CAPITAL INFLOWS, FINANCIAL DEEPENING AND ECONOMIC GROWTH NEXUS: THE MISSING LINK

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Abstract

The purpose of this study was to investigate direct effects of capital inflow, financial deepening on economic growth in Nigeria due to diverse contentions it stirred among researchers from 1981 to 2018 using the Autoregressive Distributive Lag (ARDL) co-integration approach. The findings from the study showed the existence of a long-run relationship between foreign capital inflows and economic growth in Nigeria. Furthermore, the ARDL regression estimate results pointed that foreign direct investment (FDI), foreign aids (FA) and financial development (FD) have a positive and significant impact on economic growth, while on the contrary, remittances exerted a negative and insignificant relationship on economic growth. Also inflation and exchange rate results showcased a negative impact on economic growth. Based on the findings of this study, we conclude that capital inflows (FDI, & FA) positively impact the Nigerian economy both in the short run and long-run within the study period via sound financial deepening, thus concluding that capital inflows are a potential driver of economic growth in Nigeria. Consequently, the study recommends that the central bank should employ a more restrictive monetary policy to suppress the adverse effect that could emanate from inflationary pressure which can distort proper channeling of capital inflows into the country.

Keywords: Capital inflows; economic growth; ARDL model; Nigeria; bounds co-integration test

JEL: C22, O47, C51, P33, O55

1. Introduction

Beyond any doubt numerous studies have been explored on the nexus between capital inflows and economic growth across the world. This is owing to the benefits accrueable to these inflows. As a matter of fact, there is no gainsaying that capital inflows into any country have the potential to trigger the process of economic development and guarantee the much-required growth, be it in a very developed or developing economy. To corroborate the aforementioned, study by Igan and Tan (2015) noted that foreign capital inflow in a country operates as a mechanism of transporting scarce capital to a recipient country and later loosen the financial constraints that link to home industries that are additional dependent on external finance. Similarly, studies have shown that access to foreign funds can induce the augmentation of investment resources, relaxation of credit constraint and consequently, the facilitation of the much-required growth. Amazingly, a study by Filippetti and Archibugi (2015) detected that developing countries which Nigeria is inclusive benefit a lot from capital inflow via technology transfer than the developed ones.

Disappointingly, regardless of the above assertion made by the study of Filippetti and Archibugi (2015) and the large inflows of foreign capital into Nigeria and Africa at large coupled with the purported advantages accrued to them; Nigeria is yet to still benefit from the dividends accruable to these inflows. Despite the theoretical proposition, which suggests that inflow of capital is supposed to exert a significant positive effect on economic growth and development of the recipient country. It is in this wise that several studies have paid sharp attention to unfold the principal causes

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why foreign capital inflows have not yielded the much needed economic growth of recipient in developing countries especially those in sub-Saharan Africa.

In contrast, most developing countries Nigeria inclusive has experienced dampened capability of production, high rate of unemployment, obsolete technology, inefficient allocation of resources, low level of domestic savings, and as a result, it has obstructed the much-needed innovations and investment for increased economic growth. Astonishingly, outcomes from the rising trends of studies on capital inflows-growth nexus among various researchers in both developing economies have given mixed results.

For instance, the studies by Dincer (2004), Karamelikli and Bayar (2015), Chigbu (2015) and a more recently the study by Ikepesu (2019) revealed that capital inflows exerts a positive impact on economic growth. On the contrary, the studies by Kentor (1998), Okoro and Atan (2013), Osuji (2015), Pattito *et al.* (2002), Ekanayake and Chatrna (2010) among others, are of the view that for capital inflows exhibit an inverse effect on economic growth. Some authors such as Ikechi (2015) and Anochie *et al.* (2015) believe that capital inflow does not have an essential impact on the economic process. Disappointingly, most of those studies that have researched on this relationship have analyzed capital inflows in isolation empirically, and their results have been with mixed results.

