is the third host economy for FDI according to data from UNCTAD (2020). FDI flows to

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Nigeria totaled around USD 3.3 billion in 2019 although, showing a 48.5% decrease when compared to the previous year (USD 6.4 billion in 2018). Countries investing in Nigeria include the USA, China, United Kingdom, the Netherlands and France among others.

Given its significance, and how it can affect economic growth of a country, either directly or indirectly, a number of studies have been conducted in this area (see for e.g.: Kolade, 2019; Okey & Amba, 2018; Okumoko et al., 2018; Awe, 2013; Basu & Guariglia, 2007 etc). Empirics have continued to adopt new techniques to reexamine the relationship between the FDI and economic growth of the host economy. Over the years a number of studies have employed the ARDL/Bounds testing approach by Pesaran, Shin and Smith (2001) for the existence of a level relationship between the FDI and economic growth (see for example: Mohammed and Nasiru, 2021; Appiah, Li and Korankye, 2019; Osuji, 2015; Ibrahim, 2015 etc).

However, in recent times Kripfganz and Schneider (2020) highlighted that the Pesaran et al (2001) bounds test which derives the asymptotic distributions of the test statistics under the null hypothesis of no level relationship and uses stochastic simulations to compute near-asymptotic critical values, is a poor approximation of the actual distributions in small samples. The finite-sample critical values tabulated in Narayan (2005) equally, is limited and the precision suffers from a relatively small number of replications in the respective simulations. To fill these gaps, Kripfganz and Schneider (2018, 2020) use response surface regressions to obtain finite-sample and asymptotic critical values that supersede the near-asymptotic critical values provided by Pesaran et al (2001) and the finite-sample critical values by Narayan (2005), among others. These set of new critical values covers the full range of possible sample sizes and lag orders, and allows for any number of long run forcing variables. It is against this background that this study seeks to empirically further examine the relationship between FDI and economic growth in Nigeria, using the conditional equilibrium correction model following the test modifications in Kripfganz and Schneider (2018).

The study can be viewed as additional evidence examining the long run relationship between the FDI on economic growth in Nigeria and the dynamics in the short run. The rest of this paper is organized into the following sections. Section 2 provides a literature review and theoretical framework. Section 3 discusses the methodology of the study where the data and the model are outlined. While section 4 presents and discusses the estimation results, conclusion is presented in section 5.

## **2.0 Literature Review**

### **2.1 Conceptual literature**

#### **2.1.1 Foreign Direct Investment**

Foreign direct investment (FDI) as defined by the OECD (2009), *is a category of investment that reflects the objective of establishing a lasting interest by a resident enterprise in one economy (direct investor) in an enterprise (direct investment enterprise) that is resident in an economy other than that of the direct investor*. Thirlwall (1999) and Zhang (2001) described the FDI as a composite package that includes physical capital, production techniques, managerial skills, products and services, marketing expertise, advertising and business organizational processes.

#### **2.1.2 Economic Growth**

Economic growth is simply defined an increase in the production of economic goods and services, compared from one period of time to another. Traditionally, this is measured in terms of Gross National Product (GNP) or Gross Domestic Product (GDP). It can also be nominal and real (when adjusted for inflation). Although since the late 1980s, economists have done extensive work on the determinants



of economic growth, empirics of economic growth have continued to seek why are some countries rich and others poor? Why do some countries experience sustained levels of high growth while others stagnate?

## **2.2 Theoretical framework**

### **2.2.1 Exogenous-growth theory of FDI and Economic growth**

The exogenous-growth theory, also referred to as the neo-classical growth model or the Solow-Swan growth model, assumes that economic growth is generated through the accumulation of exogenous factors of production, such as the stock of capital and labour. Empirical studies on economic growth using this theory normally employ the aggregate production function, as proposed by Cobb and Douglas (1928) which includes: capital input (both domestic and foreign), labour input, and the rate of technological progress, which changes over time. Studies have shown that through this framework, capital accumulation contributes directly to economic growth in proportion to capital's share of the national output. Furthermore, the growth of the economy depends on the augmentation of the labour force and technological progress. According to this theory, FDI increases the capital stock in the host country, and in turn, affects economic growth. Barro and Sala-I-Martin (1995) demonstrated that there is a positive relationship between capital accumulation and output; while Herzer, et al. (2008) have recently established that FDI stimulates economic growth by augmenting domestic investment. De Jager (2004) explains that FDI, which introduces new technology, would lead to increased labour and capital productivity, which then lead further to more consistent returns on investment, and labour would grow exogenously. Through the exogenous or neo-classical growth model, it has been shown that FDI can impact economic growth directly through capital accumulation and the inclusion of new inputs and foreign technologies in the production function of the host country (see Mahembe and Odhiambo, 2014). Thus, the neo-classical growth model shows that FDI promotes economic growth by increasing the amount and/or the efficiency of investment in the host country.

