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Foreign Aid, Foreign Direct Investment and International Workers' Remittances in Nigeria: Are they Complement or Substitute Investment?

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This study examined the complementarity and substitutability effects of capital flows (foreign direct investment (FDI), foreign aid (AID) and international workers' remittance) on economic growth in Nigeria for the period 1970 to 2016. Employing the Vector Error Correction Modelling (VECM) technique, the study observed that foreign direct investment and foreign aid are substitute investment in influencing economic growth; foreign aid and international workers' remittances are complement investment in promoting economic growth while foreign direct investment and international workers' remittance are substitute investment in influencing economic growth in Nigeria. Based on the above findings, the study recommends the need to re-direct the flow of foreign direct investment from rent-seeking sector such as the oil sector to growth enhancing sectors such as the manufacturing, service, tourism and agricultural sectors. Also, there is the need for government to channel the flows of foreign aid towards to investment channels, as this will enhance the growth of the Nigerian economy.

Keywords: Foreign Direct Investment, Foreign Aid, International workers' Remittance, VECM, Nigeria.

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1. Introduction

Developing economies have largely struggled on the need to promote economic growth owing to various macroeconomic challenges such as

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high level of unemployment, high poverty level and investment deficiencies to mention a few (Adeleke, 2014; Olise, Anigbogu & Okoli, 2013). The aftermath of the global financial crisis on developing countries and instability in the international commodity markets have further made the achievement of sustained growth by these developing countries elusive. Thus, capital flows (foreign aids, foreign direct investment and remittances) are seen as essential tools for developmental finance in the attainment of economic growth and other developmental goals. Theoretical and empirical literatures have largely shown the significant influence of these foreign inflows on economic growth in developing countries (Xu, Zhang & Bhavan, 2010; Kosack and Tobin, 2006). While the 2002 United Nation Monetary Consensus affirmed the complementary role of foreign aid to other sources of external financing (such as foreign direct investment and international workers' remittances); the nature of the relationship among these capital flows in influencing economic growth has been a subject of intense debate. This debate centered on whether the capital flows are complement or substitute investment in influencing growth; and literatures on this issue is dichotomized into three distinct stands.

Firstly, some studies claimed that capital inflows are complementary in enhancing economic growth (see Selaya & Sunesen, 2012; Wang & Balasubramanyam, 2011; Bhavan, Xu & Zhong, 2011; Kimura & Todo, 2010; Asiedu, Jin & Nandwa, 2009; Hein, 2008; Harms & Lutz, 2006). According to these authors, foreign direct investment is often driven by the presence of strong absorptive capacity (such as basic infrastructures; stable political and macroeconomic environment; quality labour force among others). The absence of these factors in most developing countries has increasingly called for foreign aid. Foreign aid in the form of projects funded by the World Bank have increasingly included components of public sector reforms in areas such as anticorruption, legal and judicial systems, public expenditure management, fiscal transparency and civil service while administrative capacity building has equally become a significant part of recent World Bank concessional loans[3] (Karakaplan,

[3] Knack (2001) noted that World Bank lending in support of public sector institutional reforms increased from US$4 billion in 1997 to US$ 7.5 in 1999; the share of approved projects that include public expenditure and financial reform components increased from 9% to 28%, while the share of those that include anticorruption or fiscal transparency components increased from 8% in 1998 to 50% in 2000 (Karakaplan et al., 2005).

Neyapti & Sayek, 2005; Knack, 2001). The presence of these investment enhancing facilities in developing countries through foreign aid help in creating enabling environment that attracts and spurs the performance of foreign private capital in promoting economic growth. Besides, foreign aid could increase the inflow of workers' remittance through the provision of physical and financial infrastructures that can reduce the transaction cost of sending money by migrants. Furthermore, by improving the home country's absorptive production capacity (by building human capital and improve macroeconomic performance), could influence international workers' remittances and private capital inflows which in turn may promote economic growth of the recipient economy (Kpodar & Le Goff, 2012).

Secondly, some literature posited that capital inflows act as substitute for each other which may slow down economic growth (see Wang & Balasbramanyam, 2011; Caselli & Feyrer, 2007; Karakaplan et al., 2005). Caselli and Feyrer (2007) noted that the marginal product of capital is roughly the same across countries and increasing foreign aids flow to developing countries will lower the marginal product of capital in these countries. Moyo (2010) and Tandon (2008) noted that foreign direct investment will replace foreign aid as the main drive for economic growth in developing countries due to radical modification on the terms and conditions imposed by the foreign aid donors. Also, when foreign aid is in form of investment in physical capital, it competes directly with other types of capital and thus substitutes for private investment (Selaya & Sunesen, 2012). Kpodar and Le Goff (2012) noted that international workers remittance could reduce foreign aid flows when remittances are invested in human and physical development rather than consumption, thereby improving access to health and education; and reducing the need for foreign aid. Finally, the third strand argued that capital inflows are unrelated in influencing economic growth (see Carro & Larru, 2010; Kimura & Todo, 2010; Kosak and Tobin, 2006). These authors stressed that foreign aids are directed towards strengthening fiscal operations of the government and improving human capital development while foreign direct investment is concentrated exclusively on physical capital.