Amazingly, most of these studies have had one or more flaws such as the usage of dis-aggregated capital inflows instead of an inclusive capital inflow in a regression. This in turn may have created some econometric problems ranging from the omission of crucial variable bias, the inconsistency of parameters, application of non-stationary time series, and wrong techniques of analysis to mention a few. Frankly speaking, some studies are of the view that capital inflows via foreign direct investment (FDI), remittances (REM), and foreign aids (FA) to impact on economic growth effectively, they ought to fulfill certain preconditions which include the availability of enabling macro-environment, inclusive capital inflow, sound institutional framework and a well deepened financial system amongst others according to (Agbloyor *et al*., 2014, Hermes & Lensink, 2003, Durham, 2004).

Not-forgetting the position of literature, these studies have not been able to establish the real effect of capital influx on economic growth, particularly in Nigeria. The above is so because, previous researches have been done in a dis-aggregated form instead of considering an inclusive capital inflow, plus some form of absorptive capacity, thereby making such robust study scarce in Sub-Saharan Africa including Nigeria. In addition to the fact that not too many studies have been done on the inclu-sive capital inflows coupled with the inclusion of key absorptive capacity, there is therefore the need to undertake this study in developing economies: with Nigeria as a case study most especially because it is often referred to as the giant of Africa. Consequently, the objective of this study is to investigate and explore on the missing link between capital inflows, financial deepening and economic growth in Nigeria. To achieve the above stated objective, the study intends to utilize an Autogressive Distributive Lagged (ARDL) approach. No wonder, despite numerous inflows of capital in Nigeria and Sub-Saharan Africa, the region has remained underdeveloped.

In this study, we intend to contribute to the existing literature by exploring the interrelation between capital inflows, financial deepening and economic growth in Nigeria in order to accentuate the missing link. The reason for this is as follow. Firstly, is because, despite the evidence of literature in Nigeria and Africa at large, there are few or no single study to the best of the researchers' knowledge, that have utilized all the inflows indices inclusively to ascertain their effect on economic growth. Second, is that the study intends to include financial deepening as a form of absorptive capacity through which inclusive capital inflow can exert the expected influence on economic growth in Nigeria. Moreover, lastly, the study would employ Autoregressive Distributed Lag (ARDL) model and Vector Error Correction Model (VECM) to verify if there is convergence in the short run via the coefficient of the error correction term. Beyond the above, we are of the view that the outcome of this study will be necessary for policy formulation in order to

establish whether there exists a link between inclusive capital inflows and economic growth in future researches. Such that, if financial deepening, sound macroeconomic environment among other are part of the determinants of capital inflow - growth nexus, then the onus is on policymakers in Nigeria to formulate some policies based on the proven facts.

The remaining part of this study will be structured into five sections after a brief introduction. Section 2 discusses the literature review and showcases relevant empirical studies. Section 3 provides an account of the data used in the empirical analysis and model specification; Section 4 analyses, interpret and discusses the outcome of the results, and Section 5 presents some concluding remarks and proffers policy implications.

2. Literature review

The study adopted the Auerbach-Kotlikoff (AK) Dynamic Life-Cycle Simulation Model popularized by Pagano (1993). According to Baillui (2000), the AK Dynamic Life-Cycle Simulation Model explain the possible effects of financial variables (*i.e.*, financial development and capital flows) on growth in a closed economy. Consequently, making it important to analyse the capital inflows - growth nexus by using a simple endogenous-growth framework called the AK model which is an endogenous-growth model that stresses the likely effects of changes in financial variables (capital flows and financial development) on steady-state growth through their influence on capital formation. Van den Berg and Lewer (2007) pointed out that the AK model was developed as a response to the outcome of the neoclassical theory which states that, in the absence of technological development, economic growth would in the end be deemed to be equal to zero. The new growth theories are different from the neoclassical growth theories in the sense that they focused on the creation of technological knowledge and its diffusion and innovation efforts that react to economic incentives that are regarded as major engines of growth.