### **2.2.2 Endogenous growth theory of FDI and Economic growth**

Although, the endogenous growth theory on the other hand, postulates that economic growth is driven by two main factors: the stock of human capital and technological changes (Romer, 1994; Lucas, 1988), Nair-Reichert and Weinhold (2001) argue that the theory (taking into account long-run growth as a function of technological progress) offers a framework in which FDI can perpetually increase the rate of economic growth in the host country via technology transfer, diffusion, and spill over effects.

Both the exogenous and endogenous growth theories argue that capital accumulation or formation is an important determinant of economic growth, but differ in their treatment of technological progress. The former treats technological progress as exogenous to the model; while the latter argues that technological progress is improved endogenously – by the increase in knowledge and innovation (see for e.g. Elboiashi, 2011; Al Nasser, 2010; de Mello, 1999; and Borensztein et al., 1998 etc).

## **2.3 Empirical Literature**

Rakhmatillo et al. (2021) examine, using VAR analysis, the interaction among foreign direct investment, economic growth and employment in Uzbekistan. The study shows that foreign direct investment has a positive effect on economic growth and employment. Acquah and Ibrahim (2020), using panel data across 45 African countries, examine the relationship among FDI, economic growth and financial sector development. The study employed the two-system Generalized Method of Moment (GMM) and revealed that FDI has an 'ambiguous' effect on economic growth. The study showed that high FDI is associated with higher growth. However, argued that financial sector dampens the positive effect of the FDI on economic growth.



A number of studies equally employed the ARDL approach to cointegration to examine the relationship between the FDI and growth. Appiah, Li and Korankye (2019) investigate the contributions of foreign direct investment on economic growth in Africa. The study, in a panel ARDL approach, indicates that foreign direct investment has a positive effect on economic growth as well as a positive sign of trade openness, inflation, and labour. Bouchoucha and Ali (2019), in an ARDL model, observed the impact of foreign direct investment on economic growth in Tunisia. The empirical findings show that FDI has positive impact on economic growth in both the short and the long term. The impact of foreign-direct investment on economic growth and the role of financial development in Malaysia is studied by Alzaidy, Ahmed and Lacheheb (2017) using the ARDL and bounds testing approach to cointegration. The study found that financial development plays an essential role in mediating the impact of FDI on economic growth. The study of Goh, Sam and McNown (2017) examines the long-run relationship among foreign direct investment (FDI), exports, and gross domestic product (GDP) in selected Asian economies. Using the bootstrap autoregressive distributed lag (ARDL) to cointegration to generate and apply critical values for the ARDL test that are valid and appropriate for the data and which allow for endogeneity and feedback that may exist, the study fails to find evidence of cointegration when GDP is the dependent variable.

In a study of the Republic of the Fiji Islands, Makun (2017) examined the effect of external factors, including imports, remittances and the foreign direct investment on economic growth using ARDL approach. The study shows that remittances and foreign direct investment positively influenced economic growth both in the long run and the short run for the Fiji Islands, except import. Samantha and Haiyun (2017) similarly employed the ARDL approach to cointegration to study the impact of the foreign direct investment (FDI) on economic growth in Sri Lanka. The empirical result confirms the long run relationship between the variables. FDI positively correlates with economic growth in short run and long run.

Ibrahiem (2015) examined the relationship between renewable electricity consumption, foreign direct investment and economic growth in Egypt. The study employed Auto Regressive Distributed Lag (ARDL) bound testing approach and finds that the variables are cointegrated indicating the existence of long-run relationship among them. The study reports that both renewable electricity consumption and foreign direct investment have a long-run positive effect on economic growth. The Granger causality test shows a unidirectional causality running from foreign direct investment to economic growth.

