

Impact of Foreign Aid on Capital Formation in Nigeria (1980-2016)

Attamah Nicholas

Department of Economics, Faculty of Social Sciences, Enugu State University of Science and Technology PMB 01660, Enugu Nigeria.

ABSTRACT

The Impact of Foreign Aid on Capital Formation in Nigeria (1980-2016) was done. The major finding of this research is that foreign aid contributes positively to capital formation but the contribution is not significant. This implies that the capital stock of Nigeria has the prospects of increasing tremendously if the foreign aid inflow is increased and better harnessed. In other words, Nigeria has the potentials of hosting aid inflows. The issue of foreign aid has continued to gain renewed economic cum political attention in the early years of the 21st century. At a summit popularly known as the Millennium Summit which took place in 2000, there was an agreement by the international community concerning some goals known as the Millennium Development Goals (MDG) which were targeted to be achieved by the year 2015. In conclusion the research was able to establish the fact that foreign aid on the average contributes positively to the accumulation of domestic capital for efficient growth and development in the economy. Therefore, the contribution of foreign aid to the growth of capital in Nigeria cannot be overemphasized.

Keywords: Impact, Foreign Aid, Capital, Nigeria

INTRODUCTION

The issue of foreign aid has continued to gain renewed economic cum political attention in the early years of the 21st century [1]. At a summit popularly known as the Millennium Summit which took place in 2000, there was an agreement by the international community concerning some goals known as the Millennium Development Goals (MDG) which were targeted to be achieved by the year 2015 [2]. The goals were 8 in number and they were: reducing poverty by half, making provision for universal primary education, ensuring the promotion of gender equality, the massive reduction of child and infant mortality, improving the health of mothers, massively halting the rate at which HIV/AIDS is spreading, creating a platform that ensures that the environment is consistently sustained and developing partnership with the global world for sustained development [3]. It was however acknowledged by world leaders that for these objectives to be attained, there should be heightened transfers between nations and also donor from well to do countries to the less

privileged in the form of foreign aid [4]. The increment of aid as a means of development for developing countries has also been propelled by the United Nations [5]. To reduce the debt burden of developing countries, there was an introduction of the Multilateral Debt Relief Initiative (MDRI). There has been surge of studies on how foreign aid impacts on growth given the renewed political attention and resources being transferred between countries. There has not been sufficient evidence pointing that foreign aid has significantly and positively contributed to the long-term growth of countries categorized as being poor [6]. On economic terms and analysis, the linkage that exists between foreign aid and economic growth passes through the investment channel and there is no need doubting that investment can sometimes be financed by foreign aid. According to the assertion of [7], the capital stock is improved through foreign aid from donor countries. This also improves the state of productivity of such recipient countries. Many developing countries, especially Africa, have been confronted by low level

of capital formation. Theories in economics have however supported the view that the capital formation of a country can be improved by the inflow of foreign aid which is vital for economic growth. One of the vital objectives of foreign aid has been to ensure the halting of world poverty, boost capital formation and improve the living standards of people especially in developing countries [8]. This is however the basic need of Africa. Essentially, Africa has been one of the great recipients of foreign aid in the global community. The report put forward by OECD in 2009 shows a terrifying statistics that in 2008, the total foreign aid from members of Development Committee (DAC) increased in real terms by 10.2% in the tune of US\$110.8 billion. Subsequent annual records have it that it further increased to the tune of US\$130 billion in 2010. In 2013, foreign aid further increased by 6.1% in real terms, which was adjudged as the highest level ever recorded. There was also a provision by foreign donors at the magnitude of US\$ 134.8 billion in the form of net official development assistance which was a rebound following falling rates after two years of global financial/economic crisis. On the other hand, there was also a rise in bilateral trade in favour of Africa and Sub Saharan Africa by the magnitude of 10.6% and 10% respectively. Africa justifiably needs significant foreign inflow to hedge the cascading and deteriorating living standards of the people. Studies have confirmed that during the 1980s, the per capita income of the average Sub Saharan African fell consistently at an annual rate of 2.2% while consumption per capita deteriorated by 14.8%. On the same vein, the volume of import rose by an annual rate of 4.3% while the volume of export was fixed, which was not healthy for the economy [9]. In the 90s, the growth rate per capita was also seen to be falling continuously until it reached its negative levels. It is also documented that about 79% to 80% of Sub Saharan Africa countries were identified as countries that has low human investment capacity and were also categorized as highly indebted

[10]. Based on the above analysis, it becomes justifiable to assert that Africa needs assistance beyond the domestic resources as it will be a great move to help them escape the strap of economic decadence [11].