The relationship between capital inflows and economic growth has attracted more contention than consensus among researchers from diverse economies. While some are of the view that capital inflow exerts a positive and significant impact on economic growth; others are of the view that it exerts a negative effect. Also, few believe that capital inflows do not impact on the host country economy.

Nonetheless, different positions have been noted from the literature with respect to how capital inflows have impacted economic growth across the globe. First, is the group of researchers that believes that capital inflows impact economic growth positively. For instance, Chigbu (2015) investigated the impact of capital inflows on the economic growth of developing economies like that of Nigeria, Ghana and India from 1986 to 2012. The findings of the study revealed that capital inflows have a significant impact on the economic growth of the three countries. The results indicate a positive and significant impact of foreign direct and portfolio investment as well as foreign borrowings on economic growth in Nigeria and Ghana while workers' remittances are positively and significantly related to the economic growth of the three countries.

Similarly, Orji, Eigbiremolen and Ogbuabor (2014) examined the impact of all four different forms of foreign capital inflows on the economic growth of the West African Monetary Zone including Nigeria, Gambia, Ghana and Sierra Leone over the period 1981-2010. The empirical result for Nigeria suggests that Official Development Assistance (ODA) and FDI had significant and positive effects on the economic growth of Nigeria during the period of their investigation. However, a similar results was obtained when Ikpesu (2019) researched on this relationship between 1981 to 2016. The findings revealed that capital inflows have a positive and significant effect on the growth of Nigerian economy. This position was corroborated though in a similar study by Osinubi and Amaghionyeodiwe (2010). Their empirical results did not only reveal a long-run relationship between FDI and growth in Nigeria but also found a strong positive impact of FDI on economic growth.

Next, is another line of argument that belongs to the group of researchers who are of the position that, capital inflows exhibit a negative relationship on economic growth. First in this category is the study by Okoro and Atan (2013)

which revealed that FDI has an inverse relationship with economic growth, meaning that; FDI does not foster growth in Nigeria. Similar to the above, the study by Awe (2013) also investigated this relationship within 1976 to 2006 using the two-stage least squares (2SLS).

The results pinpointed that FDI has a negative relationship with economic growth in Nigeria. In support of Awe's findings, the study by Badeji and Abayomi (2011), further revealed a negative relationship between FDI inflow and economic growth in Nigeria despite the proposition of economic theory which expects capital inflows to exert a direct influence on economic growth.

In consonance to the above, the study by Ikechi (2015) examined the impact of foreign capital inflows on economic growth for some selected Sub-Saharan Africa via application of multiple regression technique. The study finds that, capital inflows does not significantly impact the economic growth in Nigeria and South Africa both in the short and the long run.

It was also noted that variables that appeared to be significant in the short-run became insignifi-cant in the long-run. Surprisingly, these results are in line with those obtained by the study of Anochie, Ude and Mgbemena (2015). The study by Edu, Lucky and Bassey (2015) carried out a similar research by extending their data sample and employing the Ordinary Least Square (OLS) method of estimation. The results showed that capital inflows had the expected direct relationship with economic growth, but that the effect is not significant in fostering economic growth in Nigeria.

There is a group of researchers who believe for capital inflows to exert the expected theoretical underpinning, they must have fulfilled or acquired certain absorptive capacity such as availability of enabling macro-environment, inclusive capital inflows, healthy institutional framework and sound financial development or deepening to mention a few.

First in this category; are those researchers that are of the view that for capital inflows to guarantee the needed growth rate in an economy there must be a sound macroeconomic environment which includes fiscal, trade and monetary policies. For instance, Asiedu (2002) suggests that inflation rate and exchange are one of the key yardsticks for measuring sound macro-environment in any country. According to him, these two indicators are used to measure the macroeconomic stance of a country.

More particularly, the author emphasized that inflation suffice as a rational motive of FDI to the host economy. Consistently, an economy with flexi-ble and seemingly debilitated currency attracts more foreign investment than the one with a rigid and strong currency.

