INTERNATIONAL DEVELOPMENT ASSISTANCE AS PREDICTOR OF ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

The focus of this study was to test if International development assistance bring any change in the Nigerian economy. The data was based on the foreign aid inflow for the period of 1986 to 2016. Stationarity of data is established using the unit root test. For testing the direction of causality, short run and long run dynamic relationship between independent and dependent variables, Granger Causality Procedure, Johansen Co-Integration and Error Correction Model is utilized. Finding indicate that International development assistance bring improvement in the Nigerian economy. Furthermore, long run equilibrium relationship between official development assistance and economic growth is established in this study.

Keywords: International Development Association (IDA), Economic growth, Nigeria economy, official Development Assistance and Investment.

INTRODUCTION

Foreign aid is considered as beneficial to a country’s economy since it creates inflow of funds, investment, and other technical type of assistance. However, recently, the benefit of foreign aid comes under increasing scrutiny. It is observed and reported by experts that a large portion of foreign aid which is flowing from developed to developing countries is not utilized properly and goes in to wrong hands such as corruption and mismanagement (Alesina & Dollar, 2000; Furuoka, 2008). Mostly, developed countries gives foreign aid with the aim to develop the
developing countries as well as for some political reasons. There are many reasons for giving foreign aid, and major argument is that such aid is that this result in increase the rate of economic growth in countries, which are recipient of aid. These expectations of aid-induced growth however have often been unrealistic. The explanation is that aid largely goes to consumption rather than productive activities which crowd-out domestic savings and investment. In current, study the focus is on understanding the influence of foreign aid assistance on economic growth of Nigeria. The background of Nigeria is that it always remains a developing country and score on the bottom end in indexes such as poverty index and per capital income index. In Nigerian context, the foreign aid present challenge to policy makers since such aid generate some undesirable effects on society as well. Mostly, these negative outcomes include aid related conditionality’s, decline in performance, inefficient use of resources, and increase in real exchange rate. Mostly, the term Dutch disease is used which refers to the harmful consequences of large inflows of foreign currency into a country.

As far as Nigeria is concerned, so it is receiving the foreign aid as part of International Development Agency program since 1970s. The type of foreign assistance to Nigeria include concessional as well as non-concessional loans. Under the loan arrangement, Nigeria is going to repay soft loans over the 30 years period of time with a grace period and service charge of .75 percent. The amount of foreign assistance under IDA is increased rapidly during last decades. The volume of this loan increased up to US 1.5 billion by December 2016. In present study, it is checked that whether this foreign aid is bringing positive or negative influence on the Nigerian economy.

Objectives
- To test the effects of international development assistance on economic growth of Nigeria
- To test the long-term effects of international development assistance on economic growth of Nigeria.

LITERATURE REVIEW

Nigerian Economic Growth
The key aim of Nigerian policy makers is to change the economic structure of a country by altering its economic base, reduction of reliance on oil production, and improvement in all major domains of economic life. Despite different initiatives, the Nigerian economy remains underperforming compare to other neighboring countries and keeping in view the rich resources base which Nigeria possess. The country human resource consists of 197 million people and it possess large reserve of at least 37 different type of solid minerals. The poor performance of Nigerian economy can be associated due to different factors including political instability, poor leadership, military rule and its influence, and lack of human resource development in the country. Some statistics suggest that the economy of Nigeria grew at average rate of 7.4% which is considered as good during the period of 1999 and after. However, the growth is not equally distributed as large portion of country population still facing high poverty rate. Unemployment and crimes are also associated problems. A big problem of Nigerian economy is that it relies
heavily on oil exports and it has very little base of producing and exporting products other than crude oil. This high reliance on oil export made country highly dependent on International market of oil and country is susceptible to shocks in the oil industry. These shocks are due to the developments in the International crude oil market or the restiveness in the Niger Delta region of the country. Other associated problems of Nigerian economy are corruption, poor governance, corruption and inequity.

