



## DISAGGREGATED FOREIGN CAPITAL INFLOWS AND ECONOMIC GROWTH IN A DEVELOPING ECONOMY: EMPIRICAL EVIDENCE FROM NIGERIA

**Onyinye I. Anthony-Orji**<sup>1</sup>  
 **Anthony Orji**<sup>2\*</sup>  
 **Jonathan E. Ogbuabor**<sup>3</sup>  
 **Emmanuel O. Nwosu**<sup>4</sup>

<sup>1,2,3,4</sup>Department of Economics, University of Nigeria, Nsukka, Nigeria

<sup>1</sup>Email: [onyinye.anthony-orji@unn.edu.ng](mailto:onyinye.anthony-orji@unn.edu.ng) Tel: 08030884157

<sup>2</sup>Email: [anthony.orji@unn.edu.ng](mailto:anthony.orji@unn.edu.ng) Tel: 08038559299

<sup>3</sup>Email: [jonathan.ogbuabor@unn.edu.ng](mailto:jonathan.ogbuabor@unn.edu.ng) Tel: 08035077722

<sup>4</sup>Email: [emmanuel.nwosu@unn.edu.ng](mailto:emmanuel.nwosu@unn.edu.ng) Tel: 07062977126



(+ Corresponding author)

### ABSTRACT

#### Article History

Received: 3 October 2018

Revised: 7 November 2018

Accepted: 5 December 2018

Published: 31 December 2018

#### Keywords

ARDL

Foreign capital inflows

FDI

Foreign private investment

Remittances

Economic growth.

#### JEL Classification:

E22, E24, F21, F23, F24, F43.

This study estimates the impact of Foreign Capital Inflows on economic growth in Nigeria from 1986Q1 – 2014Q4. For empirical analysis, the paper adopts the Auto-Regressive Distributed Lag- Unrestricted Error Correction Model (ARDL-UECM). Empirical evidence from the ARDL-bounds Co-integration Test shows there is co-integration between Economic Growth (proxied by Growth rate of Real Gross Domestic Product) and Foreign Capital Inflows (disaggregated into Foreign Direct Investment, Foreign Portfolio Investment and Workers' Remittances) in Nigeria. The results also show that apart from remittances, other components of Foreign Capital Inflows have significant impact on Economic Growth in Nigeria. The study therefore recommends that Government should, alongside other economic activities, provide an enabling economic environment for more Foreign Capital Inflows. Also the financial sector should be improved so that workers' remittances can be efficiently tracked through the banking channels and also put to productive use. This is how to minimize the negative impact of workers' remittance inflows into Nigeria.

**Contribution/Originality:** This study contributes to existing literature as one of the recent empirical papers that focus on the disaggregated impact of Foreign Capital Inflows on economic growth in Nigeria using the framework of the Auto-Regressive Distributed Lag- Unrestricted Error Correction Model (ARDL-UECM).

### 1. INTRODUCTION

Economists have long recognized capital as one of the core elements in economic development. Thus, capital deficient countries have always resorted heavily to foreign capital as a means of supplementing domestic resources to achieve economic targets. It has also been argued in the literature that international capital flows have the potential to bring a variety of benefits to recipient countries, which include augmenting domestic savings, reducing cost of capital through better allocation of risks, transferring technology and managerial expertise, stimulating employment opportunities as well as promoting economic growth. Other economists also opine that the flows of capital into low income countries are desirable because they augment domestic resources, help in providing resources to close savings – investment gap in the recipient countries and enhance the activities of entrepreneurs (Rajan, 2006; Chorn and Siek, 2017; Mowlaei, 2018).

Since independence, Nigeria like other developing economies, has been trading with the rest of the world being an open economy. This has deeply encouraged movement of human, material and financial resources across the borders of different nations, including Nigeria. Like other developing countries, Nigeria has adopted policies over the years to encourage foreign capital inflows. According to [World Bank Report \(2011\)](#) foreign capital inflow (including foreign direct investment and foreign portfolio investment only) Nigeria was reported at ₦7.7 billion in 2011. Nigeria has constantly ranked among the largest recipient of foreign capital in Africa, particularly, foreign direct investment, with about \$120 billion as proceed of foreign investments in the last decade ([Udoidem and Udofot, 2014](#)). Growth in cross-border securities investments mushroomed in the 1980s as portfolio investment became increasingly attractive and lending by international banks declined. In the early 1990s, the switch from bank lending to portfolio investment drove up securities prices. Foreign capital surged into certain developing countries, rising rapidly as a share of Gross Domestic Product. In addition, Nigeria is one of the largest recipient of remittances in Sub-Saharan Africa ([Hernandez-Coss and Bun, 2007](#)).