As a matter of fact, if these macroeconomic policies are judiciously utilized in the right direction, they have the tendency to boost capital inflow into a country and in turn exert the desired impact on economic growth and development as corroborated by Burnside and Dollar (1997), while, in contrast has a devastating impact on countries with poor policies according to Tsikata (1998).

Another line of argument are the researches who believes that economic and political instability can be a strong factor why capital inflow into a country may not yield the expected positive and significant impact on economic growth.

For instance, the study by Guillaumont and Chauvet (2004) showcased that capital inflows could negatively depend on internal political instability and; on the other hand, they could have positive effect on external economic and political shocks, hence suggesting that capital inflows can suppress the negative effect of these shocks on economic growth. The following assertion was also confirmed by the study of Ijaiya and Ijaiya (2004).

The problem of stability in the political arena is a considerable criterion of capital inflows. This may often be attributed to the problem of credibility and po-licy reversals hinge on the political system and its volatility especially in developing countries as put by Ekpo (1997). Political instability will not only bring about capital flight rather it will discourage capital inflow via foreign inve-stment in a country among others.

There is another line of studies that show that there are differences in the growth impact of various forms of foreign capital inflows as supported by Orji *et al*. (2014). The author revealed that the results from more than one type of capital inflow contributed positively to output growth in Nigeria.

In addition to the above, some other studies present the view that for capital inflows to yield the expected positive impact on growth, the host country must have a well-developed and sound finan-cial sector which may be accounted for by the level of financial development. This means that, the financial system of the host country must have a sufficient absorptive capacity to be able to embrace the capital inflows according to Adil and Mohammed (2014).

Furthermore, the studies by Carkovic and Levine (2005) and Ocharo (2015) pinpointed that, capital inflows can help a country to broaden and deepen its financial markets, expand liquidity and equally facilitate the transfer of technology and management expertise among others.

The study by Aug (2014) pointed that, the more developed the financial system of a country is, the likelihood such country is expected to yield the benefit accruing from capital inflows towards economic development with its accompanying human capital and technological advancement.

In addition, despite the heavily skewed consensus towards possible positive effects of capital inflows on economic growth, some studies documented that the actualization of benefits is dependent on some factors (absorptive capacity) present in the domestic economy in terms of modern infrastructure, financial sector development, human capital, advanced technology and macroeconomic environments (Akinlo, 2004; Oji-Okoro & Huang, 2012; Agbloyor *et al*., 2014; Akinlo 2017).

In particular, the study by Sghaier and Abida (2013) focused on more direct evidence of ways through which (FDI) can promote economic growth in the receiving nation. The authors found that financial development is an essential prerequisite for FDI to positively influence economic growth in the countries of interest utilizing the Generalized Method of Moment (GMM) techniques for data.

Also, Korgaonkar (2012) in his research on the impact of financial development on FDI using the data of 78 countries over the period of 1980 to 2009 suggested that a weak financial sector does not attract FDI and that a well-functioning financial sector is a precondition in maximizing the benefits of the presence of FDI.

Similarly, in developed economies, the study by Yilmaz and Marius (2018) analyzed the interactions between (FDI) and financial development in the Central and Eastern European Union (1996 to 2015).

The findings showed that there was not a co-integrating relationship among capital inflows (FDI), investments of the foreign portfolio, and financial sector development, but there was a one-way causality from financial sector development to capital inflows (FDI) over the short run.

Coupled with the above, the study by Khan (2007) showed that the interaction variable between FDI and financial development is significant for growth. Subsequently, the study explained that although FDI taken individually does not have a significant effect on growth, the possible gains from FDI will only be felt in the presence of a well-developed financial sector in the receiving country.

These results are in tandem with the results of Waliu (2017). Likewise, Adeniyi *et al*. (2015) lend credence to the position that the level of financial development matters for the possible benefits that the Sub-Saharan Africa countries (including Nigeria) will reap in terms of growth returns from the presence of foreign capital flows. In their study, financial development was proxied by the total banking sector credit to the private sector and total liquid liabilities.