Besides the empirical contentions on the nature of the relationship among foreign capital flows on economic growth, available data from World Development Indicators (WDI) showed that in recent times international

workers remittance has increased over foreign direct investment and foreign aid (Aziz, Sen, Sun & Wu, 2015; Dzansi, 2013; Meyers, 2002). The seemingly decline in foreign aid calls to question its complementary role to other sources of external financing and also makes is difficult to say with precision if these foreign capital complements or substitutes each other in promoting growth. While the debate on the complementarity and substitutability among capital inflows is a growing one (see Bhavan et al., 2011; Wang & Balasubramanyam, 2011; Chansomphou & Ichihashi, 2011; Janský, 2012), the author is unaware of any empirical studies relating to this issue in Nigeria. Most of the studies in Nigeria focused extensively on the individual impact of these foreign capital inflows on economic growth (see Nkoro & Uko, 2015; Chigbu, Ubah & Chigbu, 2015; Danladi & Akomolafe, 2013). Consequently, this study aims at filling the gap in literature by providing answers to the following questions. (i) Is foreign direct investment and foreign aid complement or substitute or neutral in influencing growth in Nigeria? (ii) Is foreign direct investment and International workers' remittances complement or substitute or neutral in influencing growth in Nigeria? and (iii) International workers' remittances and foreign aid complement or substitute or neutral in influencing growth in Nigeria?

2. Literature Review

While studies exist on the individual impacts of capital flows (foreign direct investment, foreign aid and international workers' remittances) on economic growth and also on the determinants of these capital flows. The few studies on the complementarity and substitutability impact of foreign capital on economic growth are presented below. Javaid (2017) examined the impact of external capital flow (foreign direct investment, foreign aid and international workers' remittances) on economic growth in Pakistan for the period 1973 to 2014. The study employed autoregressive distributed lag technique and the result of the study showed that foreign direct investment and foreign aid are complementary investment in promoting economic growth while foreign direct investment and international workers' remittance are substitute investment in influencing economic growth. The study further observed that foreign aid and international workers' remittance had substitute effect on economic growth. Abdiaziz and Abdulkadir (2016) examined the impacts of foreign direct investment, foreign aid and domestic investment on economic growth in Somalia for the period 1970 – 2014. Employing the ordinary

least squares, the study observed that the investment variables are complementary in influencing economic growth in Somalia.

Janský (2012) examined the substitutability or complementarity hypothesis between official aid (Aid) and Foreign Direct Investment (FDI) for a group of 180 countries for the periods 1971 to 2007. Using panel regression estimate, the result of the study showed that foreign aid and foreign direct investment were substitutes rather than complements. Also, the result of the study showed no evidence or causation between foreign aid and foreign direct investment. Selaya and Sunesen (2012) examine the complementarity between composition of foreign aid and foreign direct investment. The study observed that foreign aid invested in complementary inputs complement foreign direct investment while foreign aid invested in physical capital crowds-out foreign direct investment. The study concluded that the composition of aid matters for its overall level of efficiency.

Wang and Balasubramanyam (2011) examined the complementarity between foreign aid and foreign direct investment for a cross section of 58 provinces in Vietnam over the period. Employing a panel regression technique, the result of the study showed that foreign aid had a significant impact of the inflow of foreign direct investment in Vietnam. Also, the result of the study showed that foreign aid and foreign direct investment were substitute investment in growth process while the interactive term between foreign aid and foreign direct investment had significant impact on economic growth in Vietnam. Mallaye and Yogo (2011) examined whether remittances, foreign direct investment and foreign aid are complement or substitute investment in fragile states. The study used a cross-country panel data of 33 fragile states for the period 1995 to 2008. Employing a three stages least square (3SLS) technique, the study observed that foreign aid complemented both remittances and foreign direct investment. However this effect partially vanished after a certain level of GDP per capita. The study observed that the threshold effect arise when the level of GDP per capita equal 305 USD for the whole sample of fragile states and 260 USD for Sub-Saharan fragile states. The threshold results suggest that as far as foreign aid complements both remittances and foreign direct investment, an optimal policy in the case of fragile states should rely on the increase of foreign aid which can lead to the increase of remittances and foreign direct investments.

