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 1970 to 2010 making use of annual time series data. 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, the provision of aid by foreign countries and agencies has become a leading strategy for poverty alleviation in the developing countries. During this period foremost international organizations, including the World Bank, United Nations and International Monetary Fund have become prominent in worldwide economic affairs (Hjertholm and White, 2003). However, even more than sixty years after the end of the second world-war, the developing countries (persisted in their harsh economic suffering. This parody raises the questions of the relevance and efficacy of foreign aid as an effective and worthy method to enhancing economic growth and development in beneficiary economies. The relevant question to ask is how has the foreign aid influenced economic growth? This question has attracted the consideration of several scholars in the literature dating back to several decades. The evidence empirically obtained from the wide-ranging studies in the literature are mixed (Murphy and Trep, 2006 and Vun Minh Duc, 2006)1. Some studies have provided evidence of beneficial effect of aid received from foreign sources. They argue that the effectiveness of these assistance was due to the type of economic policies the recipient countries. Pedersen (1996) contends that it is impossible to come to the conclusion that foreign aid is positively related to growth. Morrisey (2001) claimed conditional variables affect the growth regression. Boone (1996), Mosley (1980), and Mosley, et al. (1987), provided evidence suggesting the insignificance of aid to growth. The connection between aid and growth has remained unsettled and is therefore worthy of being studied further.

Developing economies like Nigeria are typified as high unemployment level, low-income level, very high level poverty and low industrial capacity utilization. In order to provide veritable panacea for these ailments, suggestions of foreign aid have been made as an alternative for augmenting the insufficient domestic resources. Some countries including China, North Korea and South Korea etc. have sometimes gained considerably from foreign aid and have, also become aid donors. However, most of the African countries including Nigeria remained retrograded. Nigeria continually benefitted from several foreign assistance and indeed currently enjoy funding at about the same level as it did in the early 1980s, a dismal socio-economic development has remained. Many reasons both quantitative and qualitative, can be adduced for this lacklustre and inauspicious trends. The relentless crisis in the socio-political arena, inconsistencies in policy formulation, instability of the macro economy propelled by bad governance are evident in several developing economies. These sign-posts as identified by Salisu (2007) are indicative of poor policy framework which should indeed provide a food for thought. It is in view of these perilous background that a study of this nature should conducted in order to appraise the influence of foreign aid on economic growth.

This study differentiates itself from the prevailing literature on foreign assistant and growth by seeking to fill some gaps in previous analyses. Prior works have not succeeded in providing the theoretical underpinning of the inclusion of some policy variables. This study proposes to demonstrate the theoretical and also the econometric connection between the aid-growth analysis on the one hand and policy variables on the other. This study therefore examines the effect of foreign aid on growth, and the procedural enrichments need to enhance the relationship between direct aid-growth.

Foreshadowing our key findings, this study reports existence of evidentiary proof that the flow of aid significantly impact the Nigerian economic growth. Domestic investment increased in response to aid flows and population growth had 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 3, the theoretical and methodological framework of the study is pursued while the empirical results are discussed in section four. Section 5 concludes the paper.

2. Review of Relevant Studies

There seems to be widespread research on the nature and direction of relatedness between foreign aid and growth. As mentioned earlier, the mixed results have been reported by these numerous studies. Whereas, negative association between the two variables have been reported, some other works found a positive connection. In this section a review of the findings of the key works encompassing the current dimension into the affiliation between growth and foreign aid.

Papanek (1973) conducted a cross-country, 34-nation regression in the 1950s. It additionally investigated the foreign aid and investment in 51 countries in the 1960s using the domestic savings and flows as explanatory variables. The result reveals that foreign aid was considerably effective on economic growth than the other variables. The result further confirmed that unlike domestic savings, foreign assistance is useful in sealing the gap in both the domestic savings and foreign exchange requirement. Contrasting other inflows of foreign funds and foreign private investment, foreign assistance specifically nurture growth and is more decisively, biased toward balance-of-payment constrained economies. Snyder predicated his work on the previously developed model by Papanek (1973). It also extended the model by Mosley et al. (1987), and scrutinized the connection between aid inflow and the GDP growth rate in 69 developing economies. Three period spans were, considered: the 1960s, the 1970s and 1980-1987. The size of the country size (proxied by GDP) was, factored into the model. The absence of the country size, he argued, renders the impact of aid to be, insignificant.

