Does Foreign Aid Accelerate Economic Growth?
An Empirical Analysis for Nigeria

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ABSTRACT: This paper analyses the impact of foreign aid on economic growth in Nigeria during the period of 1970-2010. The empirical analysis rests on the neo-classical modelling analytical framework and combined several procedures in modern econometric analysis/estimation techniques. Our findings shows that aid flows has significant impact on economic growth in Nigeria: domestic investment increased in response to aid flows and population growth has no significant effect on aid flows. Aid flows also provides free resources to increase domestic investment, thus confirming the aid-policy-growth hypothesis. Therefore, donor governments should be aware of the political situations in recipient countries, and work with international bodies to ensure as much stability as possible. Finally, foreign aid transfers should henceforth pledge to abide by the oath to of doing no harm.

Keywords: Foreign Aid; Policy; Modelling; Economic Growth; Nigeria

JEL Classifications: C01; C51; E13; F35

1. Introduction

Over the last half century, foreign aid has emerged as a dominant strategy for alleviating poverty in the third world. Not coincidentally, during this time period major international institutions, such as the United Nations, World Bank, and International Monetary Fund gained prominence in global economic affairs (Hjertholm and White, 2003). Yet it seems that sixty years later, the lesser developed countries (LDCs) of the world continue to suffer from economic hardship, raising questions of whether foreign aid is a worthwhile and effective approach to boosting growth and development in recipient economies. Then how does foreign aid affect growth? This is a question that has attracted the attention of many scholars over several decades. The empirical evidence obtained from these extensive studies have been mixed (see also Murphy and Trep, 2006; and Duc, 2006). In between, however, are some others who argue on the role of economic policy in determining the effectiveness of foreign aid in aid recipient countries. Pedersen (1996) argues that it is not possible to conclude that the foreign aid has a positive impact on growth. Morrisey (2001) claimed that aid works well conditional on other variables in the growth regression. Mosley (1980), Mosley, et al. (1987), Boone (1996), and Jensen and Paldam (2003) found evidence to suggest that aid has no impact on growth. Many other authors find no evidence that aid affects growth in developing countries. By and large, the relation between aid and economic growth remains inconclusive and is worth being studied further.

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 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 (Salisu, 2007). Against this background, a research work of this nature to evaluate the impact of foreign aid on economic growth is considered inevitable at this time.

This study distinguishes itself from the existing theoretical literature on aid and economic growth by filling the gap on some aspects absent from previous analysis. Previous studies have failed to show the theoretical backings of the inclusion of policy variables which is yet to be solved but the present study intends to fill this gap by showing the theoretical and econometric relationship between the policy variables and aid-growth analysis. Therefore, this paper assesses the impact of foreign aid on growth, and proposes improvements to the procedures found in studies of the direct aid-growth relationship.

Foreshadowing our main results, we find evidence that that aid flows has significant impact on economic growth in Nigeria, domestic investment increased in response to aid flows and population growth has no significant effect on aid flows. The significant coefficients of all exogenous variables clearly state that Nigeria’s economy growth rate of GDP depends on inflation, foreign aid, investment and public expenditure in the short run. Above all, foreign aid to the Nigerian economy has positive impact on growth of GDP.

The remainder of the paper is organized as follows. Following section one is section two which deals with the literature review. In Section three, the theoretical and methodological framework of the study is pursued while the empirical results are discussed in section four. Section five concludes the paper.

2. Review of Relevant Studies

There seems to be extensive work examining the direction between aid and growth. As earlier mentioned, the results from these various studies are mixed (while some suggest a negative relationship, some others suggest a positive association). Under this section of the study, we provide a review of the findings of the major studies including the recent dimension into the relationship between aid and growth.