**International Development Association and the Nigerian Economy**

The International Development Association (IDA) is an International financial institution which offers concessional loans and grants to the world’s poorest developing countries. The organization was formed in 1960s to complement the existing International Bank for Reconstruction and Development by lending to developing countries which suggest from the lowest gross national income, lowest per capital income, and troubled creditworthiness. The International Bank for Reconstruction and Development and the International Development Association collectively known as World Bank since it follows same executive leadership and operate with same staff.

The procedure of IDA is to give credit to developing countries and for such projects which aims to improve socio-economic improvement and related to domains such as education, healthcare, infrastructure development and so on. The IBRD is considered as hard type of loan facility, whereas, the IDA is considered to be providing soft type of loans. The type of loans includes grants and loans and maturity period of 25 to 40 years and grace period of 5 to 10 years with interest rate of about 1.25% to 3% in average. Those countries which have developed good reputation in IDA can obtain interest free loans for some of their projects. Mostly, those countries which are successful in implementing poverty reducing and pro-growth policies. The criteria used by IDA is based on World Bank’s Country Policy and Institutional Assessment development indicators. Those countries which are either successful or following successful policies get more chance of getting loans compare to the other countries.

**Key Theories related to the Foreign Assistance**

**Harrod-Domar Model**

The Harrod-Domar model suggest that output is a function of investment rate and the productivity of investment. For countries like Nigeria which are following open economies, investment is financed by saving which include domestic as well as foreign savings. The result of foreign aid is that it increase savings and thus enhance investment in a country and thus leads to the economic growth of a country (Easterly, Levine, & Roodman, 2004).

**Two-Gap Model of Growth**

The two-gap model of growth is developed by Chenery, (Chenery & Strout, 1966). This model is used to explain the relationship between aid-growth nexus. The first gap according to this model is the ‘saving gap’. This saving gap refers to the available domestic saving and its difference related to the predetermined rate of growth required. Second gap according to this model is the foreign exchange gap. The gap is about foreign exchange inflows and given level of production due to the import requirements. Based on this model, if there is saving gap or trade gap, it brings
decrease in productive investment needed to achieve a given level of output and thus it bring requirement of foreign aid in order to fulfill such gap. Overall, the two gap model support the use of foreign aid and considered it as a useful tool in bringing development of economy of a poor country.

The Three-Gap Model

In the three-gap model, there is an additional gap other than the saving and investment gap. This third type of gap is the fiscal gap which refers to the shortcoming between government revenues and the budgeted expenditures. If fiscal gap is present, it leads to a situation where government find itself short of resources to stimulate private investment due to the excessive domestic borrowing and debt services. It is estimated, that the public debt to GDP ratio is 70% so if this gap is reduced it may bring more foreign inflows in the form of budget support.

Empirical Studies related to Impact of Foreign Aid on Economic Growth


Akonor (2008) also investigated the influence of foreign aid on economic growth of a country. The study reported that there is increase dependence on foreign aid among the African nations resulting in decrease in sovereignty of African countries.

Alesina (2002) conducted study about influence of foreign aid and its association with corruption. Results shows that there are insignificant differences between the corrupt versus less corrupt countries in terms of receiving the foreign aid. The study also showed that there is insignificant relationship between corruption and received foreign aid.

Alesina and Dollar (2000) conducted study about foreign aid allocation by various donor countries. The study reported that political and strategic considerations influence the decisions related to providing foreign to a recipient country.

Another study is conducted by Papanek (1973) investigated the relationship between various factors and the economic growth for 34 less developed countries. The results show that one third of GDP growth is explainable by domestic savings and foreign inflows. Furthermore, the study reported that foreign aid is highly related to the growth factor.

Burnside & Dollar (2000) investigated the relationship between foreign aid and economic growth. The results were that there is significant relationship between foreign aid and economic growth of a country. The study also additionally commented that receiving of foreign aid by a country does not means that this country has adopted good macroeconomic policies. The study stressed that foreign aid can only be utilized appropriately when there is stable and appropriate domestic policies. In the absence of such policies, foreign aid is not going to bring good results.