Domestically, the situation in Nigeria also calls for concern. For example, Nigeria which was in the early years of 1970 ranked as one of fifty richest countries, has deteriorated so terribly to the extent of being categorized as one of the twenty five poorest nations of the world under the timing of the 21st century. A terrifying economic irony exists in Nigeria as it is categorized as the 6th largest exporter of crude oil and yet has the 3rd largest number of impoverished people as its inhabitants [12]. Subsequent years have shown signs for urgent foreign assistance to countries categorized as developing to which Nigeria belongs. Advanced economies and international organizations have made persuasive pleas for foreign assistance to be massively fused into Nigeria for growth and development. Scholars and experts, who make case for aid infusion into the economy of Nigeria, argue that it will boost the material well-being of Nigeria and hence translate into economic growth of the country [13].

Nigeria has over the years received external aid in the form of Overseas Development Assistance (ODA). A historic macroeconomic outlook of Nigeria regarding foreign aid inflow shows that between the periods 1980-1986, the official aid inflow into the economy increased from \$34,400,000.00 to \$58,120,000.00. The SAP paradigm in 1986 was a supposed turning point for Nigeria through the Structural Adjustment Programme (SAP) leading to deregulation policy. The aid inflow increased to \$67,620,000.00 in 1987 and had a dismal reduction in 1988 with an inflow of aid at \$25,508.00, and increased to \$34,400.00 in 1989. On the average, the overseas development assistance received in favour of Nigeria was relatively stable and progressive in the 1980s [14].

Statistical evidence in the next decade following the 1980s reveals that foreign

aid in favour of Nigeria began to seriously dwindle from the 1990s. The aid received in Nigeria in 1990 recorded \$255,000.0 and further reduced to \$188750.0 million in 1996. The 1999 inflow recorded the lowest there was an inflow at the magnitude of \$151,800.0 million. The trend in the millennium era received an obvious improvement compared to the 1990s. Aid inflow appreciated from \$173700.0] in 2000 to \$6408810.0 in 2005. The inflow of foreign aid in 2006 was \$11428020 and slightly deteriorated to \$1,915,820.0 in 2013. The foreign aid inflow was \$2,490,020,000, \$2,431,600,000 and \$2,224,021,000 for 2014, 2015 and 2016 respectively [15].

The capital investment atmosphere in Nigeria had also recorded some historic movements. In the pre SAP era in the 1980s, the macroeconomic outlook of gross capital investment had not been impressive. In 1981, the level of gross capital investment was N18.22 billion, reduced to N17.15 billion in 1982 and further reduced to N9.15 and N8.80 billion in 1984 and 1985 respectively. With the introduction of structural adjustment program in 1986, the gross capital investment increased to N11.35 billion. It further increased to N40.12 billion in 1990. This progressive trend continued even up till the millennium era as the gross capital investment recorded N331.06 billion in 2000 and N865.88 billion in 2003. This growth further increased N1, 546.53 billion in 2006 and N3, 357.40 billion in 2012 and continues to increase even nominally [16].

Statement of the Problem

Developing countries like Nigeria are indeed characterized by low level of income, high level of unemployment, very low industrial capacity utilization, and high poverty level just to mention a few of the various economic problems these countries are often faced with. In addressing these problems, foreign aid has been suggested as a veritable option for augmenting the meagre domestic resources. While some countries that have benefited from foreign assistance at one time or the other have grown such that

Existing literature asserts that the linkage between foreign assistance and economic growth goes through capital investment and there is no doubt that foreign aid sometimes finances investment. Reliance on overseas development assistance to support capital investment indicates the extent to which governments need external rather than domestic resources to fund growth-enhancing investments. It is also documented that Sub Saharan Africa is significantly dependent on overseas development assistance to capital formation. Outside the sphere of Nigeria for instance, at least 27 countries in the region relied on ODA to finance more than 10 percent of gross capital formation in 2013. However, numerous of them have ratios in excess of 50% or more: Central African Republic at 111%, Comoros at 76.2%, Democratic Republic of the Congo at 74.5%, Côte d'Ivoire at 90.4%, the Gambia at 67.3%, Georgia at 69.9%, Haiti at 63%, Kosovo at 52.7%, Malawi at 65.6%, Mozambique at 98.1%, Nicaragua at 53.6%, Rwanda at 82.3%, and Sierra Leone at 148% [17, 18, 19].