In the same vein, the study by Nwosa (2011) investigated the causal relationships among financial development, FDI and economic growth in Nigeria by employing data ranging from 1970 to 2009 via the use of the vector error correction model (VECM). The study showed that financial development and FDI

have a statistically significant causal influence on economic growth.

Employing the same techniques Adeniyi, Omisakin, Egwaikhide and Oyinlola, (2012) observed that there is no evidence of causal link between FDI to economic growth with financial development accompanying in Nigeria.

Also, Saibu (2014) researched on capital inflow and economic growth nexus in Nigeria by applying principal component analysis (PCA) and the Autoregressive Distributed Lag (ARDL) techniques. The study revealed that financial development and foreign direct investment exerts negative effects on economic growth in Nigeria.

As observed from the above literature review, there have been different views on the relationship between capital inflows, financial development and economic growth. While some support the positive effect, others argued that it exerts a negative effect on economic growth.

Furthermore, it is noteworthy that, most studies in Nigeria focused on the impact of one type capital inflows on economic growth, some centered on the relationship between capital inflows and economic growth without financial development while others were focused on the impact of one type of capital inflow and financial development on economic growth.

This is because, there is exist paucity of knowledge on the types of capital inflows that can contribute to growth.

To the best knowledge of the researchers, no studies focused on the collective impact of the types of capital inflows and financial development on economic growth.

Due to the aforementioned, the study attempts to fill the gap in the literature by carrying out a country-specific study on the relative impact of inclusive capital inflows and financial development on economic growth in Nigeria.

3. Data and the empirical model

The model specification will follow the model specified by Falki (2009) which is in line with the equation of endogenous growth model, with some modifications.

The modification includes the expansion of what capital inflows entail (FDI, REM, FA) and inclusion of good macro environment indicators (INT, INF, EXT) as suggested by literature.

The reason for the expansion in capital inflows component is due to the non-inclusion of other types of capital inflows which according to the best knowledge of the researchers, can hamper the extent to which variables can impact the economic growth of the country.

Thus, the endogenous growth model is stated as follows:

$$Y_t = f(A, K, L)_t \quad \text{.....} \quad (1)$$

The expanded endogenous growth model is re-written as:

$$Yt = f(A, K_d^{\alpha}, K_f^{\lambda}, L_p^{\beta})_t \quad \text{.....} \quad (2)$$

where Yt is output, K_d is the domestic capital and K_f represents foreign owned capital, L is labor force, α is the output elasticity of the domestic capital while λ represents the output elasticity of foreign capital stock, β is the output elasticity of labor force and A is total factor productivity that explains the output growth that is not accounted for by the growth in factors of production specified.

Financial deepening is measured via the ratio of the money supply to GDP, and it serves as an absorptive capacity variable in the model, while; exchange rate, inflation and interest rate were used to proxy monetary policy variables, which are key in this research; and *εt is* the error term.

Log-linearizing the endogenous growth model we have:

$$LnYt = f(LnA, LnK_d, LnK_f, LnL)t \quad \text{.....} \quad (3)$$

From the above equation, the econometric model which is the model the researchers intend to estimate can be specified as follows:

$$LnRGDP_t = \alpha_0 + \alpha_1 LnFDI + \alpha_2 LnFA + \alpha_3 LnREM + \alpha_4 LnFD + \alpha_5 INF + \alpha_6 EXR + \alpha_7 INT + \varepsilon_t \quad (4)$$

Where α'values are the unknown parameters which include: lnRGDP, lnFDI, lnFA, lnREM, lnFD,INF, EXR and INT. In particular, economic growth is measured by real GDP, while log of FDI, log of FA\and log of REM, where all represent capital inflow indices. The data used in this study were all sourced from various series of Statistical Bulletin of the Central Bank of Nigeria (CBN) and more particularly from CBN (2018) edition.