Chowdhury & Das (2011) study tested the relationship between foreign aid and per capita income. The study focused on four South Asian economies including Pakistan, Bangladesh, Sri Lanka, and Nepal. The results show that there is positive long-term relationship between foreign aid and per capita income in the countries mentioned.
Ekanayake and Chatrna (2010) tested the effects of foreign aid on economic growth of developing countries. The study is based on 85 developing countries covering Caribbean, Latin America, Africa, and Asian region. Utilizing the panel data of these massive 85 countries, the study concluded that foreign aid brings mixed results in economic growth in developing countries.

Fasanya and Onakoya (2012) tested the effects of foreign aid on economic growth in Nigerian context. The study utilized data from 1970 to 2010-time period. Results shows that in Nigerian context, there is significant positive relationship between foreign aid and economic growth.

Griffin and Enos (1970) tested the influence of foreign aid on domestic savings. The study used the Harold model of economic growth. The finding of the study is that as a country receive increased foreign aid, it results in decrease in domestic savings in public sector which discourage the government efforts to raise the tax base and associated revenues. If we look at the foreign aid from this point of view, it can be seen that economic growth is not guaranteed on the basis of foreign aid alone.

Hansen and Tarp (2000) tested the influence of foreign on economic growth of a country. The time period they focused was mid-nineties. The study based on the statistical and theoretical analysis concluded that there is positive influence of foreign aid on economic growth of a country.

Feeny and McGillivray (2009) conducted study about foreign aid and its influence on economic growth. The authors argued that foreign aid and its influence on economic growth depends on the absorption capacity of aid recipients. A country can make efficient use of foreign aid which is treated as external resource providing it possess good infrastructure and suitable skilled labor.

Karras (2006) also conducted study about foreign aid and economic growth of developing countries. The data was based on 71 aid receiving countries and time period was from 1960 to 1997. The results of the study concluded that there is positive influence of foreign aid on economic growth.

Study by Levy (1988) also investigated the similar relationship between foreign aid and economic growth. The focus of this study as the low-income countries of Sub-Saharan African region. The results of the study show that there is positive impact of foreign aid on economic growth of a country.

Burnside and Dollar (2000) conducted study about relationship between foreign aid and its influence on economic growth and poverty reduction in the African region. The results of the study show that there is long run relationship between real GDP, aid and investment as a percentage of GP and trade openness. However, when foreign aid is added to the model, it showed a long run negative relationship for most of the countries studied.

**Model Specification**

The main focus of the study was to test the effects of foreign aid under the International development assistance (IDA) on economic growth in Nigeria. The author adopted a modified version of model provided by Malik (2008). The theoretical framework of the study is based on Harrod-Domar model of impact of fiscal and monetary operations on economic growth regarding
the ability of Official Development Assistance to influence the level of economic growth in a country. The following model is proposed based on the Ordinary Least Square:

\[ GDPGr_t = \beta_0 + \beta_1 WBL_t + \beta_2 IDAG_t + \beta_3 IFCL_t + \beta_4 EXR_t + u_t \]

In this model, \( \beta_1 \) to \( \beta_4 \) are coefficients of parameters to be estimated.

\( GDPGr_t \) represents gross domestic product growth rate, and is the endogenous variable,

\( WBL = \) World bank loan extended in form of loan to Nigeria.

\( IDAG = \) International Development Association Grants.

\( IFC L = \) International financial cooperation loan.

\( EXR = \) Exchange rates

\( u_t = \) is the error term

\( t = \) represents the time period

\( \beta_0 = \) the intercept term

The modified econometric model of Aguwamba, Ogbeifun, & Ekeinabor [33] is as follows:

\[ CGDP_t = \beta_0 + \beta_1 ODAt + \beta_2 GEXPt + \beta_3 INTRt + \beta_4 LPt + \beta_5 CAPt + \beta_6 PUt + \mu_t \]

Where, \( \beta_0 = \) Constant Intercept term

\( CGDP = \) Gross Domestic Product per Capita

\( IDA = \) IDA Official Flow,

\( CAP = \) Gross fixed Capital formation,

\( INTR = \) Interest Rate,

\( GEXP = \) Government Expenditure,

\( LP = \) Labour Force participation,

\( PU = \) Political Unrest.