Then, here comes the pertinent question, "Does foreign capital play a helpful or non-helpful role economic growth in Nigeria economy?" Existing global guidelines supporting the inflow of capital suggest that first, capital should flow from rich countries to poor countries. This is because the marginal product of a unit of capital is much higher in poor countries that are typically labor abundant and capital poor according to the neo classical model. Second, it is expected that foreign capital should be attracted by more productive poor countries since they have the ability to use it better. And third, because of the collateral benefits of foreign capital such as encouraging technology transfers. As a result of this, foreign capital has been associated with increase in productivity, creation of jobs and more employment opportunities, reduction in unemployment and at large, more economic growth. On the other hand, it has also been argued that foreign capital inflows can lead to reducing the competitiveness of the economy through overvaluation of the exchange rate. Also by reducing manufacturing exports and undermining its traditional role as a stepping stone to growth ([Fambon, 2013](#)).

Against this background, this paper seeks to investigate the impact of disaggregated foreign capital inflows on economic growth in Nigeria. The subsequent sections are organized as follows; section 2 reviews some related literature, while the methodology is presented in section 3. In the same vein, section 4 looks at the results and analysis, while the paper concludes with section 5.

## 2. BRIEF REVIEW OF LITERATURE

Some studies have been conducted to investigate the relationship between foreign capital inflows and different macroeconomic variables. However, the empirical link between foreign capital inflow and economic growth has been a subject of intense debate in modern development literature. For example, [Waheed \(2004\)](#) in an attempt to integrate the major empirical studies on the macroeconomic impact of foreign capital on the economies of the developing countries, found that the growth experience of many capital-deficient developing countries has not been very satisfactory, and as a result, they accumulated a large external debt and are now facing serious debt servicing problems. [Ghose \(2004\)](#) investigated capital inflows and investment in 37 developing countries over the period, 1983-1997. The study employed regression analysis and found that the emergence or growth of surplus saving in many developing countries could thus be seen as a consequence of exogenous capital inflows and their effects are not unambiguously positive for developing countries. In a different study, [Nkoro and Uko \(2012\)](#) examined the dynamic interactions among aid, remittance, FDI and external debt and growth of the Nigerian economy using the concept of co-integration, variance decomposition, and impulse response analysis and block exogeneity tests. The results of the co-integration test revealed that a causal relationship exists between foreign capital inflows and economic growth in Nigeria. Similarly, [Iloh \(2012\)](#) examined the relationship between Foreign Capital Inflows and investment in Nigeria during 1980 – 2008, using OLS method and exogenous variables include; degree of openness to financial trade, human capital, financial sector development, level of income and level of government interference.

The study found that there is a strong correlation between investment and foreign capital inflow during 1980 -2008 in Nigeria, and this has the implication that policies that help to attract more foreign capital investment is directly or indirectly a boost to total domestic investment in Nigeria.

In another study, Fambon (2013) indicate that domestic capital stock and FDI have positive and significant impacts on economic growth in the short and long terms, when he adopted the autoregressive distributive lag approach to co-integration and time-series data to analyze the impact of foreign capital inflows on economic growth in Cameroon. In addition, foreign aid was also found to have a positive but an insignificant impact on growth. While the impact of the labour force on growth was significantly negative in both terms, a result that may be attributable to the fact that Cameroon is a developing country with an unlimited supply of labour whose increase has a detrimental effect on the country's growth.

Furthermore, Orji *et al.* (2014) analyzed the inflow of foreign capital into West African Monetary Zone (WAMZ) Countries and its impact on growth, for the period 1981 – 2010. Using seemingly unrelated regression (SUR) estimation procedure, the results showed that foreign direct investment exerted more significant and positive impact on output growth in Nigeria and Gambia. The empirical result also showed that overseas development assistance contributed more to the economic growth of Ghana and Sierra Leone, whereas remittances foster more growth in Liberia's economy. In Guinea, none of the inflows impacted on the economic growth.

Ifeakachukwu and Ditimi (2014) focused on the relationship between capital inflows and exchange rate in Nigeria for the period 1986 to 2011 employing both granger causality and error correction modelling techniques. The result shows the magnitudes of the impact of capital inflows (FDI and FPI) are very minute on exchange rate, unlike the international oil price, which had a strong depreciating impact on current exchange rate. In a more recent study, Ajide and Raheem (2015) investigated the determinants of foreign capital flows into Nigeria. The results revealed the useful roles of domestic productivity and foreign interest rate in encouraging ODA, FDI and REM flows respectively. This was significant both in the short and long run.