Based on the above analysis and background, it becomes pertinent to ascertain the contributions and impact of foreign aid in the form of overseas development assistance to the growth of capital formation in Nigeria. This is an area of foreign aid studies that has been ignored by many researchers. Most studies are seen delving into analyzing aid-growth nexus without evaluating the transmission link through which foreign aid transmits to affect economic growth. The study will cover 1980-2016.

they have become aid donors (South Korea, North Korea, China etc.), majority of countries in Africa like Nigeria have remained backward. Nigeria has continued to benefit from all sorts of foreign assistance and in fact still collect at least as much as the amount collected in the early 1980s, yet socio-economic development has remained dismal. While there could be so many factors both qualitative and quantitative explaining these unfavourable trends, the incessant socio-political crisis, policy

inconsistencies, macroeconomic instability and bad governance evident in many developing countries which are

indeed indicators of poor policy framework, should give one a pause [12].

Research Questions

The study intends to answer the following research questions

1. What is the impact of foreign aid on capital formation in Nigeria?

2. What direction of causality exists between foreign aid and capital formation in Nigeria?

Objectives of the Study

The broad objective of the study is to examine the relationship between foreign aid and capital formation in Nigeria. Specifically, the study intends to:

1. estimate the impact of foreign aid on capital formation in Nigeria.

2. determine the direction of causality that exists between foreign aid and capital formation in Nigeria.

Research Hypotheses

The hypotheses for this study are specified thus:

H_{0_1} : Foreign aid has no significant impact on capital formation in Nigeria.

H_{0_2} : There is no causality relationship between foreign and capital formation in Nigeria.

Significance of the Study

This study evaluates current position of Nigeria's external aid with special reference to the effectiveness of overseas development assistance to Nigeria. Given the purpose of this research, it will be useful for policy thrusts regarding foreign aid in the economy.

Secondly, as foreign aid is a pure external sector variable, the ministry of foreign affairs will find this research relevant given that it will provide a clear information on the extent to which foreign aid has affected the level of capital accumulation in Nigeria. Furthermore, the federal government will find this study highly relevant as it will provide a picture of the relative impact of foreign aid variables on investment

expenditure analysis and thus motivate relevant policy reforms or sustenance. This investigation will also serve as a stepping stone for researchers who develop interest in carrying an empirical analysis on the concept of foreign aid and its impact on capital formation in Nigeria. Students will find this piece highly relevant as it will undeniably increase their knowledge and horizon on the concept of foreign aid and its relationship with capital formation and finally, the education sector is also considered as one of the significant beneficiaries because it is believed that this research will be an addition to the existing stock of knowledge.

METHODOLOGY

Research Design

The investigation employed the *Ex Post Facto* design given that it is targeted at analyzing the impact of some independent variables on a specified dependent variable. This study makes use of econometric procedure in estimating exchange rate volatility and aggregate macroeconomic performance in Nigeria. It is also pertinent to note that the research design will adopt the quantitative approach based on the fact that it will give room for statistical and econometric

estimations to give room for the actualization of the research objectives. In researches that involves times series and secondary data, the appropriate methodology is the linear regression with the application of Ordinary least squares (OLS) technique. The primary justification for adopting the linear regression is based on the fact that it gives possesses the optimal properties of linearity, unbiasedness, linearity and minimum variance [4].

Cointegration Test

This will be used to test if there exists a long-run relationship between the variables under investigation... One of the most popular tests for cointegration has been suggested by Engel and Granger (1987). The process is demonstrated thus; given a multiple regression:

$$y_t = \beta' x_t + \mu_t, t = 1, \dots, T,$$
 where

$x_t = (x_{1t}, x_{2t}, \dots, x_{kt})'$ is the k-dimensional I(1) regressors. For y_t and x_t to be cointegrated, μ_t must be I(0). Otherwise, it is spurious. Thus, a basic idea is to test whether μ_t is I(0) or I(1).

Error Correction Mechanism (ECM)

The error correction analysis is an econometric analysis carried out if the variables under investigation are seen to be cointegrated. The Error Correction Mechanism (ECM) will be used to estimate the speed of adjustment of the short-run dynamics of the variables and timing to long-run convergence. . The ECM is given by the equation:

$$\Delta y_t = \beta_0 + \beta_2 \Delta x_t + (\beta_1 - 1)y_{t-1} + (\beta_2 - \beta_3)x_{t-1} + v_t$$

Economic Test of Significance (A Priori Test)

The a priori test of the analysis will be based on the regression coefficient based on the coefficient of the algebraic signs of the parameters. It is a test that will be based on evaluating the conformity of the relationship between the variables on economic theory.

Statistical Test of Significance

Test for Goodness of Fit

This test involves the test of the goodness of fit. To evaluate the working hypothesis of this study. R^2 the coefficient of determination is used to test the explanatory power of the variable. R^2 lies

between zero and one ($0 \leq R^2 \leq 1$). The closer r^2 is to 1 the greater the proportion of the variation in the dependent variables attributed to the independent variables.

t-Test of Significance

To test for the statistical significance of individual regression coefficient, t-statistic is used. A two-tailed test will be conducted at 5% level of significance and

n-k degree of freedom. The null hypothesis H_0 will be tested against the alternative hypothesis H_1 .