Bhavan, Xu and Zhong (2011) examined the relationship between decomposed Official Development Assistance (ODA) and foreign direct investment (FDI) in five South Asian countries (Nepal, Pakistan, India, Sri Lanka and Bangladesh). The study utilized co-integration and granger causality techniques. The co-integration estimate showed the existence of a long-run relationship between official development assistance for physical capital development and foreign direct investment in Sri Lanka, Pakistan, Nepal, India and but not in Bangladesh. Also, the co-integration estimate showed the existence of a long run relationship between foreign direct investment and official development assistance for human capital and infrastructure development in India, Nepal, Bangladesh and Sri Lanka, but not in Pakistan. The causality estimate showed a unidirectional causation from official development assistance for physical capital development to foreign direct investment in Nepal while in Sri Lanka and Pakistan the direction of causality is from foreign direct investment to official development assistance for physical capital development. The causality result also showed a bi-directional causality between official development assistance for physical capital development and foreign direct investment in India. Finally, the panel regression estimate showed that foreign aid complements foreign direct investment in South Asians economies. The study concluded that the argument that official development assistance for physical capital development acts as substitute for foreign direct investment is weak in case of South Asian countries. Thus, the study proposed that receiving foreign aid in the form of human capital and infrastructure development complements foreign direct investment in South Asian region.

Arazmuradov (2011) examined the relationship between foreign aid, foreign direct investment and their effect on domestic investment in five landlocked and emerging economies of Central Asia for the period 1992 to 2009. These economies include Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. The study adopted a seemingly unrelated regression technique and the empirical analysis on foreign aid-foreign direct investment link was conducted on two levels: regional and country. On regional level, it was revealed that: (a) foreign aid has a positive effect on the flows of foreign direct investment; (b) foreign aid and foreign direct investment are complement flows, and (c) foreign direct investment complements domestic investment, while foreign aid decreased it. On country level, the result showed that foreign aid and foreign direct

investment are complementary investment only in Kyrgyzstan and Tajikistan.

Kimura and Todo (2010) examined the relationship between foreign aid and foreign direct investment flows in less developed countries. The study employed a large data set of source-recipient country pairs and conducted gravity equation-type estimation. The findings of the study showed that foreign aid in general does not have any significant effect on foreign direct investment. However, when the study allowed for differences in the size of foreign aid effects across donor countries, it was observed that foreign aid from Japan in particular has a vanguard effect, that is, Japanese foreign aid promoted foreign direct investment from Japan but does not attract foreign direct investment from other countries. Edwards (2010) examined the effects of workers' remittances and foreign aid on economic growth for a group of 22 Latin American and Caribbean Countries (LACs) for period 1979 to 2008. Applying a fixed effects panel estimate, the study showed that workers' remittances and foreign aid inflows had negative impact on economic growth. Furthermore, the study revealed that workers' remittances and foreign aids are substitute investment in influencing economic growth.

Blaise (2009) examined the nexus between Japan's official development assistance and foreign direct investment flows in Southeast Asian countries. The result of the study showed that foreign aid complement or crowd-in foreign direct investment among the Southeast Asian countries. Kosack and Tobin (2006) examined the role of foreign aid, foreign direct investment and government in economic success. The study also investigated the substitutability / complementarity hypothesis between foreign aid and foreign-direct in promoting economic development of the world's poorer countries. The result of the study showed that foreign aid and foreign direct investment had differential impact on economic development. Specifically, foreign aid had positive and significant effect on economic growth and human development while foreign direct investment was insignificant in influencing economic growth and actually slowed the rate of human development in less-developed countries. Also, the study found no evidence that the effectiveness of either aid or FDI was conditioned on the degree of democratic responsiveness in government while it equally observed that democracy independently increases human development in all but the most developed countries. The study concluded

that FDI and foreign aid were not substitutes investment in the development of the world's poorer countries neither can they be thought of as complements because of their differential impact on economic development. The literature review above showed that the issue complementarity and substitutability among capital flows in influencing economic growth is controversial and the results can best be described as inconclusive. Furthermore, most of these studies were not relating to the Nigerian economy, therefore, the policy references of the studies are of little or no relevance owing to the differences in political and economical circumstances.