From the studies reviewed above, it is clear that some studies have been conducted on foreign capital inflows and economic growth nexus in different economies, including Nigeria. However, this current study takes a holistic analysis of disaggregated foreign capital inflow components and their individual impact on growth both in the short-run and long run. Again, the paper also adopts a relatively new methodology. This is the main contribution of this paper to the literature.

### 3. METHODOLOGY

#### 3.1. Theoretical Framework

The theoretical underpinning of this study stems mainly from the insights and techniques of two-gap model, which have shown the need for foreign capital inflow to supplement domestic savings, foreign exchange and government revenue to foster economic growth and other economic opportunities.

The two-gap model is savings gap and foreign exchange gap. Thus the model:

$$g = \frac{s}{k} + \frac{b}{k}$$

Where  $g$  represents economic growth,  $s$  is the saving rate,  $b$  stands for foreign exchange rate, and  $k$  is the capital stock.

The model simply means that for any economy to grow, they must save and invest. But if domestic savings and foreign exchange (savings gap and foreign exchange gap) are inadequate to support the level of growth, then the two-gap models predict a positive role of foreign capital, whereby it augments domestic savings and increases foreign exchange earnings and hence enhances economic growth.

3.2. The Model Specification

In order to address the key objective of this study, we specify model 3.1 below:

$$RGDP_t = \alpha_0 + \alpha_1 FDI_t + \alpha_2 FPI_t + \alpha_3 REM_t + \alpha_4 TO_t + \alpha_5 REXCH_t + \mu_t \dots \dots \dots 3.1$$

Where:  $RGDP_t$  = Real Gross Domestic Product;  $FDI$  = Foreign Direct Investment;  $FPI$  = Foreign Portfolio Investment;  $REM$  = Remittances;  $TO$  = Trade Openness;  $REXCH$  = Real Exchange Rate;  $t$  = trend variable. The study makes use of quarterly secondary data ranging from 1986Q1 – 2014Q4. The data were obtained from the Central Bank of Nigeria Statistical Bulletins 2015 and the National Bureau of Statistics. The econometric software used for the analysis of this work is the Eviews 9.

To investigate the impact of foreign capital inflows on economic growth in Nigeria, this work utilizes the Auto-Regressive Distributed Lag (ARDL) bounds test approach developed by Pesaran *et al.* (2001). The procedure for the ARDL bounds testing approach has two steps. The first step is testing for long-run relationship using OLS and the next step is the estimation of long and short-run parameters by using the error correction model (ECM). A dynamic unrestricted error correction model (UECM) can be derived from the ARDL bounds testing by way of a simple linear transformation. The UECM integrates the short-run dynamics with the long-run equilibrium without losing any long-run information. Therefore, equation 3.2 is specified using an ARDL - UECM framework.

$$\begin{aligned} \Delta RGDP_t = & \alpha_1 + \pi_1 RGDP_{t-1} + \pi_2 FDI_{t-1} + \pi_3 FPI_{t-1} + \pi_4 REM_{t-1} + \pi_5 TO_{t-1} + \pi_6 REXCH_{t-1} + \\ & \sum_{i=1}^k \beta_{1j} \Delta RGDP_{t-j} + \sum_{j=0}^k \beta_{2j} \Delta FDI_{t-j} + \sum_{j=0}^k \beta_{3j} \Delta FPI_{t-j} + \sum_{j=0}^k \beta_{4j} \Delta REM_{t-j} + \sum_{j=0}^k \\ & \beta_{5j} \Delta TO_{t-j} + \sum_{j=0}^k \beta_{6j} \Delta REXCH_{t-j} + e_{it} \dots \dots \dots 3.2 \end{aligned}$$

Where:  $\beta_{1j}$  to  $\beta_{6j}$  = coefficients of the short-run parameters (where  $j= 1,2,3,\dots,n$ )

$\pi_1$  to  $\pi_6$  = coefficients of the long-run parameters

$\Delta$  = first difference operator

$K$  = lag order selected by Akaike’s Information Criterion (AIC)

$e_{it}$  = white noise assumed to be normally distributed.