Decision Rule (t-Test)

If $t_{0.025} < t^*$ H_0 will be rejected and the H_1 accepted. Otherwise, the alternative

hypothesis H_1 will be rejected and the null hypothesis H_0 is accepted.

f-Test of Significance

To Test the statistical significance of the entire regression, the f-ratio is used. The

test will be conducted at 5% level of significance and v_1/v_2 degree of freedom.

Decision Rule (F-Test)

If $f^* > (f_{0.05})$, we say the regression is statistically significant but if otherwise,

it implies that it is statistically insignificant

Econometric Test of Significance

Autocorrelation Test

To evaluate the reliability of the expected numerical estimates, the Durbin - Watson (D-W) statistic at 5% will be used to test for the presence of autocorrelation problem. The region of zero autocorrelation remains:

$$du < d^* < (4-du)$$

Where:

du = Upper Durbin - Watson

d^* = Computed Durbin-Watson

Decision Rule (Autocorrelation Test)

If the computed value of Durbin-Watson lies within the region, it means there is absence of autocorrelation problem. But if the Durbin-Watson computed value lies

outside the region, there is the presence of autocorrelation problem and a remedial measure like the use of first difference equation will be adopted.

Data Required and Sources

The data required for this research are time series secondary data on gross fixed capital formation, overseas development assistance, foreign direct investment,

exports, imports and exchange rate. Data will be extracted from the Central Bank of Nigeria (CBN) statistical bulletin and National Bureau of Statistics (NBS).

Econometric Software for the Work

The econometric software to be used in this research is the E-

views version 9 statistical package.

PRESENTATION AND ANALYSIS OF RESULTS

The Empirical Results

Due to the stochastic trend process associated with most time series data, it is important that these series are tested for the presence of unit root. The

result of the unit root stationarity test in table 1 was conducted using Augmented Dickey Fuller (ADF) statistic.

Table 1: Unit Root Result

VARIABLE	ADF STAT.	CRITICAL VAL.	ORDER
GFCF	-2.065304	-1.950687	I(1)
ODA	-2.283682	-1.950394	I(0)
FDI	-5.552750	-1.950687	I(1)
TB	-6.109589	-1.951000	I(1)
EXR	-3.087060	-1.950687	I(1)

Source: Author's Computation Using E-views.

Table 1 clearly shows that GFCF, FDI, TB and EXR are all integrated at order one; meaning they are stationary at first

difference while ODA is stationary at level form.

Co-integration Analysis (Engel-Granger Method)

Table 2: Cointegration Output

Null Hypothesis: RESID01 has a unit root				
Exogenous: None				
Lag Length: 0 (Automatic - based on SIC, maxlag=0)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-3.160443	0.0000
Test critical values:	1% level		-2.630762	
	5% level		-1.950394	
	10% level		-1.611202	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(RESID01)				
Method: Least Squares				
Date: 09/06/18 Time: 12:26				
Sample (adjusted): 1981 2016				
Included observations: 36 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-0.084086	0.072461	-1.160443	0.2537
R-squared	0.035100	Mean dependent var		69.72745
Adjusted R-squared	0.035100	S.D. dependent var		1571.557
S.E. of regression	1543.729	Akaike info criterion		17.54917
Sum squared resid	83408525	Schwarz criterion		17.59316
Log likelihood	-314.8851	Hannan-Quinn criter.		17.56453
Durbin-Watson stat	1.485188			

Source: Author's Computation Using E-views.

The cointegration test was carried out using the Engel-Granger cointegration method. Since at 5 percent, the ADF statistic which yielded -3.160443 is

greater than the corresponding critical value which yielded -1.950394 at level form, it entails that the variables are cointegrated, hence; there exists a long

run relationship among the variables namely; gross fixed capital formation, foreign aid measured with overseas

development assistance, exchange rate, foreign direct investment and trade balance.