3. Research Methodology

3.1Theoretical Framework/Model Specification

This study employed the standard neoclassical Solow's growth model as its theoretical framework in which output "*Y*" is a function of technology "*A*", (production efficiency), labour "*L*" and "*K*" capital. The model is specified as:

$$Y_t = f(AK^{\alpha}L^{1-\alpha}) \qquad (1)$$

where A is assumed to be greater than zero and α is a constant with $0 < \alpha < 1$. The neoclassical production function can be written in intensive form as:

$$y = Ak^{\alpha} \qquad (2)$$

Capital *(k)* in a broad sense can be decomposed into human capital $\left(k_H^{\beta}\right)$ and physical capital $\left(k_P^{\psi}\right)$as in Lucas (1988).Thus,

$$k_t = \left(k_H^{\beta}, k_P^{\psi}\right) \qquad (3)$$

Incorporating equation (3) into equation (2), we have:

$$y_t = Ak_H^{\beta}k_P^{\psi} \qquad (4)$$

Following studies by Catrinescu, Leon-Ledesma, Piracha and Quillin (2009) and Burnside and Dollar (2000) physical capital is divided into public and private capital. Since foreign aids is a source of government revenue, then public investment is partly financed by foreign aid while private investment is composed of domestic investment, foreign direct investment and workers' remittance (Driffield and Jones, 2013). Thus, physical capital $\left(k_P^{\psi}\right)$ is a function government spending $\left(GS\right)$, foreign aid $\left(AID\right)$, domestic investment $\left(DI\right)$, foreign direct investment $\left(FDI\right)$ and international workers' remittance $\left(WR\right)$ that is:

$$k_F^{\psi} = \left(GS^{\phi}, AID^{\theta}, DI^{\varphi}, FDI^{\eta}, WR^{\tau}\right) \tag{5}$$

where ϕ, θ, φ, η and τ are the capital share of government spending, foreign aid, domestic investment, foreign direct investment and workers' remittance respectively. Foreign aids can influence growth directly or via public investment while foreign direct investment and international workers' remittances influence growth via external private sources (Driffield and Jones, 2013).

Substituting equation (5) into equation (4) gives:

$$y_t = Ak_H^{\beta} GS^{\phi} AID^{\theta} DI^{\varphi} FDI^{\eta} WR^{\tau} \tag{6}$$

Thus, the estimating form of equation (6) is:

$$y_t = A_t + \beta k_{Ht} + \phi GS_t + \theta AID_t + \varphi DI_t + \eta FDI_t + \tau WR_t + \varepsilon_t \tag{7}$$

Equation (7) is re-written as:

$$y_t = \delta_0 + \delta_1 TSE_t + \delta_2 GS_t + \delta_3 AID_t + \delta_4 DI_t + \delta_5 FDI_t + \delta_6 WR_t + \varepsilon_t \tag{8}$$

A_t, β, ϕ, θ, φ, η, τ and k_H in equation (7) are represented by δ_0, δ_1, δ_2, δ_3, δ_4, δ_5, δ_6 and *TSE* in equation (8). In equation (8), y_t is per capital GDP; TSE_t is human capital measured by tertiary school enrolment (TSE); GS_t is total government spending measured by the sum of recurrent and capital expenditure; AID_t is foreign aid measured by net overseas development

assistance (ODA) and official aid received by the Nigerian economy; DI_t is domestic investment measured by bank credit to the private sector; FDI_t is foreign direct investment measured by the annual aggregate flow on direct investment into Nigeria;; WR_t is workers' remittance measured by the sum of personal transfers and employees' compensations which are remitted to the migrants households in Nigeria.

Data on government spending, domestic investment and foreign direct investment were obtained from the various volumes of Central Bank of Nigeria (CBN) Statistical bulletin while data on per capita GDP, foreign aid and workers' remittance were obtained from World Development Indicator (WDI).

4. Data Analysis and Interpretation

4.1 Descriptive Statistics

The descriptive statistics of the variables of estimate are presented in table 1 below[4]. From the table, it is observed that the mean (average) values of GDP per capital (GDPPC) tertiary school enrolment (TSE), government spending (LGS) and foreign aids (LAIDS) are 0.0027, 5.06, 11.70 and 19.30 respectively while the mean values for domestic investment (LDI), foreign direct investment (LFDI) and international workers' remittances (LWR) are 11.48, 9.54 and 18.94 respectively. Also, the standard deviation statistics showed that workers' remittance (LWR) is the most volatile variable while GDP per capita (0.0018) is the least volatile variable. The skewness statistics showed that government spending (LGS) and foreign direct investment (LFDI) were negatively skewed while the remaining variables were positively skewed. The kurtosis statistics showed that all the variables were platykurtic, suggesting that their distributions are flat relative to normal distribution. Finally, the Jarque-Bera statistic accepts the null hypothesis of normal distribution for all the variables at five percent critical value.

[4] For the graphs of the variables see Appendix section.