3.3. Justification of the Model

There are a number of co-integration approaches that can be applied to test for co-integration among time series variables (Gujarati, 2004). Some principal techniques to co-integration are Engle and Granger (1987) two-step residual base procedures and Johansen and Juselius (1990). Maximum likelihood reduced rank procedure. However, these two techniques require a certain degree of pre-testing to ensure that all the regressors are I (1). In addition, Engle and Granger (1987) and Johansen and Juselius (1990) techniques do not provide robust results in finite samples (Narayan, 2005).

This empirical research employs the ARDL / Bounds Testing methodology of Pesaran and Shin (1999) and Pesaran *et al.* (2001) which has a number of features that many researchers feel give it some advantages over conventional co-integration testing. For instance:

- It can be used with a mixture of order of integration of I (0) and I (1) data but cannot be used if any is I (2).
- It involves just a single-equation set-up, making it simple to implement and interpret.
- Different variables can be assigned different lag-lengths as they enter the model.
- It is best fitted in a small sample (Giles, 2013).



Statistic serial correlation test and cumulative sum (CUSUM) and cumulative sum of squares (CUSUMQ) tests respectively.

## 4. PRESENTATION AND ANALYSIS OF RESULTS

### 4.1. Pre-Diagnostic Tests

#### 4.1.1. Unit Root Test Result

It is pertinent to verify the stationary property of the variables before employing the use of the ARDL bounds test approach in order to ward-off the generation of spurious regression. The test is carried out to know whether the mean value and variances of the variables are time invariant that is constant over time, in other words fixed over time. The unit root test for stationarity is applied using the Augmented Dickey Fuller (ADF) test at 5% critical value and the null hypothesis being that the series has a unit root if the t-statistics is less than the critical value at 5%, otherwise the study reject it. The summary of the ADF unit roots results for the variables are reported in table 4.1.

**Table-4.1. Unit Root Test Result summary**

Variables	ADF stat at level	crit.value at 5%	ADF stat at first difference	crit.value at 5%	Order of Integration
LnGFDI	-1.796215	-3.452764	-4.783949	-3.451184	I(1)
LnFPI	-5.038773	-3.451184	-	-	I(0)
LnRGDP	-0.351844	-3.447383	-8.107385	-3.451184	I(1)
LnGREM	-2.898426	-3.441330	-4.172945	-3.451184	I(1)
LnTO	-2.319294	-3.450807	-7.269080	-3.451184	I(1)
REXCH	-2.293807	-3.442712	-8.004617	-3.451184	I(1)

Source: Researchers' computation from Eviews' results

From table 4.1, it can be observed that LnRGDP, LnGFDI, LnGREM, LnGTO and REXCH were stationary at first difference while LnFPI was integrated at level. This means that these variables were integrated of order zero and order one; I(0) and I(1). None of the variables is I(2). The variables were tested basically at 5% critical value, but all the variables were stationary at the three critical values of 1%, 5% and 10%. The results obtained from ADF test fulfilled the underlying conditions required for ARDL bound testing proposed by Pesaran *et al.* (2001) instead of the conventional (Johansen and Juselius, 1990) co-integration method. To this effect, the co-integration estimation will be done under ARDL bound framework to test the sufficient condition for the error correction model after satisfying the stationary requirements.

#### 4.1.2. Co-integration Test

Co-integration refers to the existence of a long-run equilibrium between two or more time series variables, which are individually non-stationary in their form (Gujarati *et al.*, 2012). In order to confirm if the adopted models have empirically meaningful relationships, the co-integration check becomes indispensable. This is evident in our variables above which have been integrated of order zero [I(0)] and order one [I(1)], confirming to the sufficient condition for Unrestricted Error Correction Model (UECM) in an attempt to examine the long-run relationship. In these models, the study verify for the long-run relationship between the dependent variables and any of the independent variables. If the variables have different trend processes, they cannot stay in fixed long-run relation to each other and by implication no justifiable ground for inference based on standard distributions.

**Table-4.2. ARDL-bound Co-integration Test Result Summary for RGDP**

Test statistic	Value	K	Level of Significance	Bound critical values	I(0)	I(1)
F-statistic	6.048614	5	1%	3.41	4.68	
	6.048614	5	5%	2.62	3.79	
	6.048614	5	10%	2.26	3.35	

Source: Researchers' computation from Eviews' results

From table 4.2 above, the F-statistic for bound test is 6.048614, which clearly exceeds the critical value for the upper bound at the 5 % level of significance ( $6.048614 > 2.623.79$ ). Thus, the null hypothesis of 'No long run relationship' is rejected to establish that, long run association run from FCIs' and economic growth in Nigeria. Hence, conclude that there is a long run relationship between foreign capital inflows and economic growth in Nigeria. In other words, the variables: LnRGDP, LnFDI, LnFPI, LnREM, LnTO and REXCH have long run association.