Papanek (1973), in a cross-country regression analysis of 34 countries in the 1950s and 51 countries in the 1960s, examined foreign aid, foreign investment, other flows and domestic savings as explanatory variables, found that foreign aid has a substantially greater effect on growth than the other variables. He explained that “aid, unlike domestic savings, can fill the foreign exchange gap as well as the savings gap. Unlike foreign private investment and other foreign inflows, aid is supposed to be specifically designed to foster growth and, more importantly, is biased toward countries with a balance-of-payment constraint”. Based on the model developed by Papanek (1973) and then extended by Mosley (1980) and Mosley et al. (1987), Snyder analyzed the relation between foreign aid inflow and the growth rate of gross domestic product in 69 developing countries over three periods (the 1960s, the 1970s and 1980-1987), incorporating country size (measured by gross domestic product) in the model. He argues that when country size is not included, the effects of aid are small and insignificant but when this factor is taken into account, the coefficient of aid becomes positive and significant.

On the contrary, Knack (2000), in a cross-country analysis, indicates that higher aid levels erode the quality of governance indexes, i.e. bureaucracy, corruption and the rule of law. He argued that “aid dependence can potentially undermine institutional quality, encouraging rent seeking and
corruption, fomenting conflict over control of aid funds, siphoning off scarce talent from bureaucracy, and alleviating pressures to reform inefficient policies and institutions”.

Fayissa and El-Kaissy (1999), in a study of 77 countries over sub-periods 1971-1980, 1981-1990 and 1991-1990, showed that foreign aid positively affects economic growth in developing countries. Using modern economic growth theories, they point out that foreign aid; domestic savings, human capital and export are positively correlated with economic growth in the studied countries. This is consistent with the economic theory of foreign aid, which asserted that overseas development assistance accelerates economic growth by supplementing domestic capital formation (Chenery and Strout, 1966). Foreign aid has a strong positive impact on economic growth in less developed countries (LDCs) for both periods 1960-1970 and 1970-1980 when state intervention is not taken into account. When the state intervention variable is included in the regression, the effect of foreign aid gets statistically weak over time. Moreover, foreign aid negatively affects the domestic savings rate whereas per capita income, country’s size and exports positively affect it (Singh, 1985).

Different types of aid have different impacts on growth. In a country analysis of Cote d’Ivoire from 1975 to 1999, Ouattara and Strob (2003) categorize foreign aid into project aid, program aid, technical assistance and food aid. Using a disaggregation approach with auto regressive techniques, he found that (i) project aid displaces public savings; impacts of program aid is almost neutral while technical assistance and food aid increase public savings and (ii) project aid and to a lesser extent, program aid, worsen the foreign dependence of Cote d’Ivoire while technical assistance and food aid reduce the gap. Chenery and Carter (1973), following the previous two-gap derived model of Chenery and Strout (1966) and using data from 50 countries over the period 1960-1970, show that the effects of official development assistance (ODA) on the development performance of countries under study are different among certain groups of countries. In five countries, namely Taiwan, Korea, Iran, Thailand and Kenya, foreign assistance accelerated economic growth whereas in six cases it retarded growth, i.e. India, Colombia, Ghana, Tunisia, Ceylon and Chile.

Incorporating export price shocks into Burnside and Dollar’s (1998) analysis, Collier and Delh (2001) showed a significant and negative relation between negative shocks and economic growth. They argued that “the adverse effects of negative shocks on growth can be mitigated by offsetting increases in aid”. Therefore, they suggest that targeting aid towards negative shock experiencing countries could be more effective than towards good-policy countries. Using a 2.5% cut off in their sample size of 113 countries, they found 179 positive shocks and 99 negative shocks episodes. Easterly et al., (2003) conducted a new test on the previous work of Burnside and Dollar (1998). With a larger sample size (1970 to 1997 compared to BD’s 1970-1993), they find that the result is not as robust as before and therefore claim that the question of aid effectiveness is still inconclusive.Burnside and Dollar (2004) revisited the relationship between aid and growth using new data set focusing on the 1990s. Their evidence supports the view that the impact of aid depends on the quality of state institutions and policies. They employed an overall measure of institutions and policies popular in the empirical growth literature. The interaction of aid and institutional quality has a robust positive relationship with growth that is strongest in instrumental variable regressions. There is no support for hypothesis that aid has the same positive effect everywhere.