4. Results and discussion

This section covers data analysis, interpretation and discussion of the research findings. In an attempt to investigate the relationship that exist between capital inflows, financial development and economic growth, this section begins by conducting some preliminary analysis (descriptive statistics, unit root and co-integration test) on the variables employed in the study, before the major estimation proper. The descriptive statistics is as presented in Table 1.

The results of the descriptive statistics as shown in Table 1 above revealed that, the average (mean) of LRGDP is 10.27 with S.D of 0.5612. Similarly, the mean of LREM is 6.63 with S.D of 3.1791. In the same vein, the mean of LFDI is 10.99 with the S.D of 2.8792 and LAIDS is 19.83 with S.D of 1.6038. The above, the value of the skewness statistics revealed that other variables with the exception of FDI and REM are positively skewed. In addition, the Jarque-Bera statistics exhibited that the residuals of Real gross domestic product (RGDP), REM, FDI, FA, FD and exchange rate (EXT) respectively followed a normal distribution while other variables did not.

As a follow up of the outcome of the descriptive statistics of the variables, the researchers considered it necessary to check for the time series properties of the variables used.

This was done by employing the Augmented Dickey-Fuller (ADF) and the Phillip Perron test and the result is as reported in Table 2.

Table 1. *Descriptive Statistics of the Variables*

	LRGDP	LREM	LFDI	LAIDS	M2/GDP	INT	INF	EXT
Mean	10.27	6.63	10.99	19.83	14.20	12.95	19.91	88.66
Median	10.05	7.13	11.64	19.43	12.69	13.00	12.54	97.40
Maximum	11.15	9.96	14.12	23.20	21.31	26.00	72.81	306.08
Minimum	9.53	0.89	5.58	17.27	9.15	6.00	4.67	0.61
Standard Dev	0.5612	3.1791	2.8792	1.6037	3.9317	3.9751	17.777	87.1928
Skewness	0.3444	-0.4730	-0.6773	0.1391	0.5985	0.7636	1.5605	0.7991
Kurtosis	1.6301	1.7670	2.0892	2.0022	1.8289	4.548305	4.227379	2.964231
Jarque-Bera	3.7228	38245.	4.2188	1.6988	4.4401	7.4889	17.808	4.0464
Probability	0.1555	0.1478	0.1213	0.4277	0.1088	0.0236	0.0001	0.1322
Observations	38	38	38	38	38	38	38	38

Source: Adopted from E-views 9

Table 2. *Result of unit root test*

Variable	AT LEVEL					AT FIRST DIFFERENCED				
	ADF-t stat	PP - t stat	CV at 5%	*P*-val	Decision	ADF-t stat	PP - t stat	CV at 5%	*P*-val	Decision
LAID	-1.2257	-1.1958	-2.9458	0.6526	NS	-5.6646	-5.1895	-2.9458	0.0000	S
LFDI	-1.7574	-1.4204	-2.9434	0.3950	NS	-8.8176	-8.5583	-2.9434	0.0000	S
LREM	-0.7060	-0.6853	-2.9411	0.8332	NS	-7.3672	-7.3482	-2.9434	0.0000	S
M2/GDP	-1.0447	-1.0773	-2.9411	0.7272	NS	-5.7295	-5.9199	-2.9434	0.0000	S
EXR	1.8060	1.5903	-2.9411	0.9996	NS	-4.2589	-4.2178	-2.9434	0.0018	S
LRGDP	0.5798	-0.0840	-2.9434	0.9872	NS	-17.6870	-14.7266	-2.9434	0.0001	S
INT	-3.0758	-2.9789	-2.9411	0.0370	S	-	-	-	-	-
INF	-3.2097	-3.1352	-2.9411	0.0271	S	-	-	-	-	-

Source: Adopted from E-views 9

The result of the unit root test indicated that the variables were of mixed level of integration. The implication is that some of the variables (interest rate and inflation) were stationary at level while the others were differenced stationery at 5% level of significance. Prior to the co-integration test, the researchers deemed it necessary to also construct an initial VAR model to determine the lag order/length to be utilized in the cointegration test, because, it is a fundamental pre-requisite to conduct a cointegration test. The results of the lag order selection are presented in Table 3.