4.1.3. Serial Correlation Test

Table-4.3. Breush – Godfery LM test Statistic

MODEL	F-Statistic	PROB. VALUE	PERCENTAGE (%)
LnRGDP	0.247651	0.7606	76.06

Source: Eviews Result Output

**RGDP:** The p-value of the F-statistic (0.7606) is greater than the significance level that we are testing, (i.e. 5% or 0.05), hence, we accept the null hypothesis and conclude that there exists no serial correlation of the error terms.

4.1.4. Stability Test Summary

The stability of the model was tested using the cumulative sum (CUSUM) test and cumulative sum (CUSUM) of squares test. As shown in figures 1 and 2, the tests confirmed our models to be stable as their blue lines were within the two red lines of the CUSUM and CUSUM of squares stability test.

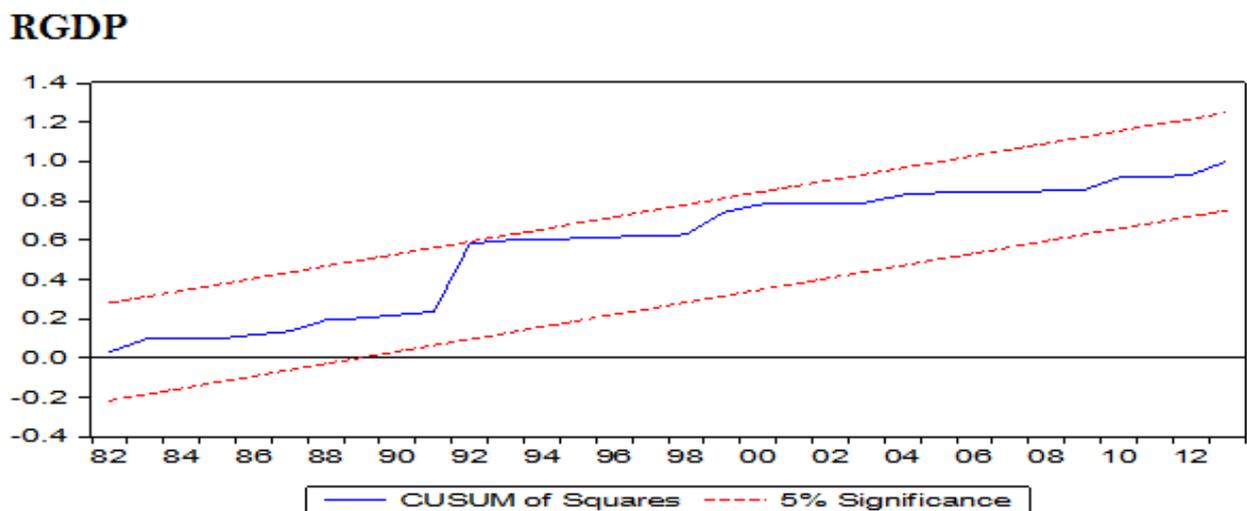
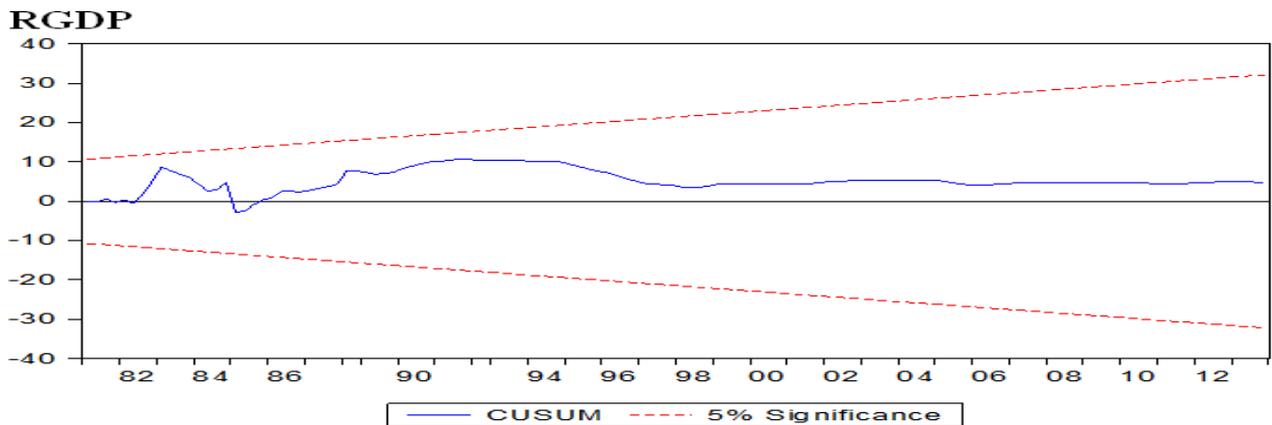