Duc (2006) attempted to quantify the impact of foreign aid on economic growth in developing countries over the period 1975-2000. Using cross-country data comprising thirty-nine countries, he found evidence that foreign aid significantly and negatively correlates with growth in developing countries. He, however, found that foreign aid to Inland countries as well as South Asian countries during the period 1992-2000 significantly and positively correlates with growth. In addition, a strong divergence trend is found among countries in the dataset. The results suggest that there may be problems in the present aid providing system, where aid hinders growth of developing countries, the successful experience of some Inland countries and South Asian countries nations during the period of 1992-2000 could be a good lesson for other developing countries. Finally, a strong evidence of divergence implies that if the condition is not improved upon in the least developing countries, there would be large income dispersion among developing countries in the future.

Murphy and Tresp (2006) reconsidered the role of economic policy in determining the effectiveness of foreign aid for generating economic growth in developing countries. They updated and modified the dataset originally used by Burnside and Dollar (2000) in order to more fully consider the critique presented by Easterly et al. (2003). Their findings suggest that the relationship among
foreign aid, government policy, and economic growth is tenuous and depends importantly on the subset of countries included in the analysis. Good policy enhances the effectiveness of foreign aid in spurring growth when we use the original set of countries included in Burnside and Dollar, but this relationship disappears for an expanded set of countries. Because the relationship among aid, policy, and growth is likely to be nonlinear, they presented an alternative probit model emphasizing growth thresholds. Their results from this alternative analysis confirmed the conclusions of Easterly et. al., finding little support for the view that good policy increases the probability that foreign contributes to growth.

Easterly (2003) and Murphy and Tresp (2006) while re-examining Burnside and Dollar (BD’S thereafter) work using the same specification, however, found that the aid-policy interaction effect on growth in developing countries disappears when an expanded data set is considered. In his analysis over an expanded data set of nine four year periods between 1970 and 2001 covering twenty SSAs, he found that a sound macroeconomic policy is sine qua non for the effective contribution of aid to sustainable growth. Also, he found that economic policy is an important determinant of growth.

In short, the results of research on the relation between aid and growth vary depending upon the models, data and countries of analysis. Therefore, the debate over the impact of aid on growth is on-going and left open to further study.

3. Theoretical Foundation and Methodology

This section discusses the model specifications to examine the relationships between foreign aid and GDP growth. Our model for aid-growth relationship follows the specification of the neoclassical growth model. There are four major variables in the model: output (Y), capital (K), labour (L), and “knowledge” or “effectiveness of labour” (A). That is the model is derived, in conventional manner, which takes the form:

\[ Y(t) = F(K(t), A(t)L(t)) \]  

The production function follows a constant return to scale (CRS), if output is expressed in unit of effective labour input, we have

\[ y = f(k) \]  

The production function satisfies, \( f(0) = 0 \), \( f'(0) = \infty \), \( f'(\infty) = 0 \), \( f'(k) > 0 \), \( f''(k) < 0 \)

The production function takes the form of Cobb-Douglas process

\[ F(K, AL) = K^{\alpha}(AL)^{1-\alpha}, 0 < \alpha < 1 \]

Given that \( k = K/AL \), changes in stock of capital labour ratio over time is given as:

\[ y = k^\alpha \]

\[ \dot{k}(t) = sf(k(t)) - (n + g + \delta)k(t) \]