Table 3. *Lag order selection*

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-631.4929	NA	1024340.	36.5424	36.8996	36.66517
1	-397.4991	347.6479	68.03107	26.82852	30.02810	27.93301
2	-294.9659	105.4628	144.00134	24.62662	30.67026	26.71289
3	-117.5773	101.3649*	0.192004*	18.14727*	27.03498*	21.21531*

Source: Adopted from E-views 9

The result of the estimation of the lag structure of a system of VAR in levels indicates that all the five methods of selections (LR, FPE, AIC, SC, HQ) jointly identified lag 3 to be the most appropriate for the ARDL estimate as indicated by the asterisk in Table 3.

What follows, is the estimation of the bounds co-integration test. The results are presented in Table 4.

The results in Table 4 revealed that there is a long run linear relationship based on the value of the F-statistics which appeared to be greater than both the lower and upper bound of the estimate at 1%, 5% and even 10% significant level. This means that there is a significant long run relationship between capital inflow, financial deepening and economic growth in the long run.

Table 4. *Results of ARDL bound co-integration test*

Critical Value Bounds		
Significance	I(0) Bound	I(1) Bound
10%	2.03	3.13
5%	2.32	3.5
2.5%	2.6	3.84
1%	2.96	4.26
Null Hypothesis: No long-run relationship exists		
F = 5.862752	K = 7	

Source: Adopted from E-views 9

A sequel to the aforementioned; is the estimation of the ARDL model.

The results of the estimate are presented in Table 5.

Table 5. *Results of the ARDL estimate*

Dependent Variable: LRGDP
Selected Model: ARDL (1, 0, 1, 0, 1, 0, 0, 1)

Co-integrating Form

Variable	Coefficient	Std.Error	t-Statistic	Prob.*
D(LREM)	-0.010133	0.006029	-1.680552	0.1053
D(LFDI)	0.004874	0.010489	0.464662	0.6462
D(LAIDS)	0.016944	0.008791	1.927474	0.0654
D(FD)	0.000302	0.003513	0.086000	0.9322
D(INT)	0.001058	0.001639	0.645697	0.5244
D(INF)	-0.000940	0.000343	-2.744659	0.0111
D(EXT)	-0.000596	0.000320	-1.863499	0.0742
CointEq(-1)	-0.186870	0.056184	-3.326035	0.0027

Source: Adopted from E-views 9

Table 6. *Results of the ARDL estimate*

Dependent Variable: D(LRGDP)
Method: ARDL
Long Run Coefficients

Variable	Coefficient	Std.Error	t-Statistic	Prob.*
LREM	-0.054224	0.041532	-1.305608	0.2036
LFDI	0.142686	0.0583348	2.445440	0.0219
LAIDS	0.090675	0.036256	2.500964	0.0193
FD	0.060649	0.014281	4.246773	0.0003
INT	0.005664	0.009021	0.627845	0.5358
INF	-0.005032	0.002078	-2.421254	0.0231
EXT	0.000534	0.000809	0.659970	0..5153
C	6.618696	0.634714	10.427839	0.0000

Source: Adopted from E-views 9

Table 7. *Results of diagnosis test*

Test	F-statistic	Probability
Breusch - Godfrey (Serial correlation LM test)	1.6170	0.2055
Breusch-Pagan-Godfrey(Heteroskedasticity Test)	1.1989	0.7622
Jarque-Bera (Normality Test)	0.1554	0.9252

Source: Adopted from E-views 9

A cursory look at the results of the long run form of the ARDL estimate revealed that, REM exerts a negative but insignificant relationship with economic growth in Nigeria. Meaning that, a one percent increase in REM will lead to a 5% fall in economic growth in Nigeria. Surprisingly, the outcome corroborated the findings of Anetor (2019) who stipulated that remittance exerted a negative relationship with economic growth. The reason for the above, may not be far- fetched from the fact that most of the inflows of capital from this source are channeled towards consumption (up to 80%) rather than investment (as little as 10%) which would have fostered economic growth in return as buttressed by Adigun and Ologunwa (2017).