Table 1: Descriptive Statistics

Variables	GDPPC	TSE	LGS	LAIDS	LDI	LFDI	LWR
Mean	0.0027	5.0613	11.7019	19.3032	11.4820	9.5370	18.9400
Std. Dev.	0.0018	3.5576	2.7590	1.6066	2.5299	3.4461	3.5582
Skewness	0.2717	0.4446	-0.1364	0.5907	0.0915	-0.0789	0.0976
Kurtosis	2.5960	1.6980	1.6381	2.3202	1.6631	1.3704	1.5431
Jarque-Bera	0.8978	4.8684	3.7782	3.6383	3.5656	5.2493	4.2311
Probability	0.6383	0.0877	0.1512	0.1622	0.1682	0.0725	0.1206
Observations	47	47	47	47	47	47	47

Source: Author, 2017.

4.2 Unit Root Test

This study commenced its empirical analysis by conducting the unit root test based on the Augmented Dickey Fuller test. The results of the test are presented in table 2. From the table is observed that the variables were integrated of order one, suggesting that the variables are I(1) series.

Table 2: Unit Root Test

Augmented Dickey Fuller (ADF) Test			
Variables	**Level**	**1st Difference**	**Status**
GDPPC	-0.2743	-6.7989*	I(1)
TSE	0.0385	-7.84410*	I(1)
LGS	-1.7095	-7.5037*	I(1)
LAIDS	-0.4728	-6.0634*	I(1)
LDI	-0.9699	-4.9362*	I(1)
LFDI	-0.6093	-9.4822*	I(1)
LWR	-1.0376	-4.3452*	I(1)
Critical Values	**Level**	**1st Difference**	
1%	-3.5812	-3.5847	
5%	-2.9266	-2.9281	
10%	-2.6014	-2.6022	

Source: Author, 2017. * implies one percent significance level. The automatic maximum lag length for the Augmented Dickey Fuller (ADF) unit root test was based on Schwarz Info Criterion.

4.2 Co-integration Estimate

Sequel to the unit root test, the Johansen co-integration test examined the existence of co-integration among variables. From the co-integration estimate on table 3 below, it was observed that the null hypothesis of no co-integration for none and at most one were rejected by the trace and maxi-eigen tests because the statistic values were greater than the critical values while the null hypothesis of no co-integration for at most 2 was not rejected by both tests, suggesting the existence of two co-integrating equations. Thus, the trace and maxi-eigen statistic asserted the existence of a long run relationship among the variables in equation (8).

Table 3: Co-integration Estimate

Trace Test			**Maximum Eigen value Test**		
Hypothesized No. of CE(s)	Statistics	0.05 Critical values	Hypothesized No. of CE(s)	Statistics	0.05 Critical values
None*	165.68	125.62	None*	62.37	46.23
At most 1*	103.30	95.75	At most 1*	49.76	40.08
At most 2	53.54	69.82	At most 2	24.43	33.88

4.3 Regression Estimates

Sequel to the existence of co-integration among the variables in equation (8), this study proceeds to estimate the complementarity and substitutability impacts of capital flows on economic growth in Nigeria using the Vector Error Correction Modelling (VECM) technique. The VECM long run regression estimate presented on table 4 below showed that tertiary school enrolment (TSE), government spending (GS) and foreign direct investment (FDI) had negative and significant effects on per capita GDP in Nigeria. The adverse effect of tertiary school enrolment on per capita GDP could result from the high level of graduate unemployed graduates in the labour market while the adverse effect of government spending on per capita GDP could result from poor implementation of the yearly budget and the lack of government spending on infrastructural facilities capable of enhancing the production of the real sector. The negative and significant effect FDI on per capita GDP suggests that the inflow of foreign direct investment impedes economic growth in Nigeria. Also, the negative effect of foreign direct investment

in Nigeria could result the argument that foreign direct investment takes advantage of market imperfections of the host country, thereby affecting the economy negatively.

From table 4, it was observed that foreign aid (LAID) and international workers' remittances (LWR) had positive and significant impact on per capita GDP. The positive impact of foreign aid stem from the fact the Nigerian government have been a recipient of foreign aid in the form of finance and otherwise which might have contributed to influencing the per capita GDP while the positive contribution of international workers' remittance stems from the increased volume of remittance inflows into the country which have influenced the volume of consumption and investment and hence economic growth However, domestic investment (LDI) had positive but insignificant effects on per capita GDP. Finally, the error correction term (ECM) was insignificant and non-negative indicating no feedback movement from short run disequilibrium to the long run equilibrium.

Table 4: VECM Regression Estimate

	INDEPENDENT VARIABLES						
	TSE (-1)	**LGS (-1)**	**LAID (-1)**	**LDI (-1)**	**LFDI (-1)**	**LWR (-1)**	**ECM (-1)**
Coefficient	-2.7293	-5.946	7.814	-2.270	-5.331	1.755	0.048
t-Statistics	-3.995*	-3.451*	6.302*	-1.547	-6.122*	4.716*	0.0737

Source: Author, 2017. Note: * denotes 1% significance level.