Figure-1. Graphical result of CUSUM test for RGDP

Source: Eviews Result Output

#### 4.2. Model Estimation and Interpretation

In this model RGDP is the dependent variable while FDI, FPI, REM, TO and REXCH are the independent variables. Ln is the log operator.

**Table-4.4.** Long run model regression result

ARDL (3, 1, 0, 0, 0, 1, 0) chosen based on AIC. Dependent variable = LGRGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.328979	0.942663	12.018058	0.0000
LnFDI	0.169763	0.079128	2.145418	0.0344
LnFPI	0.052825	0.025663	2.058399	0.0422
LnREM	-0.074834	0.060103	-1.245095	0.2160
LnTO(-1)	0.064421	0.015697	4.103965	0.0001
REXCH	0.002147	0.000865	2.482660	0.0147

R-squared = 0.999838  
 Prob (F-statistic) = 0.000000  
 Durbin-Watson stat=1.909210

From the regression result as shown in table 4.4, the coefficient of the constant (C) is 11.328979. This shows how much LnRGDP is bound to increase the influence of the individual explanatory variables. Also, the result of the coefficient of LnFDI is 0.169763, which means that, on average, a percentage rise in foreign direct investment (FDI) inflow leads to about 0.17% increase in economic growth (LnRGDP), and its t-statistic (2.145418) is positive and statistically significant. This confirms to a priori expectation. This finding supports the results of [Fambon \(2013\)](#) who found that FDI inflow is positively related to growth in Cameroon. This result therefore shows that through FDI the transfers and presence of technology and managerial expertise from abroad to Nigeria can contribute to growth.

For LnFPI, the coefficient is 0.052825. This means that on average, foreign private investment (FPI) inflow increases economic growth (LnRGDP) by 0.05%. Its t-statistic (2.058399) is positive and statistically significant. This also confirms to a priori expectation and supports the result of [Olotu and Jegbefume \(2011\)](#) who found positive impact of FPI on growth rate for Nigeria. However, the relatively small size of the coefficient could be explained by the fact that although Nigeria is one of the highest recipients of FDI in sub-Saharan Africa, foreign portfolio investors are sometimes discouraged to invest in Nigeria due to corruption, fear of losing their capital to risk and uncertainty associated with investing in Nigeria, insider-trading, political instability, negative market forces, market inefficiency, lack of local companies' exposure to the scrutiny of the international capital markets, etc. Furthermore, the continued sovereign debt distress in developing economies which sustains uncertainty and volatility in global financial markets, is likely deterring FPI to Nigeria.

The coefficient of LnREM is -0.074834. This suggests that over the period of study, a percentage (%) change in remittance (REM) inflow, on average, is associated with about 0.07% statistically significant reduction in economic growth (LnRGDP). This result confirms the study of [Sharafat \(2014\)](#) who found a significant negative relationship between workers' remittances and economic growth Pakistan. This could be explained by the fact that keeping track of workers' remittances in Nigeria has been difficult because many of such inflows do not go through the right channel and there is also some concern that remittance payments are geared towards financing consumption, terrorism and or money laundering in Nigeria, thereby making growth performance of the economy weak.. On the other hand, the coefficient of LnTO (-1) is 0.064421. This reveals that a percentage (%) change in the one-period lagged value of trade openness (LnTO (-1)) will increase economic growth (LnRGDP) by 0.06%. Its statistical value (4.103965) is negative and statistically significant. Also, the coefficient of Real exchange rate (REXCH) is 0.002147. This shows that a unit change in REXCH in favour of the naira, leads to a statistically significant average increase of about 0.002147% in LnRGDP. This evidence shows that good and sound competitive exchange rate policies are useful in accessing foreign exchange that can support the importation of capital equipments that are required to attain the desired level of investment that would foster economic growth.

Finally, the R<sup>2</sup> is about 0.99%. That means that the model explained about 99% of the total variation in economic growth (LnRGDP).