\( \mu = \) Stochastic error term

**Estimation Technique and Procedure**

Stationary test is conducted for each variable by using the augmented Dickey-Fuller unit root tests to check the stationarity property of each variable in order to avoid spurious regression. Stationary time series means data is stable and its means and covariance are constant over time and thus can be used for forecasting purpose. The general form of ADF is estimated by the following regression

\[ \Delta Y_{dt} = \beta_0 + \beta_1 Y_{d(t-1)} + \sum \beta_1 \Delta Y_{dt} + \delta_t + \mu_t \]

Where,

\( Y_{dt} \) is a time series

\( t \) is a linear time trend

\( \Delta \) is the first difference operator

\( \beta_0 \) is a constant

\( t-1 \) is optimum number of lag in the independent variables
Data Analysis
The results of the unit root test conducted using the Augmented Dickey Fuller (ADF) tests is presented in the following table. The series possess an intercept but no trend and the ADF test is run against the null hypothesis of non-stationarity. As a rule, once the ADF statistics is greater than the critical value at any chosen level of significance, the null hypothesis is rejected in favour of the alternate hypothesis and this implies that the data is stationary. Table-1 shows that all the variables are stationary at first difference using the 5% level of significance except for GDP which was stationary at level form. This paper concludes that all the variables used for the analysis are stationary and cannot cause spuriousity of results obtained. A time series that is integrated of order zero is the time series that admits moving average representation. This implies that the autocovariance is decaying to zero sufficiently and quickly. This is a necessary but a sufficient condition for a stationary process. Therefore, all stationary processes are I(0), but not all I(0) processes are stationary. A process is integrated to order one if taking a difference yields a stationary process.

Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF Statistic</th>
<th>Level of Significance</th>
<th>T-Critical Values</th>
<th>Remarks</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGDP</td>
<td>3.278</td>
<td>5%</td>
<td>-2.86286</td>
<td>I(0)</td>
<td>Stationary</td>
</tr>
<tr>
<td>ODA</td>
<td>-6.331138</td>
<td>5%</td>
<td>-2.86666</td>
<td>I(1)</td>
<td>Stationary</td>
</tr>
<tr>
<td>GEXP</td>
<td>-6.603616</td>
<td>5%</td>
<td>-2.861842</td>
<td>I(1)</td>
<td>Stationary</td>
</tr>
<tr>
<td>LP</td>
<td>-3.368806</td>
<td>5%</td>
<td>-2.86666</td>
<td>I(1)</td>
<td>Stationary</td>
</tr>
<tr>
<td>INT</td>
<td>-6.672867</td>
<td>5%</td>
<td>-2.86666</td>
<td>I(1)</td>
<td>Stationary</td>
</tr>
<tr>
<td>CAP</td>
<td>8.328270</td>
<td>5%</td>
<td>-2.888064</td>
<td>I(1)</td>
<td>Stationary</td>
</tr>
<tr>
<td>PU</td>
<td>Dummy</td>
<td>5%</td>
<td></td>
<td>Dummy</td>
<td>Stationary</td>
</tr>
</tbody>
</table>

Stationarity of all variables at first difference except the CGDP is clearly observable from the above table. The CGDP was stationary at level form. Because of most variables stationary at first difference, we made use of cointegration test of residual’s stationarity to examine whether a long run stable relationship exists among the variables so as to use the error correction model.

Test for Cointegration
The test for cointegration is used and result is given below. It indicate that the residual is stationary hence using the Augmented Dickey-Fuller test, it can be concluded that there exists a long run linear relationship among the variables in the model.