In addition, the results also showed that, there is a positive and significant relationship between FDI and FA on economic growth in Nigeria. The implication of the above is that, if FDI and FA increases by one percent, it will trigger economic growth by 0.143 and 0.091 percent

respectively while holding the other variable constant. Interestingly, the findings from this study are in-tandem with the research of Orji *et al.* (2014) who found that FDI and FA positively influence economic growth in Nigeria. The above, showcased that; capital inflows exerts the expected impact on economic growth in Nigeria when supported with the required level of financial development as pinpointed by Waliu (2017), coupled with the fact that financial development variable exerted a positive and significant impact on economic growth in the country.

Furthermore, the co-efficient of interest rate revealed a positive and significant relationship on economic growth. The reason for this can be attributable to the noticeable overtime hike in the monetary policy rate (MPR) in some years back to date. In addition, the ARDL estimate reveals that inflation exerted a negative and significant impact on economic growth both in the short-run and the long run, which confirms it as a key determinant of economic growth in Nigeria.

The outcome of the above findings was corroborated by the studies of Idris and Suleiman (2018) and Doguwa (2015) to mention a few. In a similar vein, the exchange rate has a negative impact on economic growth. This implies that a one per cent increase in the naira /dollar exchange rate (*i.e*. depreciate local currency) reduces economic growth by 0.001%. Conventionally, this result is contrary to *a priori* expectation of a positive impact on economic growth based on the expected rise in the volume of home made goods.

To crown the above effort up, the study went ahead to ascertain the appropriateness of the obtained results by conducting a series of diagnosis tests which include Serial Correlation LM Test and Normality test, among others. The outcome of the test is as presented in Table 7.

The results in Table 7 revealed that the serial correlation and heteroskedasticity test was passed accordingly as evidence in their *P-values (p-Val >0.05)* greater than 5% level of significance, meaning that there is absence of serial correlation and that the model is homoskedastic. The null hypotheses of the presence of serial correlation and heteroskedasticity are both rejected at 5% significant level. Equally, the normality test confirmed that all variables in the model are normally distributed.

4. Conclusion

This study investigated the relationship between capital inflows, financial development and economic growth in Nigeria spanning from 1981 to 2018. The ARDL regression estimate results showed that REM do not promote economic growth both in the long-run and the short-run, which might be owing to how the REM inflows have been channeled over the years. Furthermore, the outcome of the study established that FDI and FA growth linkage is both positive and significant in the long run. More so, the study found that financial development has a positive impact on economic growth both in the long-run and the short-run but statistically significant only in the long run. The rationale for this is that savings in the financial sector are properly channeled to the real or productive sectors of the economy. In addition, the findings of the study also showed that interest and exchange rate is positive although; their impact on economic growth is weak both in the long and the short-run. Finally, the study revealed that inflation has a significant adverse effect on economic growth both in the long-run and the short-run.

Based on the findings the study concludes that capital inflows (FDI and FA) positively impacts economic growth both in the short and the long run in Nigeria after controlling financial development appropriately. Interestingly, the outcome supports the findings of Orji *et al.* (2014) and Waliu (2017) and more recently research of Ikpesu (2019). Consequently, the study recommends that capital inflows as a result of personal remittances of individuals should be channeled to the productive use such as investment which will in turn promote economic growth. In addition, capital inflows into the country should be used to support the government effort to diversify the economy in order to foster the needed economic growth. Lastly, the central bank should employ a more restrictive monetary policy to suppress the adverse effect that inflationary pressure can exert on an economy. In spite of the fantastic results, the

study had some limitations. Key of all, is the unavailabilty of data from some vital African countries that will have been useful in the study; which would have attracted the use of some recent and robust technique for a more comprehensive and wider policy implication such PARDL, NARDL, *etc*.

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