Parsimonious Regression (Error Correction Model)

Table 3: *Regression*

Dependent Variable: D(GFCF)

Method: Least Squares

Date: 09/06/18 Time: 12:32

Sample (adjusted): 1981 2016

Included observations: 36 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-592.8730	837.0366	-0.708300	0.4842
D(ODA)	27.12619	56.81029	0.477487	0.6365
D(FDI)	0.001988	0.001013	1.962634	0.0590
D(TB)	0.132526	0.070981	1.867076	0.0717
D(EXR)	3.913400	2.438817	1.604630	0.1191
ECM(-1)	-0.079261	0.031758	-2.495769	0.0183
R-squared	0.634118	Mean dependent var		585.4428
Adjusted R-squared	0.573137	S.D. dependent var		988.6006
S.E. of regression	645.8996	Akaike info criterion		15.93018
Sum squared resid	12515587	Schwarz criterion		16.19410
Log likelihood	-280.7432	Hannan-Quinn criter.		16.02229
F-statistic	10.39872	Durbin-Watson stat		2.180727
Prob(F-statistic)	0.000007			

Source: *Author's Computation Using E-views.*

Table 3 clearly shows the regression analysis of gross fixed capital formation (GFCF) and the specified independent variables. The regression output corresponding to the aforementioned table shows that foreign aid which is measured with overseas development assistance (ODA) yielded a positive numerical value. It clearly shows that a 1% increase in foreign aid will improve GFCF by 27.12619. This conforms to economic a priori expectation because foreign aid is expected to augment existing domestic capital and hence improves gross fixed capital formation.

Table 3 also reveals that foreign direct investment (FDI) yielded a positive value which has the implication that a 1% increase in FDI will increase the GFCF by 0.001988. This also conforms to economic a priori expectation because foreign direct investment is expected to increase domestic investment which translates to gross fixed capital formation. Trade balance was seen in table 3 to have yielded a positive numerical coefficient at the magnitude of 0.132526. This entails that trade balance on the average has contributed positively to gross fixed

capital formation for the years under analysis. This does also conform to economic a priori expectation.

Finally, exchange rate is seen to have yielded a positive numerical coefficient at the magnitude of 3.913400. This simply entails that increase in exchange rate contributes to the stock of capital formation in Nigeria. This is justified on the grounds that increase in exchange rate encourages local production which invariably increases the stock of gross fixed capital formation. Hence, this result conforms to economic a priori expectation.

The error correction model was estimated in response to the long run relationship that exists among the variables. The ECM reflects the speed of adjustment to attain long-run equilibrium and the speed value is estimated to be -0.079261. Hence; the

speed of adjustment and correction of short run dynamics occurs at 7.9%.

The coefficient of determination (R^2) yielded 0.634118. This entails that 63.4% of the variations in the dependent variable is accounted for by the changes in the specified independent variables. This however shows that the explanatory power of the independent variables is relatively high. It practically entails that averagely 37% of the changes in the dependent variable is accounted for by changes in variables outside the model.

The F-statistics ratio yielded 10.39872 with a corresponding probability value of 0.000007. This entails that the test is statistically significant at the entire regression plane. It means that on a joint force framework, the independent variables in the study have significant impact on the dependent variable.

Granger Causality

Table 4: *Granger Causality*

Pairwise Granger Causality Tests

Date: 07/30/18 Time: 01:21

Sample: 1980 2016

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
ODA does not Granger Cause GFCF	35	0.12575	0.8823
GFCF does not Granger Cause ODA		0.09616	0.9086

Source: *Author's Computation Using E-views*

Table 4 is the causality output carried out to test if there exists a causality relationship between foreign aid measured with overseas development assistance (ODA) and gross fixed capital formation. The probability values whose values are 0.0023 and 0.9086 respectively show that there is no causality relationship between foreign aid and gross fixed capital formation. This is informed by the fact that the p-values are greater than 0.05.

Autocorrelation Test

With the application of Durbin-Watson statistic, the presence of autocorrelation was tested. The zero autocorrelation region is recalled to be:

$$du < d^* < (4 - du)$$

where $du = 1.80$

$$d^* = 2.180727$$

By substitution, the region becomes: $1.80 < 2.180727 < 2.2$. Since the computed Durbin-Watson fall into the zero autocorrelation region, it entails that the model is free from autocorrelation problem, and hence the regression results and coefficients are reliable for policy predictions and prescriptions.

Statistical Test of Significance

Table 5: *Statistical Test of Significance*

Variable	Computed t*-Statistics	Tabulated t-Statistics	Decision
Foreign Aid (ODA)	0.477487	2.042	Insignificant

Test of Hypotheses

Ho₁: Foreign aid has no significant impact on capital formation in Nigeria.

Decision: Based on the t-statistical values in table 5, we can clearly see that the computed t-statistics (0.477487) is less than the tabulated t-statistics (2.042). This compels us to accept the null hypothesis and thus accept that foreign aid has no significant impact on capital formation in Nigeria.

Ho₂: Foreign aid does not cause capital formation in Nigeria.

Decision: From table 4, we see that the probability values of the estimated granger causality test (0.0023 and 0.9086) are greater than 0.05. This compels us to accept the null hypothesis and accept that foreign aid does not granger cause capital formation in Nigeria.