Clark et al (2011), in a survey of empirical studies, examine the effect of FDI on income inequality and/or employment, skills, or jobs. The findings show that FDI is generally associated with positive technological spillovers, economic growth, and increasing income inequality. In another study, Basu and Guariglia (2007), using the GMM model across a sample of 119 developing countries revealed that FDI enhances both educational inequalities and economic growth in developing countries. Lumbila (2005) observed a panel analysis of the effects of foreign direct investment (FDI) on economic growth from 47 African states over two periods. The study, using a seemingly unrelated regressions (SUR) technique, opines that foreign direct investment applies a positive impact on growth in Africa.

### **3.4 FDI and Economic Growth in Nigeria**

Mohammed and Nasiru (2021) observed that foreign investment, and domestic investment has positive impact on economic growth in the long-and-short runs in Nigeria. The study, using the ARDL approach to cointegration, reports a negative impact of domestic investment on economic growth in both long-and-short runs. Kolade (2019), in another study for Nigeria, investigates the impact of Foreign Direct Investment on Economic Growth. The study, using descriptive statistics and regression analysis



technique, show that, Gross Domestic Product increases by 63% due to a 1% increase in Foreign Direct Investment. Okumoko et al (2018) examined the causal relation between FDI and growth in Nigeria, using Johansen cointegration and error correction model, and a Granger causality test. The study, however, did not find a significant positive relationship between FDI and GDP.

Okey and Amba (2018) investigate the relationship among foreign direct investment and economic growth in Nigeria, by means of co-integration and error correction methodology, the study revealed that external direct investment impacted positively and significantly on the economic growth within the study period. Equally, Sunday, Blessing and Odiye (2016), in a similar study maintained that foreign direct investment contributes a substantial impact on economic growth in Nigeria. Osuji (2015) show evidence of a long run (cointegrating) relationship between FDI and economic growth in Nigeria from bounds testing and ARDL Models. Saibu and Keke (2014) reviewed the impact of Foreign Private Investment on economic growth by means of annual time series using data from Nigeria. The study exposed that there was a substantial response of 116% and 78% from preceding instabilities between long-run economic growth and foreign private investment respectively. The results also specified that a considerable proportion of capital inflow were not productively invested though the relatively small proportion (22%) of net capital inflows invested, contributed significantly to economic growth in the Nigerian economy. The political setting was found to be negative and overcome the positive impact of foreign private investment.

Awe (2013) observed the impact of foreign direct investment on economic growth in Nigeria from 1976 until 2016. The study, using the two-stage least squares (2SLS) model, indicates a negative relationship between economic growth and foreign direct investment due to insufficient FDI flow into the Nigerian economy. Ugwuegbe, Okore and Johnson (2013) examined the impact of foreign direct on economic growth in Nigeria, revealing that foreign direct investment has substantial impact on economic growth, confirming the results in Adeleke, Olowe and Fasesin (2014).

### **3.0 Methodology**

#### **3.1 Data**

The study uses three economic variables including Gross Domestic Product ( $GDP_t$ ), Foreign Direct Investment ( $FDI_t$ ), and Remittances ( $RM C_t$ ). Annual data from 1981 until 2020 for Nigeria is employed for the analysis. The choice of period is due to the availability of the data for all the variables. The annual series are obtained mainly from the World Bank's World Development Indicator (WDI). All the variables are transformed in their log form.

#### **3.2 Model specification**

This study builds on the neo-classical growth theory which describes the maximum output that can be produced from different combinations of inputs using a given technology. The model specification in the standard Cobb-Douglas production function.

$$Y = f(K, L) \quad 1.$$

where  $Y$  is real output,  $K$  and  $L$  are physical and human capital, respectively. This can be expressed mathematically as  $Y = f(X)$  where  $X$  is a vector of factor inputs  $(X_1, X_2, \dots, X_n)'$ . This formulation is quite general and can be applied at both microeconomic and macroeconomic (i.e., overall economy) levels. Macroeconomists have found this formulation very useful for simplifying their models. To examine the relationship between FDI and economic growth, the model for this study takes the following form:

$$GDP = f(FDI, Remittances) \quad 1.$$

The econometric model equation is given below:

$$\log(GDP_t) = \alpha_0 + \beta \log(FDI_t) + \gamma \log(RMC_t) + \varepsilon_t \quad 2.$$

where  $GDP_t$  is the Gross Domestic Product

$FDI_t$  = Foreign Direct Investment

$RMC_t$  = Remittances, and

$\varepsilon_t$  = disturbance term

### 3.2.1 Autoregressive Distributed Lag (ADL) model

The existence of a long-run (cointegrating relationship) can be tested based on the Error Correction (EC) representation of an Autoregressive Distributed Lag (ADL) model. A bounds testing procedure, according to Pesaran, Shin and Smith (2001), is available to draw conclusive inference without knowing whether the variables are integrated of order zero or one,  $I(0)$  or  $I(1)$ , respectively.

Consider an ADL ( $p, q, \dots, q$ ):

$$y_t = c_0 + c_1 t + \sum_{i=1}^p \phi_i y_{t-i} + \sum_{i=0}^q \beta'_i x_{t-i} + u_t \quad 3.$$

for  $p \geq 1, q \geq 0$ , where  $y_t$  is dependent variable (here:  $GDP$ ),  $u_t$  is the innovation term.

The Error Correction (EC) representation of the equation 1. Above, is given below:

$$\Delta y_t = c_0 + c_1 t + \alpha(y_{t-1} - \theta x_t) + \sum_{i=1}^{p-1} \psi_{yi} \Delta y_{t-i} + \sum_{i=0}^{q-1} \psi'_{xi} x_{t-i} + u_t \quad 4.$$

with the speed-of-adjustment coefficient  $\alpha = 1 - \sum_{j=0}^p \phi_j$  and the long run coefficients

$$\theta = \frac{\sum_{j=0}^q \beta_j}{\alpha}.$$

An alternative parameterization of the EC representation is given below:

$$\Delta y_t = c_0 + c_1 t + \alpha(y_{t-1} - \theta x_t) + \sum_{i=1}^{p-1} \psi_{yi} \Delta y_{t-i} + \omega' \Delta x_t + \sum_{i=0}^{q-1} \psi'_{xi} \Delta x_{t-i} + u_t \quad 5.$$

Pesaran et al (2001) show that an  $F$ -statistic can be used to test the joint null hypothesis

$H_0^F: (\alpha = 0) \cap \left( \sum_{j=0}^q \beta_j \neq 0 \right)$  against the alternative  $H_1^F: (\alpha \neq 0) \cup \left( \sum_{j=0}^q \beta_j \neq 0 \right)$ .

1. If  $H_0^F$  is rejected, the  $t$ -statistic can be used to test the single hypothesis  $H_0^t: \alpha = 0$  against  $H_1^t: \alpha \neq 0$ .
2. If  $H_1^F$  is rejected, the conventional  $z$ -tests (or Wald tests) is used to test whether the elements of  $\theta$  are individually (or jointly) statistically significantly different from zero.

There is statistical evidence for the existence of a long run (cointegrating relationship) if the null hypothesis is rejected in all the above cases. However, the distributions of the test statistics in steps 1 and 2 are nonstandard and depend on the integration order of the independent variables.

### 3.2.2 Kripfganz-Schneider Bounds

Kripfganz and Schneider (2018) use response surface regressions to obtain finite-sample and asymptotic critical values, as well as approximate p-values, for the lower and upper bound of all independent variables being purely  $I(0)$  or purely  $I(1)$  (and not mutually cointegrated), respectively. These critical values supersede the near-asymptotic critical values provided by Pesaran, Shin, and Smith (2001) and the finite-sample critical values by Narayan (2005), among others. The critical values depend on the number of independent variables, their integration order, the number of short-run coefficients, and the inclusion of an intercept or time trend.

The test decisions, according to Kripfganz and Schneider (2018), are:

1. Do not reject  $H_0^F$  or  $H_0^t$ , respectively, if the test statistic is closer to zero than the lower bound of the critical values.
2. Reject the  $H_0^F$  or  $H_0^t$ , respectively, if the test statistic is more extreme than the upper bound of the critical values. The test statistics in this case have the usual asymptotic standard normal (or  $\chi^2$ ) distributions irrespective of the integration order of the independent variables.