That is the rate of change in stock of capital per labour is determined by the difference between actual investment per unit of effective labour and the break-even investment. An increase in \( s \) shifts the actual investment, \( sf(k) \) upward so that \( k^* \) rises. This leads \( \dot{k} \) a gradual rise in until it in equilibrium with \( k^* \). A permanent increase in \( s \) causes a temporary rise in \( k \). That is \( k \) rises for some time but reaches a stage where any additional \( s \) is only used to maintain a constant \( k \). Similarly, a rise in \( s \) leads to an initial increase in growth rate of output per man hour, \( g \), until it reaches a higher level where it rises no more. Overall, a change in the \( s \) has a level effect, but not a growth effect on output per man hour. The equation describing the evolution of the capital stock per unit of effective labour is given by:

\[ \dot{k} = sf(k) - (n + g + \delta)k \]

Using the intensive Cobb-Douglas form \( -f(k) = k^\alpha \), this yield:

\[ \dot{k} = sk^\alpha - (n + g + \delta)k \]

The balance growth path, \( k \) is zero i.e. investment per unit of effective labour is equal to break-even investment per unit of effective labour and so \( k \) is constant. Denoting the balanced-growth path value as \( k^* \), we have

\[ sk^\alpha = (n + g + \delta)k^* \]

Rearranging to solve for \( k^* \) yields:

\[ k^* = \left(\frac{s}{(n + g + \delta)}\right)^{1/(1-\alpha)} \]
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To get the balanced-growth-path value of output per unit of effective labour into the intensive form of the production function i.e. \( y = k^\alpha \), we have

\[
y^* = \left[ \frac{\delta}{(n + g + \delta)} \right]^\sigma (1-\alpha) \]

Also, considering another phylum of the neo-classical theory i.e. the RCK model where assumptions are almost the same, the balanced growth path is described as:

\[
\dot{k} = f(k(t)) - c(t) - (n + g)k(t) \]

where \( f(k(t)) - c(t) \) represents actual investment just like \( sf(k) \) of the Solow model i.e. the difference between output and consumption yields the actual investment while the last term on right hand side represents the break-even investment. In adjusting this model to include government expenditure, there is need to introduce policy to regulate this assumption.

\[
\dot{k} = f(k(t)) - c(t) - G(t) - (n + g)k(t) \]

More so, the policy required here is to complement the monetary policy introduced in equation (8) where the policy used in equation (9) now represents fiscal policy for the purpose of maintaining economic stability.

By assuming equation (7) to be linear in logs, taking logs and differencing with respect to time. We obtain an expression describing the determinants of the growth rate of GDP, where (s) represents the monetary policy instrument used by the government in the above theory. The monetary policy tool captures the rate of inflation. In addition, the growth rate of population is captured by (n) in the neoclassical balanced growth path in the above model while the growth rate of capital (g) can be broken down into foreign capital and domestic capital. The fiscal policy tool introduced in equation (9) is used to capture government expenditure.

Following the precedent set in numerous previous studies, we approximate the rate of growth of the capital stock by foreign aid and the share of investment in GDP. This is necessary due to the formidable problems associated with attempts to measure the capital stock, especially in the context of developing countries. In addition, we also replace the rate of change in labour input by the growth rate of population.

Following the work of Feeny and McGillivray (2008), they indicate that there are diminishing returns to aid due to recipient countries having absorptive capacity constraints. Absorptive capacity relates to an aid recipient’s ability to utilize foreign aid inflows effectively. In order to take into account this relationship, a square term is added to the following model.

Following Karras (2006), we also include several other variables that often believed to have effect on growth. These changes yield the following growth equation:

\[
GDPGR_t = \beta_0 + \beta_1 PPGR_t + \beta_2 \left[ \frac{INV}{GDP} \right] + \beta_3 \left[ \frac{AID}{GDP} \right]^2 + \beta_4 \left[ \frac{PEXP}{GDP} \right] + \varepsilon_t \]

In the estimation of the model, several procedures are employed to establish the robustness of the relationship. First, the Ordinary Least Square (OLS) estimation methodology was adopted. This study also applies the error correction model (ECM) framework (with particular attention given to causality) through Granger’s representation theorem (Engle and Granger, 1987). The linear constructions of these variables are interpreted as long run static equilibrium relationships (Johansen, 1988, Johansen and Juselius 1990). The equation is then estimated with an error correction term, which represents the speed of adjustment to out of equilibrium movements in the stated model².