CONCLUSION AND RECOMMENDATION

This study has been able to carry out an empirical analysis of the impact of foreign aid on capital formation in Nigeria covering the period 1980-2016. In the course of this research, the concept of foreign aid and capital formation were fully discussed and the background analysis was fully explored. Theoretical and empirical views and studies on foreign aid were acknowledged. The objectives and some other research preliminaries were articulated and explicated. In the research, the methodology used in the study is the linear regression with the application of Ordinary Least Squares (OLS) technique. The results obtained reveal that:

1. Foreign aid which is captured with Overseas Development Assistance (ODA) has a positive but insignificant contribution on Capital Formation in Nigeria for the years under analysis ($\beta = 27.12619$, p-value = $0.6365 > 0.05$)
2. There exists no causal relationship between foreign aid and capital formation in Nigeria for the years under analysis (p-value = 0.0023 and $0.9086 > 0.05$)
3. There exists a long-run relationship between capital formation, foreign aid, trade balance, foreign direct investment and exchange rate (ADF = $-3.160443 > \text{critical value} = -1.950394$)

Conclusion of the Study

So far, this research has been able to carry out an analysis of the impact of foreign aid on capital formation in Nigeria for the years 1980-2016. Conclusively, this research was able to establish the fact that foreign aid on the average

contributes positively to the accumulation of domestic capital for efficient growth and development in the economy. Therefore, the contribution of foreign aid to the growth of capital in Nigeria cannot be overemphasized.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were suggested:

1. The study recommends that 70% of the foreign aid received should be channeled to projects that will generate employment and boost the economy and save the remaining 30% for the next generation.

2. An appropriate policy measure that would monitor the maximum and effective utilization of foreign aid is required. This can be achieved by appointing persons who have track record of integrity.
3. Overseas aid attracted to Nigerian soil should focus on practical and measurable areas like improving

maternal health, timely intervention in HIV/AIDS ailment, and help in the campaign against child slavery.

4. Nigerian governments should try to attract more foreign direct investment

by creating attractive tax structures and reducing the red tape and complex regulations for businesses.

REFERENCES

1. Ajayi, K (2000). *International Administration and Economic Relations in a Changing World* Ilorin: Majab Publishers
2. Ajide, K.B & Raheem, A.J (2015). "Determinants of Foreign Capital Flows into Nigeria: A structural VAR Analysis" *Business and Management Research Journal* 5(1), 1-13.
3. Aluko, F. & Arowolo J (2010). Foreign Aid, the Third World's Debt Crisis and the Implication for Economic Development: The Nigerian Experience. *African Journal of Political Science and International Relations*. 4(4): 120-127.
4. Joseph K (2013) Foreign Aid, Domestic Revenue and Economic Growth in Ghana. *Journal of Economics and Sustainable Development* 4(8):122-126
5. Karikari, A (2002). Agricultural aid to Africa is living aid. Available on the internet at <http://blog.bread.org/2010/10/listen-to-these-african-voices-as-our-governments-take-action-we-need-the-international-community-to-do-its-part-as-we.html> (accessed 26/03/2015).
6. Kim Y., Eric K. & Tyson R (2013). Aid Effectiveness and Allocation: Evidence from Malawi. Paper prepared for the Conference on Foreign Aid at Princeton University, April 26-27, 2013
7. Lance T (1993) Gap Models. *Journal of Development Economics*. 45(6) 17-24.
8. Moyo, J. (2009). *A Decade of Foreign Aid*, Stanford: Stanford University Press.
9. Muhammad J. (2011) Foreign Aid and Growth Nexus in Pakistan: The Role of Macroeconomic Policies. PIDE Working Papers 2011: 72
10. Muhammad A. (2005) Foreign Aid—Blessing or Curse: Evidence from Pakistan. *The Pakistan Development Review* 46 (3):215-240
11. Murtala A (2015) Impact of Saving, Foreign Aid on Growth in India (1981-2011) A perspective on dual-gap model. *Proceedings of the International Symposium on Emerging Trends in Social Science Research (IS15 Chennai Symposium)* ISBN: 978-1-941505-23-6 Chennai-India, 3-5 April 2015 Paper ID: C541
12. Muse B. (2015) Foreign Aid and Fiscal Behaviour in Nigeria: An Impact Assessment of Deregulations. *IOSR Journal of Economics and Finance (IOSR-JEF)* 6(1):104-113
13. Mark G (1981). "The Estimation of the Two-Gap Model. *Journal of International Economics*. 12(19); 111-124.
14. Njeru J (2003). The impact of foreign aid on public expenditure: The case of Kenya AERC Research Paper No 135. African Economic

