International Journal of Development and Economic Sustainability
Vol.7, No.7, pp. 39-51, December 2019
Published by *ECRTD- UK*
ISSN: 2053-2199 (Print), ISSN: 2053-2202(Online)

ESTIMATING THE DYNAMIC RELATIONSHIP BETWEEN FOREIGN AID AND INFRASTRUCTURAL DEVELOPMENT IN NIGERIA

Dennis Brown Ewubare[1] and Johnbosco Chukwuma Ozigbu[1]

1Rivers State University, P.M.B. 5080, Port Harcourt, Nigeria

ABSTRACT: *This paper estimates the dynamic relationship between foreign aid and infrastructure development in Nigeria. Public capital expenditure forms basis for measuring infrastructure development while ODA, broad-based grants and technical cooperation grants were utilized as the core measures of foreign aid. The data analysis tools include Autoregressive Distributed Lag (ARDL) model, unit root and cointegration tests. The unit root test results revealed that the variables have mixed integration order. Again, the bounds cointegration test result showed that the variables depict long run equilibrium relationship at 5 percent level of significance. The short run result reveals that the contemporaneous value of ODA has significant positive relationship with public capital expenditure. With 1 percent increase in ODA inflows, Public investment increases to about 0.8850 percent. Additionally, the second and third lags of technical cooperation grants are positively and significantly linked to public capital expenditure in the short run. The long run result reveals that ODA and broad-based grants positively influenced public capital expenditure. As observed from the regression estimates, ODA has the larger positive impact on public investment expenditure than broad-based grant in the long run. This is a pointer that ODA is an important channel through which foreign aid bolster infrastructure development in Nigeria. Hence, it is recommended that the General Budget Support (GBS) development aid from donor countries and agencies should prioritize public capital expenditure with a view to improving the level of infrastructural development in Nigeria.*

KEYWORDS: infrastructure development, foreign aid, ODA, broad-based grants, technical grants and Nigeria.

INTRODUCTION

One of the fundamental pillars of broad-based economic development is investments in socio-economic infrastructure which drive production activities and provide opportunities for reduction in poverty, inequality and unemployment. For this reason, countries across the globe have committed huge financial resources to the development of their key infrastructure for productive and inclusive growth. This constitutes an integral part of overall budgetary allocations as provisions are often made capital expenditure. However, most developing economies face huge

challenges in meeting their fiscal obligations as such resort to international aid. This follows the growing savings-investment gap which has remained a bottleneck in the development process. According to the Mosley (1986) micro-macro paradox, foreign aid is considered as an enabler of human development and helpful in addressing key development challenges.

Staicu & Barbulescu (2017) argued that foreign aid is expected to achieve better result in terms of improving the living conditions of the population through quality healthcare delivery and education rather than boosting economic growth. Sachs (2005) equally perceived the inflows of aid to developing economies as necessary condition for eradicating poverty by 2025. However, Easterly (2006) criticized the aid process on the grounds that little or no results in terms of poverty reduction has been achieved compared to the amount received as aid. Collier (2007) held similar view with Easterly regarding the ineffectiveness of foreign aid in driving the process of development. Contrary to the aid ineffectiveness claims by Easterly (2006) and Collier (2007) amongst others, Bakare (2011) opined that international aid tends to foster sustainable development through the transfer of new technologies, skills and modern productive techniques. This assertion aligns with the public interest hypothesis of aid-development nexus in the aid recipient countries. Again, it supports the assertion of the Organization of Economic Cooperation and Development (OECD) in 1999 that foreign aid is good for infrastructural development, employment generation and overall economic turnaround.

As one of the key segments of the world's development cooperation, foreign aid can take the form Official Development Assistance (ODA), grants and technical cooperation grants amongst others. The ODA has been adjudged as the most outstanding form of foreign aid in international economics. Generally, the practice of mobilizing foreign aid for the purpose of infrastructural development has remained at the forefront of development initiatives of policy makers in Nigeria. As evidenced in the official statistics of the World Bank, International Monetary Fund (IMF), the OECD Development Assistance Committee (DAC) and Central Bank of Nigeria (CBN), Nigeria has remained a notable destination of foreign aid since her political independence in 1960. Okon (2012) estimated aid inflows to Nigeria between 1999 and 2007 as US$6 Billion. The trend of net ODA as reported by the OECD (2016) increased from US$ 1,293,720,000 in 2008 to US $2,431,600,000 in 2015. Despite the huge aid inflows, the level of infrastructural development in Nigeria has not been very impressive. This has further increased the growing controversy on aid effectiveness. Thus, divergent views exist on the aid-development nexus. It has also increased the concern on the efficacy of aid in booting the level of capital formation. Based on the foregoing, this paper deepens the understanding on the effectiveness of international aid in driving the process of infrastructural development in Nigeria.