\[
AID/GDP (12) \]

Hence, the AIC and SIC have been suggested as alternative fit measures. These criteria are given as:

\[
AIC(g) = \log \left( \frac{\sigma^2 \varepsilon^2}{n} \right) + \frac{2g}{n} \]

\[
SIC(g) = \log \left( \frac{\sigma^2 \varepsilon^2}{n} \right) + g \log n \]

²The larger the coefficient, the greater the adjustment of the dependent variable to the deviation from long run equilibrium in the previous period (Dolado, et. al 2001).

³ Equations (13), (14) are derived from taking the natural logarithm of \( AIC(g) = \sigma^2 (1 - R^2)^{n} \) and \( SIC(g) = \sigma^2 (1 - R^2)^{n} \).
Among these criteria shown by equations (13) and (14) the AIC and SIC is often preferred as it gives the heaviest penalties for loss of degrees of freedom. Thus, the model with the least value of AIC and SIC is assumed to give the best fit for equation (12).

3.1. Description of Variables and Data Sources

Where GDPGR is the growth rate of GDP, POPGR is the growth rate of population which is a proxy for the growth rate of labour force, investment/GDP ratio represents the growth rate of domestic capital stock and AID is the foreign aid. The rate of inflation captures the monetary policy tool and government expenditure is used to capture the fiscal policy.

In order to test the implications of our model, we collected an aggregate data on foreign aid on Nigeria. The entire data set of Nigeria for which foreign aid and all other relevant variables are reported over the 1970–2010 period. The economic growth rate is measured in this study as the growth of GDP. The data on GDP, inflation and public expenditure are from the Central Bank Statistical Bulletin. The growth rate of population is used as a proxy for the growth rate of the labour force. The data on population are from the Penn World Data. The investment/GDP ratio is used as a proxy for the growth rate of the domestic capital stock. Since the investment/GDP ratio is not reported for Nigeria, gross fixed capital formation as a share of GDP is used to represent investment/GDP ratio. The data on foreign aid are from the World Bank, World Development Indicators database.

4. Estimation and Interpretation of Results

As this study involves time series data, the ordinary least square (OLS) method cannot be applied unless it is established that the variables concerned are stationary. For this paper, we have applied unit root test to check the stationarity of the variables under study. Specifically, the Augmented Dickey-Fuller (ADF) is used; the ADF is used to avoid spurious regression thereby subjecting each of the variables used to unit root test so as to determine their orders of integration since unit root problem is a common feature of most time series data. The ADF employs the following equation:

$$\Delta y_t = c_1 + c_2 t + \omega y_{t-1} + \sum_{i=1}^{r} d_i \Delta y_{t-i} + v_t$$

The null hypothesis is that there exists a unit root in the time series (non-stationary time series), which is Ho: $\omega = 0$ against the alternative hypothesis that the time series is stationary (no unit root) or I(0) which is H$_1$: $\omega < 0$. In both tests, if the calculated statistic is less (in absolute terms) than the MacKinnon (1991, 1996) critical values, the null hypothesis is accepted and will therefore mean that there is a unit root in the series. In other words, it means the time series is not stationary. The opposite is true when the calculated statistic is greater than the MacKinnon critical value.