www.idosr.org

- Research Consortium, Nairobi, Kenya.
15. Sachs, J. (2005). *The End of Poverty: Economic Possibilities for our Time*. PenguinPress HC. *Journal of Political Economy*, 81(4), 120-130.
 16. Steve S, Samuel G and Bodiseowei O (2013) Foreign Aid, Debt and Growth Nexus in Nigeria. *Research Journal of Economics, Business and ICT*. 8(2):112-115
 17. Saibu F (2010) Capital Flows, Trade Openness and Economic Growth Dynamics:
 - a. New Empirical Evidence From Nigerian Economy. Department of Economics and Econometrics, University of Johannesburg, Johannesburg, South Africa.
 18. Tasew T. (2011) Foreign Aid And Economic Growth In Ethiopia: A Cointegration Analysis. *The Economic Research Guardian*, 1(2): 88-108
 19. Todaro M.P & Stephen S. C (2011). *Economic Development*. Harlow-Essex, England: Pearson Education Limited.

Appendix I

Null Hypothesis: D(GFCF) has a unit root

Exogenous: None

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.065304	0.0389
Test critical values: 1% level	-2.632688	
5% level	-1.950687	
10% level	-1.611059	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(GFCF,2)

Method: Least Squares

Date: 09/06/18 Time: 15:00

Sample (adjusted): 1982 2016

Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GFCF(-1))	-0.279629	0.135394	-2.065304	0.0466
R-squared	0.106302	Mean dependent var		68.72743
Adjusted R-squared	0.106302	S.D. dependent var		914.2591
S.E. of regression	864.3003	Akaike info criterion		16.38987
Sum squared resid	25398513	Schwarz criterion		16.43431
Log likelihood	-285.8228	Hannan-Quinn criter.		16.40521
Durbin-Watson stat	2.303842			

Null Hypothesis: ODA has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.283682	0.0235
Test critical values: 1% level	-2.630762	
5% level	-1.950394	
10% level	-1.611202	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ODA)
Method: Least Squares
Date: 07/30/18 Time: 00:06
Sample (adjusted): 1981 2016
Included observations: 36 after adjustments

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
ODA(-1)	-0.215838	0.094513	-2.283682	0.0286
R-squared	0.124942	Mean dependent var	939529.4	-
Adjusted R-squared	0.124942	S.D. dependent var	1291122	7
S.E. of regression	12077746	Akaike info criterion	35.47901	
Sum squared resid	5.11E+15	Schwarz criterion	35.52300	
Log likelihood	-637.6222	Hannan-Quinn criter.	35.49436	
Durbin-Watson stat	2.052120			

Null Hypothesis: D(FDI) has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.552750	0.0000
Test critical values: 1% level	-2.632688	
5% level	-1.950687	
10% level	-1.611059	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(FDI,2)
Method: Least Squares
Date: 07/30/18 Time: 00:09
Sample (adjusted): 1982 2016
Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FDI(-1))	-0.951156	0.171295	-5.552750	0.0000
R-squared	0.475576	Mean dependent var	47.20286	
Adjusted R-squared	0.475576	S.D. dependent var	149392.3	
S.E. of regression	108185.6	Akaike info criterion	26.04924	
Sum squared resid	3.98E+11	Schwarz criterion	26.09368	
Log likelihood	-454.8617	Hannan-Quinn criter.	26.06458	
Durbin-Watson stat	1.974483			

Null Hypothesis: D(TB) has a unit root
 Exogenous: None
 Lag Length: 1 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.109589	0.0000
Test critical values: 1% level	-2.634731	
5% level	-1.951000	
10% level	-1.610907	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(TB,2)
 Method: Least Squares
 Date: 07/30/18 Time: 00:11
 Sample (adjusted): 1983 2016
 Included observations: 34 after adjustments

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
D(TB(-1))	-1.310423	0.214486	-6.109589	0.0000
D(TB(-1),2)	0.828786	0.240752	3.442485	0.0016
R-squared	0.547970	Mean dependent var	46.67353	
Adjusted R-squared	0.533844	S.D. dependent var	1514.932	
S.E. of regression	1034.330	Akaike info criterion	16.77792	
Sum squared resid	34234810	Schwarz criterion	16.86770	
Log likelihood	-283.2246	Hannan-Quinn criter.	16.80854	
Durbin-Watson stat	2.068539			

Null Hypothesis: D(EXR) has a unit root
 Exogenous: None
 Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.087060	0.0030
Test critical values: 1% level	-2.632688	
5% level	-1.950687	
10% level	-1.611059	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(EXR,2)
 Method: Least Squares
 Date: 07/30/18 Time: 00:13
 Sample (adjusted): 1982 2016
 Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EXR(-1))	-0.607671	0.196845	-3.087060	0.0040
R-squared	0.212655	Mean dependent var	1.718557	
Adjusted R-squared	0.212655	S.D. dependent var	19.45634	
S.E. of regression	17.26409	Akaike info criterion	8.563289	
Sum squared resid	10133.66	Schwarz criterion	8.607728	
Log likelihood	-148.8576	Hannan-Quinn criter.	8.578630	
Durbin-Watson stat	1.836565			