LITERATURE REVIEW

Harrod-Domar Theory

This model was developed by Harrod (1939) and Domar (1946) in an effort to provide more insights into the aid-investment relationship and investment growth relationship. The Harrod-Domar model assumes that aid drives investment in developing economies following the prevalent savings-investment gap. For the reason, low income countries with common feature of capital-deficit often rely on international aid to advance their development process. Earlier studies (Rotarou & Ueta 2009; Moreira, 2005) in the development economics demonstrated that savings-investment gap remains an impediment to economic prosperity in developing economies, thus, these countries tend to resort to foreign following its perceived positive spill-over effects on economic development.

Najeb (2014) argued that the Harrod–Domar model provides some insight into the growth dynamics following the assumption that increase in investment provides opportunity for additional growth. For this reason, low level of capital formation remains a major constraint to development of poor countries. The Harrod-Domar has been described as one of the foremost models in economic literature used for analyzing the drivers of economic growth in developing economies. Again, it has been adjudged as the foundation of development models used by some organizations such as the World Bank and International Monetary Fund (IMF) as it measures the investment considered necessary for a target growth rate. The model assumes that financing gap which defines the gap between required investment and available resources can be closed with international aid. Thus, the amount of foreign aid available to an economy determines the pace of economic growth.

Easterly (1999) described the Harrod-Domar model as the most widely applied growth model in economic history notwithstanding its focus on the link between short term investment and recession in the United States. Both theory and empirical evidences suggest that controversies exist on the aid-investment relationship and investment-growth relationship. For instance, Esaterly (2003) demonstrated empirically that a significant positive relationship exists between aid and investment in seventeen out of the eighty-eight sampled countries. The result further indicates that only six out of the seventeen countries show evidence of proportional relationship between investment and aid. It was also found by Easterly (2003) that investment-growth relationship is only proportional for one out 138 sampled countries. These results are evidence of the increasing aid fungibility partly attributed to the incidences of corruption, bad governance and poor institutional quality amongst others. Although the Harrod-Domar model has been adjudged as one of the foremost models that shaped economic growth in developing economies, it has suffered some drawbacks. Griffin & Enos (1970) observed that aid inflows as proposed by the Harrod-Domar model poses a threat the efficiency of capital output in the aid recipient economies given

that the aid allocation process is often driven by political interest which tends to undermine its effectiveness. Additionally, Snowdon (2009) argued that the effectiveness of aid in driving the growth process tends to reduce following the perceived negative impact of aid on the Incremental Capital Output Ratio (ICOR).

Conceptual Issues

As one of the biggest part of the world's development cooperation effort, foreign aid involves the flow of money from governments or organizations in developed countries to developing economies. Lancaster (2006) argued that foreign aid connotes voluntary transfer of public resources from one government to another government, non-governmental organization (NGO), or an international organization with at least 25 percent grant element geared towards improving the human conditions in the aid receiving country. The flow of aid from the donor agencies to low income countries is mostly intended for investments in sectors that can drive the process of growth and development in the recipient economies. The OECD-DAC defines aid as ODA which is available for central government and organizations for the principal objectives of promoting economic development and general welfare of the population as well as having a grant element of twenty five percent or more. OECD donor governments give aid in one of two ways. Either they give it bilaterally (directly to the governments of recipient countries, to local NGOs or to private contractors) or they give it via multilateral organizations like the World Bank and the United Nations Development Programme.

From the economics perspective, foreign aid is perceived as outright grants and long term loans by governments and various foreign institutions for advancing the process of economic development. Its general composition includes direct government transfers and aid driven by special official action such as grants. Rady (2012) further structured international aid into capital transfers or technical assistance in consultation and training for civilian or military purposes. In international relations, aid refers to as a voluntary transfer of resources from one country to another, given at least partly with the objective of benefiting the recipient country. A major concern in the international aid literature is the issue of fungibility. McGillivray and Morrissey (2000) argued that aid is said to be fungible when it is channeled to different uses than those originally planned by donors. Consequently, the resources received are shifted from their initial projects to other nonproductive ventures.

Empirical Literature

Ishnazarov & Cevik (2017) focused their study on the effectiveness of official development assistance (ODA) in promoting human development and economic progress of the recipient Organization of Islamic Cooperation (OIC) member countries between 2002 and 2015. The study particularly measures the impact of ODA classified by sectors on the components of Human

Development Index (HDI) such as standards of living, life expectancy and education indices while controlling for the magnitude of civil violence, population growth, foreign direct investment, income, urbanization and regime type. It was found from the results that ODA is effective in influencing human development, having a greater and a more efficient impact on human development than other development instruments included in the analysis. The study equally reveals that civil violence is very harmful to HDI. In view of the findings, the study recommended for increase in ODA, especially, aid flows to health and education sectors, and intensify efforts to prevent and reduce civil violence to substantially attract foreign aid.

Gillanders (2016) applied a vector autoregression model panel data driven analysis in examining the aid effectiveness hypothesis in the sub-Saharan African countries. This method was considered as it avoids the need for instrumental variables and allows one to analyze the effect of foreign aid on human development and on economic development simultaneously. It was evidence from the overall sample results that a small increase in economic growth is attributed to a fairly substantial aid shock. The size of the effect puts the result somewhere between the arguments of aid optimists and those of aid pessimists. It was obvious from the study that human development measured by the growth rate of life expectancy responds positively to aid shocks in countries studied.