With respect to the focus of this study which is to examine the complementarity and substitutability effects of capital flows on economic growth in Nigeria, it was evident that foreign direct investment and foreign aid had alternate signs, indicating that these capital flows are substitute investment in promoting economic growth in Nigeria. This result supports the findings of Jansky (2012) and Wang and Balasubramanyam (2011) but in contrast to those obtained by Javaid (2017), Abdiaziz and Abdulkadir (2016), Selaya and Sunesen (2012), Bhavan et al. (2011) and, Kosack and Tobin (2006). With respect to the second research question, the regression estimate showed that foreign aid and international workers' remittances had similar signs and their

coefficients are statistically significant, indicating that these capital flows are complement investment in promoting economic growth in Nigeria. This result is in support of the findings by Mallaye and Yogo (2011) and Kpodar and Le Goff (2011) and but in contrast to the findings of Javaid (2017) and Edwards (2010). Finally, with respect to the third research question, this regression estimate showed that foreign direct investment and international workers' remittance had alternate signs with significant coefficient values, suggesting that these foreign capitals are substitute investment in influencing economic growth in Nigeria. This finding is in support of the findings by Javaid (2017) and Muhammed, Sallahuddin and Khairuzzaman (2013) but in contrast to that obtained by Chami, Fullenkamp and Jajah. (2003).

The robustness of the VECM regression estimate above is shown conducting the Serial Correlation LM Test. The Serial Correlation LM test confirmed the absence of serial correlation in the residuals of the VECM estimate. This is because the probability values of the LM-Statistics at various lags were insignificant, suggesting that the residuals were conditionally normally distributed and the estimate can be used for policy inference.

Table 5: VEC Residual Serial Correlation LM Tests

Lags	LM-Statistics	Probability
1	34.768	0.9379
2	55.555	0.2415
3	41.635	0.7632
4	54.399	0.2765
5	40.847	0.7898

Source: Author, 2017.

5. Conclusion and Policy Recommendation

This study examined the complementarity and substitutability effects of capital flows (foreign direct investment (FDI), foreign aid (AID) and international workers' remittance) on economic growth in Nigeria. The study covered the period 1970 to 2016 and employed the Vector Error Correction Modelling (VECM) technique. The results from the VECM estimate showed that foreign direct investment and foreign aid are

substitute investment in promoting economic growth; foreign aid and international workers' remittances are complement investment in promoting economic growth while foreign direct investment and international workers' remittance are substitute investment in influencing economic growth in Nigeria. Based on the above findings, the study recommends the need to re-direct the flow of foreign direct investment from rent-seeking sector such as the oil sector to growth enhancing sectors such as the manufacturing, service, tourism and agricultural sectors. Also, there is the need for government to channel the flows of foreign aid towards to investment channels, as this will enhance the growth of the Nigerian economy. Further, there is the need for value re-orientation on the prudent use of international workers' remittance by the recipient households in investment purposes rather than on consumption. Such investment will ultimately enhance the growth of the Nigeria economy.