Granger Causality Result

Pairwise Granger Causality Tests

Date: 07/30/18 Time: 01:21

Sample: 1980 2016

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
ODA does not Granger Cause GFCF	35	0.12575	0.8823
GFCF does not Granger Cause ODA		0.09616	0.9086
FDI does not Granger Cause GFCF	35	1.60763	0.2171
GFCF does not Granger Cause FDI		1.13179	0.3358
TB does not Granger Cause GFCF	35	5.49134	0.0093
GFCF does not Granger Cause TB		1.20320	0.3143
EXR does not Granger Cause GFCF	35	2.66430	0.0861
GFCF does not Granger Cause EXR		2.06538	0.1444
FDI does not Granger Cause ODA	35	0.26933	0.7657
ODA does not Granger Cause FDI		0.92003	0.4095
TB does not Granger Cause ODA	35	0.19484	0.8240
ODA does not Granger Cause TB		0.19528	0.8236
EXR does not Granger Cause ODA	35	0.28468	0.7543
ODA does not Granger Cause EXR		0.23911	0.7888
TB does not Granger Cause FDI	35	6.07899	0.0061
FDI does not Granger Cause TB		0.35875	0.7015
EXR does not Granger Cause FDI	35	9.04283	0.0008
FDI does not Granger Cause EXR		1.16052	0.3270
EXR does not Granger Cause TB	35	1.33336	0.2788
TB does not Granger Cause EXR		2.54404	0.0954

Data used for the Research

Year	GFCF (N'Millions)	ODA (N'Millions)	FDI (N'Millions)	TB (N'Millions)	EXR (Ratio)
1980	6.780000	34400000	3620.100	1.500000	0.546400
1981	8.570000	39250000	3757.900	-1.800000	0.610000
1982	10.670000	34950000	5382.800	-2.600000	0.672900
1983	11.670000	46750000	5949.500	-1.400000	0.724100
1984	12.460000	32390000	6418.300	1.900000	0.764900
1985	13.070000	31710000	6804.000	4.700000	0.893800
1986	15.250000	58120000	9313.600	2.900000	2.020600
1987	21.080000	67620000	9993.600	12.500000	4.017900
1988	27.330000	255080.0	11339.20	9.700000	4.536700
1989	30.400000	344000.0	10899.60	27.100000	7.391600
1990	33.550000	255000.0	10436.10	64.200000	8.037800
1991	41.350000	258320.0	12243.50	32.000000	9.909500
1992	58.120000	258820.0	20512.70	62.500000	17.29840
1993	127.1200	288420.0	66787.00	53.100000	22.05110
1994	143.4200	189660.0	70714.60	43.300000	21.88610
1995	180.0000	210960.0	119391.6	195.5000	21.88610
1996	238.6000	188750.0	122600.9	746.9000	21.88610
1997	316.2100	199750.0	128331.9	395.9000	21.88610
1998	351.9600	203150.0	152410.9	-85.60000	21.88610
1999	431.1700	151800.0	154190.4	326.5000	92.69340
2000	530.3700	173700.0	157508.6	960.7000	102.1052
2001	764.9600	176170.0	161441.6	509.8000	111.9433
2002	930.4900	297930.0	166631.6	231.5000	120.9702
2003	1096.540	308220.0	178478.6	1007.700	129.3565
2004	1421.660	576940.0	249220.6	2615.700	133.5004
2005	1838.390	6408810.	324656.7	4445.700	132.1470
2006	2290.620	11428020	481239.1	4216.200	128.6516
2007	3680.090	1956260.	552498.6	4397.800	125.8331
2008	6941.380	1290160.	399841.9	4794.500	118.5669
2009	9147.420	1290160.	441271.3	3125.700	148.8802
2010	10157.02	1657070.	2.300000	3847.500	150.2980
2011	10660.07	2061960.	8.920000	4240.800	153.8616
2012	14649.28	1768550.	354466.4	5372.800	157.4994
2013	15751.84	1915820.	433225.7	5822.600	157.3112
2014	17129.68	297930.0	393846.0	2421.700	158.5526
2015	18675.47	308220.0	399764.2	-2230.900	193.2792
2016	21082.72	576940.0	401554.1	-644.8000	253.4923

Source: Central Bank of Nigeria (CBN) Statistical Bulletin, 2016.