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF Values</th>
<th>Critical Values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDPGR</td>
<td>-6.0428*</td>
<td>-3.1655</td>
<td>I(0)</td>
</tr>
<tr>
<td>POPGR</td>
<td>-3.4523**</td>
<td>-2.9434</td>
<td>I(0)</td>
</tr>
<tr>
<td>INFR</td>
<td>-3.1007**</td>
<td>-2.9411</td>
<td>I(0)</td>
</tr>
<tr>
<td>AID/GDP</td>
<td>-5.7198*</td>
<td>-3.6210</td>
<td>I(1)</td>
</tr>
<tr>
<td>(AID/GDP)$^2$</td>
<td>-5.6008*</td>
<td>-3.6210</td>
<td>I(1)</td>
</tr>
<tr>
<td>INV/GDP</td>
<td>-2.7015***</td>
<td>-2.6090</td>
<td>I(0)</td>
</tr>
<tr>
<td>PEXP/GDP</td>
<td>-8.8731*</td>
<td>3.6104</td>
<td>I(1)</td>
</tr>
<tr>
<td>ECM(-1)</td>
<td>-7.2852*</td>
<td>-3.6267</td>
<td>I(0)</td>
</tr>
</tbody>
</table>

Source: Computed by the Researcher, 2012

Note: One, two and three asterisk denotes rejection of the null hypothesis at 1%, 5% and 10% respectively based on critical values

The above results i.e. ADF test in Table 1 shows that all the variables are stationary at levels with the exception of aid and public expenditure. Some of the variables are found to be stationary at 99 percent significance level in their first difference from with the assumption of constant.
Table 2 summarizes the results of cointegration analysis among the variables under study. In addition, existence of long run relationship among the variables was also examined by applying the framework developed by Johansen (1991). The result of the Johansen test on the structural models reveals the existence of cointegrating relationship for growth of GDP, population growth, inflation rate, and foreign aid as a percentage to GDP, investment as a percentage of GDP and public expenditure as a percentage of GDP. The existence of the cointegrating equations in this respect indicates the need to set up a dynamic error correction model to capture relationship among variables involved.

Table 2. Johansen Cointegration Test

<table>
<thead>
<tr>
<th>EIGEN VALUE</th>
<th>TRACe STATISTICS</th>
<th>5% CRITICAL VALUE</th>
<th>1% CRITICAL VALUE</th>
<th>NO. OF CE(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9084</td>
<td>205.7753</td>
<td>124.4</td>
<td>133.59</td>
<td>None*</td>
</tr>
<tr>
<td>0.6418</td>
<td>117.3230</td>
<td>94.15</td>
<td>103.18</td>
<td>At most 1*</td>
</tr>
<tr>
<td>0.6008</td>
<td>79.33546</td>
<td>68.52</td>
<td>76.07</td>
<td>At most 2*</td>
</tr>
<tr>
<td>0.4883</td>
<td>45.35014</td>
<td>47.21</td>
<td>54.46</td>
<td>At most 3</td>
</tr>
<tr>
<td>0.2988</td>
<td>20.55607</td>
<td>29.68</td>
<td>35.65</td>
<td>At most 4</td>
</tr>
<tr>
<td>0.1789</td>
<td>7.419777</td>
<td>15.41</td>
<td>20.04</td>
<td>At most 5</td>
</tr>
<tr>
<td>0.0033</td>
<td>0.122370</td>
<td>3.70</td>
<td>6.65</td>
<td>At most 6</td>
</tr>
</tbody>
</table>

Source: Computed by the Researcher, 2012

**(*) denotes rejection of the hypothesis at the 5%(1%) level

Table 3 explains the impact of foreign aid on economic growth which is presented in the table below. The results obtained from the dynamic model indicates that the overall coefficient of determination (R^2) shows that the equation has a good fit with 64 percent of growth rate of GDP explained by the variables in the equation. The reason for being a good fit is that it is statistically above the bench mark of 50 percent. As the adjusted (R^2) tends to purge the influence of the number of included explanatory variables, the (R^2) of 0.5931 shows that having removed the influence of the explanatory variables, the model is still of good fit and the dependent variable explained by the equation by 59.31 percent, hence, in terms of the goodness of fit we can say that the test is fair. The Durbin Watson (D.W) statistics of 2.03 as it is not significantly farther away from the bench mark, we can conclude that there is no auto- correlation or serial correlation in the model specification; hence the assumption of linearity is not violated.