## 4.0 Results and Discussion

Table 1 below presents the results for the long run coefficients and the system's short run dynamics. The long-run coefficients, which represent the equilibrium effects of the independent variables on the dependent variable, are reported in the output section "**Long Run parameters**". In the presence of cointegration, they correspond to the negative cointegration coefficients after normalizing the coefficient of the dependent variable to unity. The result shows the long run coefficients for both independent variables  $lFDI_t$  (0.2039\*\*) and  $lRMC_t$  (0.8072\*\*\*). These coefficients are statistically significant at the 5% and 1% level of significance, respectively. The hypotheses test about the long run parameters is shown in Table 5.

The negative speed-of-adjustment coefficient -0.1754\*\* is reported in the output section "**Speed of Adjustment**". It is the feedback effect (adjustment effect) that shows how much of the disequilibrium is being corrected. The coefficient measures how strongly the dependent variable reacts to a deviation from the equilibrium relationship in one period or, in other words, how quickly such an equilibrium distortion is corrected.

**Table 1: Long run coefficients and short run dynamics of the EC model**

Dependent variable	Coefficients	Standard Error	$t$ –statistic	$p$ –value
$\Delta lGDP_t$				
<b>Speed of Adjustment</b>	-0.1754**	0.0570	-3.08	0.004
<b>Long Run parameters</b>				
$lFDI_t$	0.2039**	0.2811	0.73	0.024



$LRMC_t$	0.8072***	0.0996	8.11	0.000
<b>Short Run parameters</b>				
$\Delta IFDI_t$	0.0954**	0.0528	-1.81	0.023
constant	3.1588***	0.7098	4.45	0.000

**Source:** Authors' computation using Stata 16  
\*\*5%, \*\*\*1% level of significance

The short-run coefficients are reported in the output section “**Short Run parameters**”. They account for short-run fluctuations not due to deviations from the long-run equilibrium. The short run dynamic is captured by the differenced term  $\Delta IFDI_t$  (0.0954\*\*). The coefficient, in this system, explains the short run relationship between the dependent variable ( $IGDP_t$ ) and the foreign direct investment ( $IFDI_t$ ). The parameter measures the immediate impact the change in FDI will have on the change in GDP.

To estimate the ARDL model with optimal lag order, lag length selection criteria are employed: the Akaike's Information Criteria AIC and Bayesian Information Criteria BIC. These information criteria, model selection techniques, are used by ARDL/Bounds test for model selection. The optimal model is the one with the smallest value (most negative value) of the AIC or BIC. The ARDL model with the optimal number of autoregressive and distributed lags based on the AIC and BIC is ARDL (1, 0, 1). The result is presented in Table 2 below.

**Table 2: Lag length selection criteria for the ARDL (1, 0, 1) model**

Model	N	Null (model)	df	AIC	BIC
ARDL (1, 0, 1)	35	18.1411	5	-26.2822	-18.5054

**Source:** Authors' computation using stata 16.

The validity of the bounds test from the estimated EC model relies on normally distributed error terms that are homoskedastic and serially uncorrelated, as well as stability of the coefficients over time. Since all the terms in the EC model are stationary, the standard OLS estimator is valid and the diagnostic tests are applicable. The results for the Serial autocorrelation and Heteroskedasticity tests are presented in Tables 3 and 4, respectively.

Breusch-Godfrey LM test and Durbin Alternative for serial autocorrelation are employed. The null of hypothesis of no serial autocorrelation in the residuals up to the specified order could not be rejected in both tests. The coefficients of the  $F$ -statistics statistically insignificant at all lags. Under EC model, it is the Durbin Alternative that is appropriate as a test for serial correlation and not Durbin-Watson statistic, since the lagged dependent variable included in the model by construction is not strictly exogenous.

**Table 3: Autocorrelation test for the ARDL (1, 0, 1) model with Durbin Alternative and Breusch-Godfrey LM tests**

Lags ( $p$ )	$F$ –statistic	df	$p$ –value
<b>Breusch-Godfrey LM</b>			
1	1.466	(1, 29)	0.2357





2	0.768	(2, 28)	0.4733
3	0.520	(3, 27)	0.6721
4	0.395	(4, 26)	0.8100
<b>Durbin Alternative</b>			
1	1.268	(1, 29)	0.2694
2	0.643	(2, 28)	0.5333
3	0.420	(3, 27)	0.7402
4	0.308	(4, 26)	0.8702

**Source:** Authors' computation using stata 16.

To achieve robustness, Breusch-Pagan/Cook-Weiberg, Cameron-Trivedi and the White tests are computed for heteroskedasticity. The null hypothesis of no heteroskedasticity is rejected in all tests. The test statistics, which follow a Chi-square distribution with degrees of freedom, for all three tests are statistically significant at 1% for Breusch-Pagan/Cook-Weiberg and 5% level of significance for Cameron-Trivedi and the White tests indicating that the error term from the EC model is free of heteroskedasticity.