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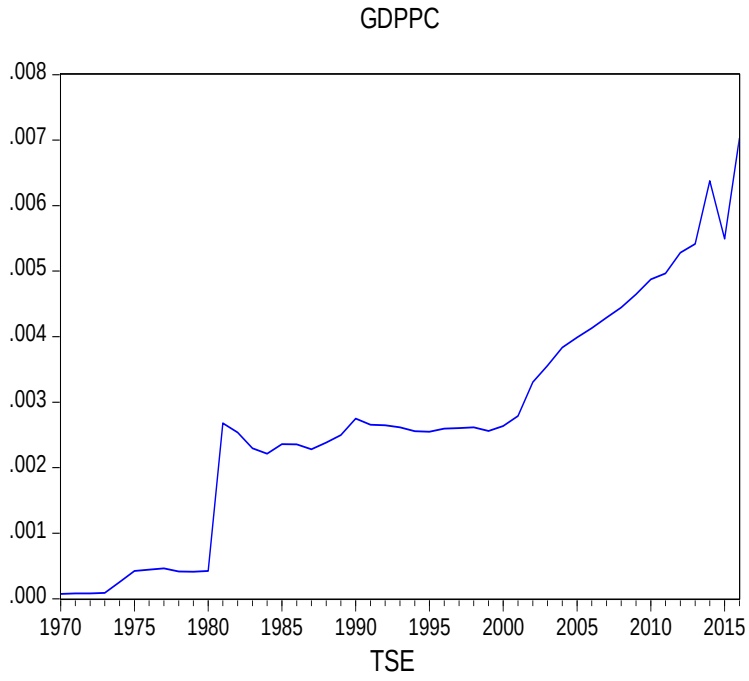
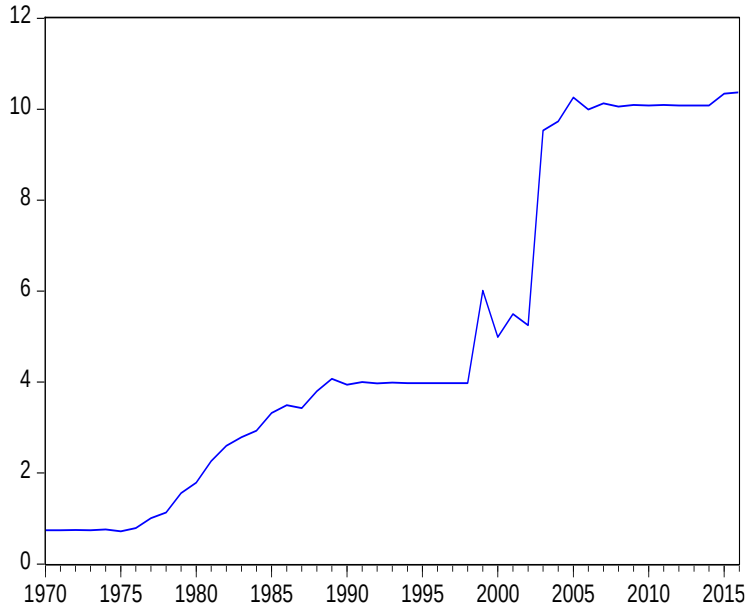
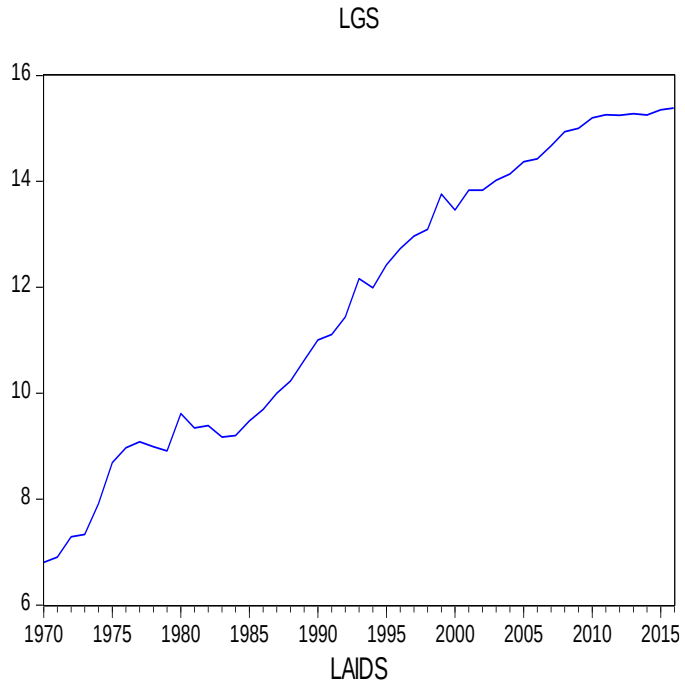
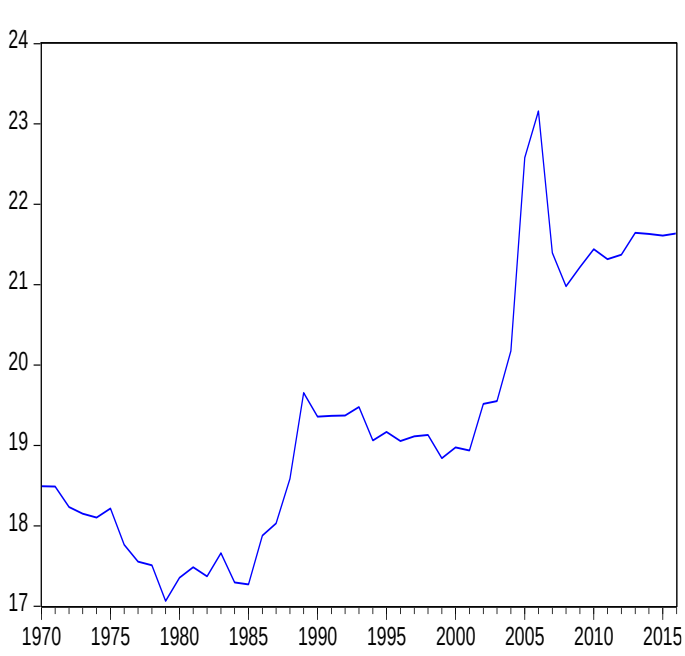
Appendix: Graphs of the Data