**Table-4.5.** Short-run Error Correction Model for the chosen ARDL (3, 1, 1, 1, 1, 0, 0: chosen based on AIC). Dependent variable = LGRGDP

Variables	Coefficients	t-stat	p-value
<b>C</b>	10.820324	6.843780	0.0000
D(LnRGDP(-1))	0.110222	3.990093	0.0001
D(LnRGDP(-2))	0.077547	3.454736	0.0008
D(LnRGDP(-3))	0.030754	1.531821	0.1281
D(LnFDI)	0.065468	3.522259	0.0006
D(LnFPI)	-0.001058	-1.425494	0.1572
D(LnREM)	-0.008748	-6.343274	0.0000
D(LnTO(-1))	0.015258	0.806906	0.4213
D(REXCH)	-0.000164	-1.342211	0.1826
ECM(-1)	-0.014106	-2.314710	0.0227

Source: Eviews Result Output

The estimated equation 3.4 explored the nature of the short run dynamics and the error correction model as presented in table 4.5. The error correction model measures the speed of adjustment of the model towards equilibrium from short run shocks. The lagged coefficient of the ECM is negative (-0.014106) and statistically significant ( $t_{\text{value}} = -2.314710$ ), with p-value of (0.0227) less than 5%. This means that if LnRGDP is at disequilibrium, it will converge back to equilibrium at a speed of 1.1% ( $0.011017 \times 100$ ) after every four months in a year in Nigeria or 1.1% of disequilibrium from shocks of previous years in RGDP converges back to long run equilibrium every quarter in Nigeria. This entails that the whole system will get back to long run equilibrium at the speed of 1.1% quarterly.

## 5. POLICY RECOMMENDATIONS

In view of the findings of this study, the following recommendations are made to improve the contribution of capital inflows to economic growth in Nigeria. Firstly, the Federal government should create an enabling environment in Nigeria to encourage more inflow of foreign investments. Favourable incentives should be given to foreign investors. Nigeria's economic policies should be investment-friendly since foreign investments have tendency of growing our economy. Secondly, the financial sector should be improved so that workers' remittances can be efficiently tracked through the banking channels and also put to productive use. This is how to minimize the negative impact of workers' remittance inflows into Nigeria. Thirdly, the Federal government should also enact policies that will make local investments to thrive so as to complements foreign capital inflows. To support this, the federal government should continue with on-going reforms in the money market and capital market and also grant more credit to the private sector since this is likely to boost local productivity in the country. Fourthly, Foreign Capital Inflows and other investments should be channeled to productive ends to contribute to economic growth and job creation (Anthony-Orji *et al.*, 2018). This will help in closing the savings-investment and encourage economic growth in Nigeria.

## 6. CONCLUSION

This research has provided reliable evidence of the impacts of foreign capital inflows (FDI, FPI and REM) on economic growth, using ARDL / Bounds Test methodology of Pesaran and Shin (1999) and Pesaran *et al.* (2001). The approach was also used to determine the long run relationship between foreign capital inflows and economic growth in Nigeria. The conclusion to be drawn from this study is that Foreign Capital Inflows can support economic growth in Nigeria if properly channeled and adequately utilized. However, to achieve high and sustainable economic growth, remittances should not only be spent on consumption alone but also invested to stimulate economic growth in Nigeria.