The divergent view of Knack (2000), also after a cross-country study is that higher levels of foreign aid corrode the governance quality index in terms of corruption, bureaucracy and the rule of law. The dependence on aid is capable of undermine the quality of the institutions, whilst encouraging rent seeking and
Fayissa and El-Kaissy (1999), over a three-span of time, (1971-1980, 1981-1990 and 1971-1990) studied 77 economies. They find that the economic growth in developing economies are, positively influenced by foreign aid. With contemporary theories of economic growth, the study highlights the positive correlation amongst human capital, export foreign aid and domestic savings on the one hand and economic growth on the other. This finding is in congruence with the theory of economics with respect to foreign aid as enunciated by Chenery and Strout (1966) that external development aid fast-tracks economic growth by augmenting domestic capital formation. Foreign assistant is positively strong and positive influence of economic growth in developing economies. This is with respect to the study of Singh (1985) for period span of 1960-1970 and 1970-1980 the intervention of government was not considered. The inclusion of the State intervention variable in the model reveals that the impact of foreign aid becomes weak statistically over time. The research also confirms that foreign aid negatively affect the rate of domestic savings whilst, country’s size, income per capita and exports have positive impact.

Different kinds of assistance impact growth differently. In the investigation of Cote d’Ivoire between 1975 to1999, Ouattara (2003) groups foreign assistance into food aid, program assistance, project aid, and technical assistance. The study which deployed a disaggregation method and auto regressive techniques, reports that firstly, project assistance dislocates public savings, the effect of program assistance is nearly neutral, technical aid aid and and food assistance increase public savings. Secondly, project assistance and to a smaller degree, program aid, deteriorates the dependence of the country on foreign aid, while the resource gaps have been, reduced by both food and technical aid. In pursuit of the two-gap model of Chenery and Strout (1966), Chenery and Carter (1973) investigated 50 economies, using data over an eleven year (1960-1970) and submit that the impact of official development assistance (ODA) on the development performance vary among certain groups of economies. In five countries, namely Iran, Taiwan, Kenya, Korea and Thailand, foreign aid propel growth. However, in six cases India, Chile, Ghana, Ceylon, Tunisia, and Colombia, foreign aid was found to have stunted growth.

Incorporating export price shocks into the earlier analysis by Burnside and Dollar’s (1997), negative and significant association was, recorded between economic growth and negative shocks by Collier and Delh (2001). They contended that the negative impact of negative shocks on economic growth can be reduced by increasing the level of foreign aid. They therefore submitted that by directing aid towards countries experiencing negative shock would be more useful than giving aid to countries with good-policy. By applying a threshold of 2.5% in a sample of 113 economies, the study recorded 99 and 179 negative and positive shocks episodes respectively.

Easterly, Levine and Roodman (2003) piloted a novel examination on the research Burnside and Dollar (1998) using a bigger sample size of 28 years (1970 to 1997) compared to 23 years and report that a better result had not been achieved. The issue of the question effectiveness of aid is, still considered unsettled. A revisit of the relationship, was conducted by Burnside, and Dollar (2004) with new data set. This time using the 1990s. The evidence obtained was in congruence with the earlier view that the effect of aid hinges on the quality of state policies and institutions. There is no concrete evidence in support of the supposition that foreign aid has similar positive impact everywhere.

Vu Minh Duc (2006)’s attempt to, in developing countries, quantitatively determine the influence of aid on growth. The utilised cross-country data covering 39 countries over 25 year-period (1975-2000). The result was that foreign aid is, negatively and significantly related to growth in developing countries. However, positively correlation was, reported in inland countries and South Asian countries between 1992 and 2000. Evidence of strong deviation trend was, also found among countries. The findings show that problems exist in the form and mode of delivery of the aid system. Whereas, foreign assistance aid retarded growth of developing economies, the efficacious experience of these South Asian and inland provide a good lesson for other developing economies. In all, the strong divergence evidence means an improvement in the aid delivery condition should help the least developing economies. This should, in the future reduce the subsisting large income dispersion levels among these countries.

Murphy and Tresp (2006) re-evaluated the function of economic policy as a determinant of effective foreign aid for engendering economic growth in developing economies. They applied the modified and updated...
the data earlier utilised by Burnside and Dollar (2000). This is to better put in to consideration, the Easterly et. al.(2003) critique. The result was that the connexion among economic growth, government and policy foreign aid, is unsubstantiated 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 aid contributes to growth.

Easterly (2003) and Murphy and Tresp (2006) re-examination of the Burnside and Dollar research deploys similar specification but found that the interaction effect of the aid-policy on growth in developing economies fades with the adoption of expanded data set. With an expanded data set of 9, four-year periods between 1970 and 2001 from sub Saharan African economies, the result was that the adoption and operation of sound macroeconomic policy is *sine qua non* for the effective influence of foreign aid to growth on a sustainable basis. The study also provided evidence that sound economic policy is central for economic growth.

In short, the research findings on the connection between foreign aid and economic growth differ depending upon several variables including the data, models and countries of analysis. The discussion on the effect of foreign aid on economic growth is on-going and available for further study.