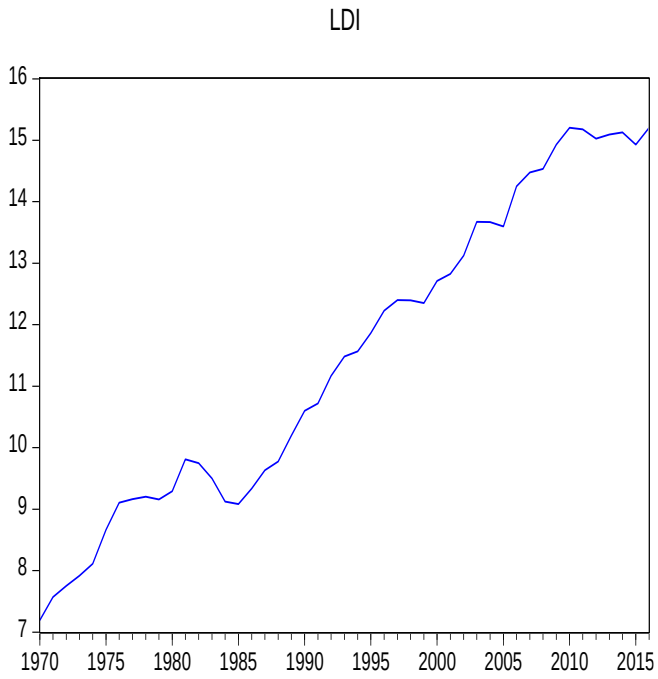


Gross Domestic Product Per Capita (GDPPC) Tertiary School Enrolment (TSE)

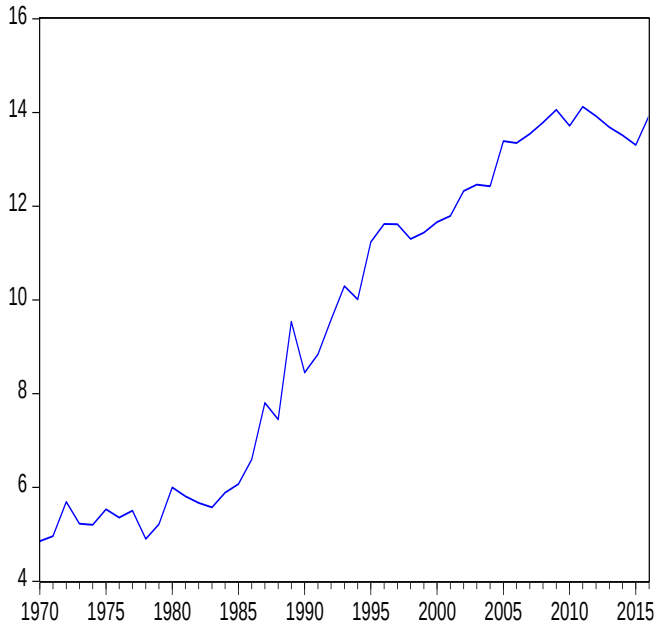




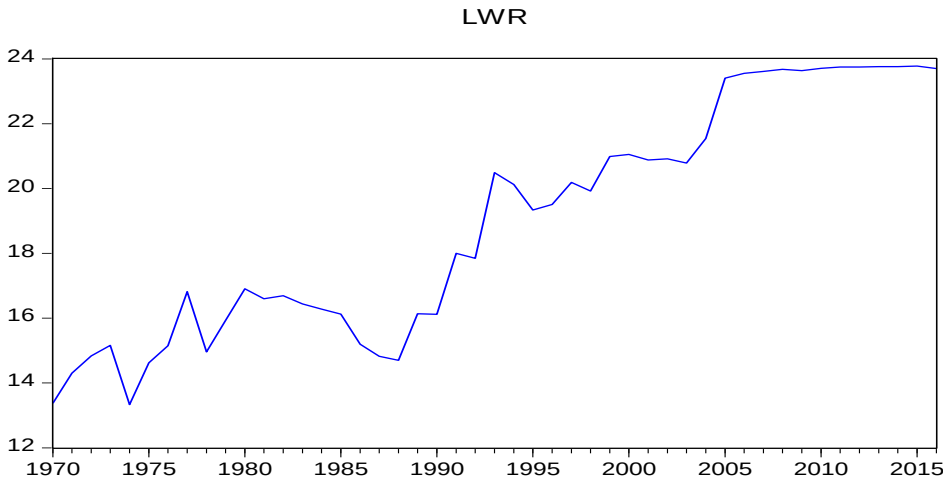
Log Government Spending (LGS) Log Foreign Aids (LAIDS)



Log Domestic Investment (LDI)



log Foreign Direct Investment (LFDI)



Log Workers' Remittances (LWR)