**Table 4: Heteroskedasticity test for the ARDL (1, 0, 1) model with Breusch-Pagan / Cook-Weisberg, White & Cameron-Trivedi's decomposition tests**

Test	$\chi^2$ –statistic	df	p –value
Cameron-Trivedi	46.88**	19	0.0004
White	29.9**	-	0.0079
Breusch-Pagan / Cook-Weisberg	25.76***	-	0.0000

**Source:** Authors' computation using stata 16.

\*\*5%, \*\*\*1% level of significance

To test the hypotheses about the long run parameters from the fitted EC model, the bounds test for the existence of a long-run (cointegrating relationship) is performed and the results presented in the Table 5 below. The table displays the coefficients of the  $F$ - and  $t$ -statistics along with their associated  $I(0)$  (lower) and  $I(1)$  (upper) critical value bounds for the null hypotheses of no levels relationship between the dependent variable and the independent variables in the EC model. These critical values, provided based on Kripfganz and Schneider (2018), are reported at the 10%, 5%, and 1% levels of significance, respectively.

**Table 5: Bounds test for level relationship with Kripfganz and Schneider (2018) critical values**

Test statistic	10%		5%		1%		$p$ –value	
	$I(0)$	$I(1)$	$I(0)$	$I(1)$	$I(0)$	$I(1)$	$I(0)$	$I(1)$
$F$ (6.236***)	3.371		4.159		6.036	7.542	0.008	0.026
	4.427		5.357					
$t$ (-3.877**)	-2.581	-	-2.926	-	3.629	-4.387	0.036	
	3.239		3.620				0.039	

**Source:** Authors' computation using Stata 16

\*\*5%, \*\*\*1% level of significance



The results indicate that the null hypotheses of no levels relationship between the GDP and FDI is rejected, meaning there is a long run relationship between the variables. Both  $F$  (6.236\*\*\*) and  $t$  (-3.877\*\*) are more extreme than the upper bound of the critical values at the 5% and 10% levels of significance. The asterisks indicate that the coefficients of  $F$  and  $t$  associated with the  $p$ -values are statistically significant.

## **5.0 Conclusion**

This study examines the nexus between Foreign Direct Investment and Economic growth in Nigeria. The study employs, by means of cointegration, the bounds testing technique of Kripfganz and Schneider (2018), with asymptotic critical values that supersede the near-asymptotic critical values provided by Pesaran, Shin, and Smith (2001) and the finite-sample critical values by Narayan (2005), among others for the period 1981 until 2020. The study reveals the existence a statistically significant long run relationship between Foreign Direct Investment and Economic growth in Nigeria. In the short run, the changes in FDI equally have an immediate impact on the changes in GDP. Although remittances by Nigerians abroad is included in the model to control for the additional sources of foreign capital into Nigeria, its short run effect could not be captured in the model.

The study concludes therefore, in Nigeria, the growth of FDI inflow provide economic growth in the long run. According to data from the CBN (2021) foreign Direct Investment in Nigeria, averaged 933.66 USD Million from 1990 until 2020. Looking forward, a decline in this area can undermine growth. In recent times, a number of the foreign companies in Nigeria (with large employment capacity e.g., Unilever) have moved to the neighbouring Ghana due insecurity and poor infrastructure. The ongoing Covid-19 pandemic and the uncertainty around it is equally responsible for the decline of the FDI inflow recently. There is the need to take favourable measures to attract more foreign investments which has the potential to grow the economy.

Therefore, this study recommends that:

- i. Government policies aimed at inducing FDI should be continued.
- ii. Government policies towards promoting economic growth should include the levels of foreign direct investments in the Nigeria.
- iii. FDI with growth potentials should be given priority.

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