3. Theoretical Foundation and Methodology

This section discusses the model specifications to examine the relationships between foreign aid and GDP growth. The model aid-growth relationship trails the condition 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:

\[ Y(t) = F(K(t), A(t)L(t)) \]  \hspace{1cm} (1)

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

\[ y = f(k) \]  \hspace{1cm} (2)

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

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

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

\[ y = k^a \]

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

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 to a gradual rise in \( k \) until it reaches a higher level 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 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:

\[ k = sf(k) - (n + g + \delta)k \]  \hspace{1cm} (3)

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

\[ k = sk^a - (n + g + \delta)k \]  \hspace{1cm} (4)

The balance growth path, \( k = 0 \) 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

\[ sk^* = (n + g + \delta)k \]  \hspace{1cm} (5)

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

\[ k^* = [s/(n + g + \delta)]^{1/(1-a)} \]  \hspace{1cm} (6)

To get the balanced-growth-path value of output per unit of effective labour into the intensive form of the production function i.e. \( y = k^a \), we have

\[ y^* = [s/(n + g + \delta)]^{a/(1-a)} \]  \hspace{1cm} (7)
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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:

\[ k = f(k(t)) - c(t) - (n + g)k(t) \] ................................. (9)

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.

\[ k = f(k(t)) - c(t) - G(t) - (n + g)k(t) \] ................................. (10).

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:

\[ \Delta GDPGR_t = \beta_0 + \beta_1\Delta POPGR_t + \beta_2\left[\frac{INV}{GDP}\right]_t + \beta_3\left[\frac{AID}{GDP}\right]_t + \beta_4\left[\frac{AID}{GDP}\right]_t^2 + \beta_5\Delta INF_t + \beta_6\left[\frac{PEXP}{GDP}\right]_t + \epsilon_t \ldots \ldots \ldots (11) \]

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 model\(^2\).

\[ \Delta GDPGR_t = \alpha_0 + \sum_{i=1}^{j} \alpha_{i1}\Delta GDPGR_{t-i} + \sum_{i=1}^{j} \alpha_{i2}\Delta POPGR_{t-i} + \sum_{i=1}^{j} \alpha_{i3}\Delta \left[\frac{INV}{GDP}\right]_{t-i} + \sum_{i=1}^{j} \alpha_{i4}\Delta \left[\frac{AID}{GDP}\right]_{t-i} + \sum_{i=1}^{j} \alpha_{i5}\Delta \left[\frac{PEXP}{GDP}\right]_{t-i} + \alpha_{i6}\Delta GDPGR_{t-i} + \epsilon_t \ldots \ldots \ldots \ldots (12) \]

Hence, the AIC and SIC have been suggested as alternative fit measures. These criteria are, given as:\(^3\)

\[ AIC(g) = \log(\hat{\epsilon}^2/n) + 2g/n \] .......................................................... (13)

\[ SIC(g) = \log(\hat{\epsilon}^2/n) + g\log(n) \] .......................................................... (14)

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\(^2\) The 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 \( AIC(g) = \hat{\epsilon}^2 (1 - R^2) + g \), \( SIC(g) = \hat{\epsilon}^2 (1 - R^2) + g \).
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:

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

The null hypothesis is that there exists a unit root in the time series (non-stationary time series. This is Ho: $\omega = 0$ against the alternative hypothesis that the time series is stationary (no unit root) or I(0). This is H1: $\omega < 0$. 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 1: Unit root test (ADF)

<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 PERCENT CRITICAL VALUE</th>
<th>1 PERCENT 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 (R²) 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. The adjusted (R²) tends to purge the influence of the number of included explanatory variables. The (R²) 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
Dependent Variable: D (GDPGR)

<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>

R² = 0.6464;   Adj. R² = 0.5931;   D.W = 2.03;   F- Test =14.81;   Prob( 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 highlights and isolates the variables in need of adjustment for correcting growth imbalance. The coefficients of the variable indicate the short-run influence of the variations in the independent variables on the dependent variable. The findings settle the position that the growth of output in Nigeria possess, an spontaneous mechanism. In effect, the Nigerian economic growth reacts to the equilibrium variations in a balancing manner. A value of (-0.168) for the ECM coefficients suggests that a fast speed of adjustment strategy of roughly 16%.

5. Conclusion
The paper determines the effect of foreign aid on the growth of the economy. This study developed a model, the estimated result of which provides evidence in support of the argument that aid is positively related to, and influences economic growth in Nigeria. The policy variables do sometimes negate the positive impact of foreign aid, indeed it is sometimes in some cases, harmful to economic growth. It is recommended the donor organizations and governments should be conscious of the political situations in the donor recipient economies, and collaborate with international bodies to engender political stability as mush as possible.

Sound policy and decent economic management are more important than foreign aid for Nigeria. From the record, the absence of good and stable institutions, may render the provision of foreign aid inimical to the governance quality of a foreign aid recipient developing economy. It is, therefore, important and indeed imperative for the Nigerian government deploy economic policies consistent with productive budgetary balance, low rate of inflation, unimpaired and competitive rate of exchange, in addition to managing the never-ending civil unrests and political unpredictability. In the absence of such policies, the problem of ineffective aid and slow rate of economic growth 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.

References