**Funding:** This study received no specific financial support.

**Competing Interests:** The authors declare that they have no competing interests.

**Contributors/Acknowledgement:** All authors contributed equally to the conception and design of the study.

## REFERENCES

- Ajide, K.B. and A.J. Raheem, 2015. Determinants of foreign capital flows into Nigeria: A structural var analysis. *Business and Management Research Journal*, 5(1): 1- 13.
- Anthony-Orji, O.I., A. Orji, J.E. Ogbuabor and E.O. Nwosu, 2018. Foreign capital inflows and unemployment in Nigeria: A new evidence from ARDL-bounds testing approach. *International Journal of Business, Economics and Management*, 5(6): 176-188. Available at: <https://doi.org/10.18488/journal.62.2018.56.176.188>.
- Chorn, S. and D. Siek, 2017. Impact of foreign capital inflows on economic growth of developing countries. *Journal of Finance and Economics*, 5(3): 128-135.
- Engle, R. and C. Granger, 1987. Co-integration and error correction: Representation, estimation, and testing. *Econometrica*, 55(2): 251-276. Available at: <https://doi.org/10.2307/1913236>.
- Fambon, S., 2013. Foreign capital inflow and economic growth in Cameroon. (No. 2013/124). WIDER Working Paper.
- Ghose, A.K., 2004. Capital inflows and investment in developing countries. (No. 2004-11). International Labour Office.
- Giles, D.E., 2013. ARDL models. *Econometrics Beat: Canada. Dave Giles' Blog*. Available from <http://davegiles.blogspot.com/>.
- Gujarati, D.N., 2004. *Basic econometrics*. 4th Edn., India: Tata McGraw Hill Publishing Company.
- Gujarati, N.D., D.C. Porter and G. Sangeetha, 2012. *Basic econometrics*. 5th Edn., New Delhi: Tata McGraw Hill Education Private Limited.
- Hernandez-Coss, R. and C.E. Bun, 2007. The UK-Nigeria remittance corridor : Challenges of embracing formal transfer systems in a dual financial environment. World Bank Working Paper No. 92. Washington, DC: World Bank. © World Bank. Available from <https://openknowledge.worldbank.org/handle/10986/6654> License: CC BY 3.0 IGO.
- Ifeakachukwu, N.P. and A. Ditimi, 2014. Capital inflows and exchange rate in Nigeria. *Mediterranean Journal of Social Sciences*, 5(7): 263-272.
- Iloh, N.C., 2012. Foreign capital inflows and investment in Nigeria. Unpublished MSc Project. Department of Economics, University of Nigeria, Nsukka.
- Johansen, S. and K. Juselius, 1990. Maximum likelihood estimation and inference on cointegration—with application in demand for money. *Oxford Bulletin of Economics and Statistics*, 52(2): 169–210. Available at: <https://doi.org/10.1111/j.1468-0084.1990.mp52002003.x>.
- Mowlaei, M., 2018. The impact of foreign capital inflows on economic growth on selected African countries. *African Journal of Economic and Management Studies*, 9(4): 523-536. Available at: <https://doi.org/10.1108/ajems-01-2018-0021>.
- Narayan, P., 2005. The saving and investment nexus for China: Evidence from cointegration tests. *Applied Economics*, 37(17): 1979–1990. Available at: <https://doi.org/10.1080/00036840500278103>.
- Nkoro, E. and A.K. Uko, 2012. Foreign capital inflows and economic growth in Nigeria: An empirical approach. *Asian Journal of Empirical Research*, 2(5): 149-161.
- Olotu, M.E. and K. Jegbefume, 2011. The place of foreign capital flows in the Nigerian economic growth equation: Evidence from foreign portfolio investment. *International Journal of Economic Development Research and Investment*, 2(3): 138 – 144.
- Orji, A., A.S. Uche and E.A. Ilori, 2014. Foreign capital inflows and growth: An empirical analysis of WAMZ experience. *International Journal of Economics and Financial Issues*, 4(4): 971-983.
- Pesaran, M. and Y. Shin, 1999. An autoregressive distributed lag modelling approach to cointegrated analysis. *Econometrics and Economic Theory in 20th century: The Ragnar Frisch Centennial Symposium*. Cambridge, MA: Cambridge University Press.

- Pesaran, M., Y. Shin and R.J. Smith, 2001. Bound testing approaches to the analysis of level relationships. *Journal of Applied Economics*, 16(3): 289–326.
- Rajan, R., 2006. Foreign capital and economic growth. Presentation by Raghuram Rajan Economic Counsellor and Director of the Research Department based on a paper written by Eswar Prasad, Raghuram Rajan, and Arvind Subramanian at a Conference Organized by the Federal Reserve Bank of Kansas City Jackson Hole, Wyoming August 25, 2006.
- Sharafat, A., 2014. Foreign capital flows and economic growth in Pakistan: An empirical analysis. *World Applied Sciences Journal*, 29(2): 193-201.
- Udoidem, J.O. and P. Udofot, 2014. Foreign capital inflows and entrepreneurship in Nigeria: The implication for economic growth and development. *International Journal of Finance and Accounting*, 3(3): 174-184.
- Waheed, A., 2004. Foreign capital inflows and economic growth of developing countries: A critical survey of selected empirical studies. *Journal of Economic Cooperation*, 25(1): 1-36.
- World Bank Report, 2011. Country statistics, Washington D.C. Available from [www.worldbank.org/en/country/nigeria/overview](http://www.worldbank.org/en/country/nigeria/overview).

*Views and opinions expressed in this article are the views and opinions of the author(s), Journal of Empirical Studies shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.*