Table 2

<table>
<thead>
<tr>
<th>Date: 05/28/17</th>
<th>Time: 17:38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample (adjusted): 1988 2015</td>
<td></td>
</tr>
<tr>
<td>Included observations: 28 after adjustments</td>
<td></td>
</tr>
<tr>
<td>Trend assumption: Linear deterministic trend</td>
<td></td>
</tr>
<tr>
<td>Series: CGDP ODA LP GEXP INT CAP PU</td>
<td></td>
</tr>
<tr>
<td>Lags interval (in first differences): 1 to 1</td>
<td></td>
</tr>
<tr>
<td>Unrestricted Cointegration Rank Test (Trace)</td>
<td></td>
</tr>
<tr>
<td>Hypothesized Trace 0.05</td>
<td></td>
</tr>
<tr>
<td>No. of CE(s) Eigenvalue Statistic Critical Prob,**</td>
<td></td>
</tr>
</tbody>
</table>

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### Error Correction Model

The existence of cointegration has necessitated the need for the construction of error correction mechanism so as to model the dynamic equilibrium relationship and correct short run disequilibrium. The result from the error correction model shows that the coefficient of the ECM (i.e. the lagged value of the residual) is 0.27. This means that the system corrects its previous period’s disequilibrium at a speed of 27% annually. Moreover, the sign of the error correction coefficient (residual (-1)) is positive and not significant indicating the non-validity of the long run equilibrium relationship between economic growth and the explanatory variables as proposed by Solow growth model.

#### Table 3

**Shortrun Dynamic Model**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>45641.62</td>
<td>0.122123</td>
<td>0.8038</td>
</tr>
<tr>
<td>ODA</td>
<td>0.000123</td>
<td>8.108688</td>
<td>0.0000</td>
</tr>
<tr>
<td>GEXP</td>
<td>85.5656</td>
<td>6.280233</td>
<td>0.0000</td>
</tr>
<tr>
<td>LP</td>
<td>-1314.583</td>
<td>-0.186233</td>
<td>0.8343</td>
</tr>
<tr>
<td>INT</td>
<td>-2.4543</td>
<td>-0.303633</td>
<td>0.7435</td>
</tr>
<tr>
<td>INT</td>
<td>5.6565</td>
<td>0.866632</td>
<td>0.3883</td>
</tr>
<tr>
<td>PU</td>
<td>14630.07</td>
<td>1.230631</td>
<td>0.3334</td>
</tr>
</tbody>
</table>

The trace test indicates 7 cointegrating eqn. (s) at the 0.05 level. * denotes rejection of the hypothesis at the 0.05 level. **MacKinnon-Haug-Michelis (1999) p-values.
The results as provided in table based on static regression results shows that coefficient of international development assistance is statistically significantly different from zero since the p value is less than 0.05. The we accept the alternative hypothesis.

For second hypothesis, our results based on F-statistics shows that economic growth causes the inflow of international development assistance.

For the third hypothesis, our results show based on trace and maximum Eigen value statistic indicate that there are at least one co-integrating variables in the relationship between Real Gross Domestic Product and all the independent variables. It shows that there is long run relationship between International development assistance and the Nigerian economy.

These results based on Rsquare shows that 99% change in CGDP is due to the independent variables proposed. As far as independent variable coefficient is concerned, so it shows that a unit change in Official Development Assistance brings .000123 increase in the Nigerian economy. A unit change in government expenditure is bringing 85.5656 unit change in Nigerian economy. One unit increase in Interest rate bring -2.4543 units decrease in Nigerian economic growth. Provision of capita is having positive influence on Nigerian economy with beta of 5.6565 but insignificant results. The results for political unrest remains statistically insignificant.

DISCUSSION

The conclusion of the study is that International development assistance bring economic growth to the Nigerian economy. Furthermore, the literature also points out that if there is not enough infrastructure such as political and systematic stability, so it leads to the mismanagement of the received aid which can disturb its efficient and effective utilization.

Recommendations

- The financial aid received under International assistance program may be mostly utilized on long term developmental and capital type of projects.
- Strict measures and mechanisms must be in place to ensure that aid received is only utilized for the development of the country and not go in to the wrong hands.

References


http://www.actionaid.org.uk/doc_lib/69_1_real_aid.pdf