Table 3. Parsimonious Error Correction Estimates

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>t-stat</th>
<th>P- Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(POPGR(-2))</td>
<td>-0.1051</td>
<td>-0.0258</td>
<td>0.979</td>
</tr>
<tr>
<td>D(INV/GDP(-2))</td>
<td>0.1252</td>
<td>0.6927</td>
<td>0.4942</td>
</tr>
<tr>
<td>D(AID/GDP(-2))</td>
<td>11.230</td>
<td>4.0583*</td>
<td>0.0004</td>
</tr>
<tr>
<td>D(AID/GDP(-2))^2</td>
<td>-1.3133</td>
<td>-3.7584*</td>
<td>0.0008</td>
</tr>
<tr>
<td>D(PEXP/GDP(-1))</td>
<td>-2.170</td>
<td>-3.1861*</td>
<td>0.0035</td>
</tr>
<tr>
<td>D(INFR(-1))</td>
<td>-0.0677</td>
<td>-1.2480</td>
<td>0.2224</td>
</tr>
<tr>
<td>ECM(-1)</td>
<td>-0.1689</td>
<td>-2.0960**</td>
<td>0.0453</td>
</tr>
<tr>
<td>CONSTANT</td>
<td>23.0009</td>
<td>1.4478</td>
<td>0.1588</td>
</tr>
</tbody>
</table>

R^2 = 0.6464; Adj. R^2 = 0.5931; D.W = 2.03; F- Test =14.81; F (F-Stat) = 0.0011
Source: Computed by the Researcher, 2012

Note: One, two and three asterisk denotes rejection of the null hypothesis at 1%, 5% and 10% respectively.

In terms of the signs and magnitude of the coefficients which signify the impact of foreign aid on GDP growth, it can be seen that all the variables except population growth and governmental expenditure concur with a priori theoretical expectation. The reasons for this could be associated to the fact that growth in knowledge is not complemented or used up by the teeming population; hence, it yields little or nothing to the growth rate of GDP. The significant coefficients of all exogenous variables clearly state that Nigeria’s economy growth rate of GDP depends on inflation, foreign aid, investment and public expenditure in the short run. Above all, foreign aid to the Nigerian economy has
positive impact on growth of GDP. The results of this paper authenticate the findings of Papanek (1973) and Karras (2006) that foreign aid has a substantially greater effect on growth than the other variables.

The estimated coefficient for the error correction term reveals which of the variables adjust to correct imbalance in the growth situation whilst the variable coefficients show the short-run effects of the changes in the explanatory variables on the dependent variable. The results confirm that output growth in Nigeria has an automatic mechanism and that economic growth in Nigeria responds to deviations from equilibrium in a balancing manner. A value of (-0.168) for the ECM coefficients suggests that a fast speed of adjustment strategy of roughly 17%. This means that approximately 17% of discrepancy the previous year is adjusted for the current year.

5. Conclusion

The paper determines the impact of foreign aid on economic growth. The model developed in this paper provides evidence supporting the contention that foreign aid positively impacts economic growth in Nigeria. The policy variables reverse the positive effect of aid, even making it detrimental to economic growth in some cases. Therefore, donor governments should be aware of the political situations in recipient countries, and work with international bodies to ensure as much stability as possible.

Sound policy and good economic management matter more than foreign aid for Nigeria. As the record shows, without good institutions, aid is likely to have a detrimental impact on the quality of governance in a recipient developing country, it is, therefore, critical and in fact imperative for government in Nigeria to pursue economic policies that at least reflect low inflation rate, productive budgetary balance, competitive and unimpaired exchange rate, and also to attend to the incessant civil unrests and political instability. Otherwise, the problem of aid ineffectiveness and slow growth rate will remain unabated. In the absence of these strong institutions, assistance efforts should be dedicated to improving the quality of governance before they can be effectively devoted to any economic development effort.

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