Ogundipe, Ojeaga, & Ogundipe (2014) analyzed the relationship between foreign aid and economic development in the sub-Saharan Africa with special attention to the role of macroeconomic policy in aid effectiveness in SSA countries. The study relied on the GMM technique of estimation with a view to overcoming to overcome the challenge of endogeneity perceived in the institution variables and aid-growth nexus. It was observed that foreign aid does not significantly influenced real GDP per capita in the sub-Saharan Africa. Subsequently, capital stock, labour force, institutional quality and human capital were found to contribute meaningfully contributed to economic development in SSA.

Tang & Bundhoo (2017) offered a better understanding of the aid-growth nexus in the sub-Saharan African (SSA) region. The study specifically examined the link between ODA and the economic growth rate in the SSA focusing on the ten largest recipients of international aid. These countries include Ethiopia, the Democratic Republic of Congo, Tanzania, Kenya, Côte d'Ivoire, Mozambique, Nigeria, Ghana, Uganda and Malawi. Multiple regression analysis was utilized as data analysis method and the result showed that aid by itself does not have significant impact on economic growth. The result further revealed that foreign aid enhances economic growth through investment and imports. This is an indication that foreign aid is a good ingredient for supplementing investment and imports requirements in the countries sampled. Overall, the study concludes that foreign aid is conditional on the economic, political and institutional environment of the recipient country.

MATERIALS AND METHODS

Model Specification

The model set-up for this paper involves a dynamic regression equation public capital expenditure, measure of infrastructural development as the dependent whereas the elaborated indices of foreign aid comprising ODA, broad-based grants and technical corporation grants were utilized as the explanatory variables. Based on the foregoing, the functional for of the model is expressed as:

$$PCE = f(ODA, BBG, TCG) \quad (1)$$

Where: PCE = Public capital expenditure, ODA = Official development assistance, BBG =Broad-based grants and TCG = technical cooperation grants.

The Autoregressive distributed Lag (ARDL) model is expressed formally as follows:

$$\Delta PCE_t = M_1 + \sum_{i=1}^{q} \alpha_1 \Delta PCE_{t-i} + \sum_{i=1}^{q} \alpha_2 \Delta ODA_{t-i} + \sum_{i=1}^{q} \alpha_3 \Delta BBG_{t-i} + \sum_{i=1}^{q} \alpha 4 TCG_{nt-i} + \theta_1 PCE_{t-1} + \theta_2 ODA_{t-1} + \theta_3 BBG_{t-1} + \theta_4 TCG_{t-1} + e_{1t} \quad (2)$$

Where: M_1 represent the vector of intercepts, α_1 - α_4 = short-run coefficient of the predictor variables, θ_1- θ_4 = the long-run multipliers and e_{1t} = stochastic variables.

Variable Description and Source of Data

The description of the variables and various sources of data are summarize in table 1.

Table 1: Description of variables

Variable	Description	Data Source
Public capital expenditure	This refers to public investment in core infrastructure intended to drive the process of economic growth and development. It constitutes an integral part of the overall public expenditure and important means of productivity growth	Central Bank of Nigeria Statistical Bulletin
ODA	This connotes disbursements of loans made on concessional basis and grants by official agencies of the members of the Development Assistance Committee (DAC), by	World Development Indicators (WDI)

	multilateral institutions to engender economic development and improve human welfare. The loans are associated with minimum of 25 percent grant component. It is expected that increase in net ODA received will boost infrastructure development.	
Broad-based grant	This defines legally binding commitment excluding technical cooperation grants that makes funds available for disbursement for which there is no repayment requirement.	World Development Indicators (WDI)
Technical Cooperation Grant	This encompasses free-standing technical cooperation grants, which are channeled into technical and managerial skills or technology intended to build-up general national capacity.	World Development Indicators (WDI)

Source: Authors' compilation

Method of Data Analysis

This paper relies on ARDL model developed by Pesaran & Shin (1999) as a technique for data analysis. The empirical validity of the ARDL was initially evaluated by Pesaran, Shin & Smith (2001). As a dynamic regression model, the ARDL integrates the autoregressive and distributed-lag process in a single equation set-up. In accordance with its generic structure, the ARDL allows for the inclusion of lags of the regressand as well as (and perhaps the current value) of other predictor variables, as explanatory variables. Additionally, the ARDL is based on the assumption that the series are I(0), I(1) or a combination of I(0) and I(1). Therefore, one of the precursors of the ARDL model is the determination of the order of integration of all the series through a unit root test. The rationale for this is to ensure that none of the series is I(2) so as to overcome the problem of spurious regression result.

RESULTS AND DISCUSSION

Trends of Foreign Aid Statistics

The trends of the international aid statistics comprising ODA, broad-based grants (BBG) and technical cooperation grants are reported in figure 1.

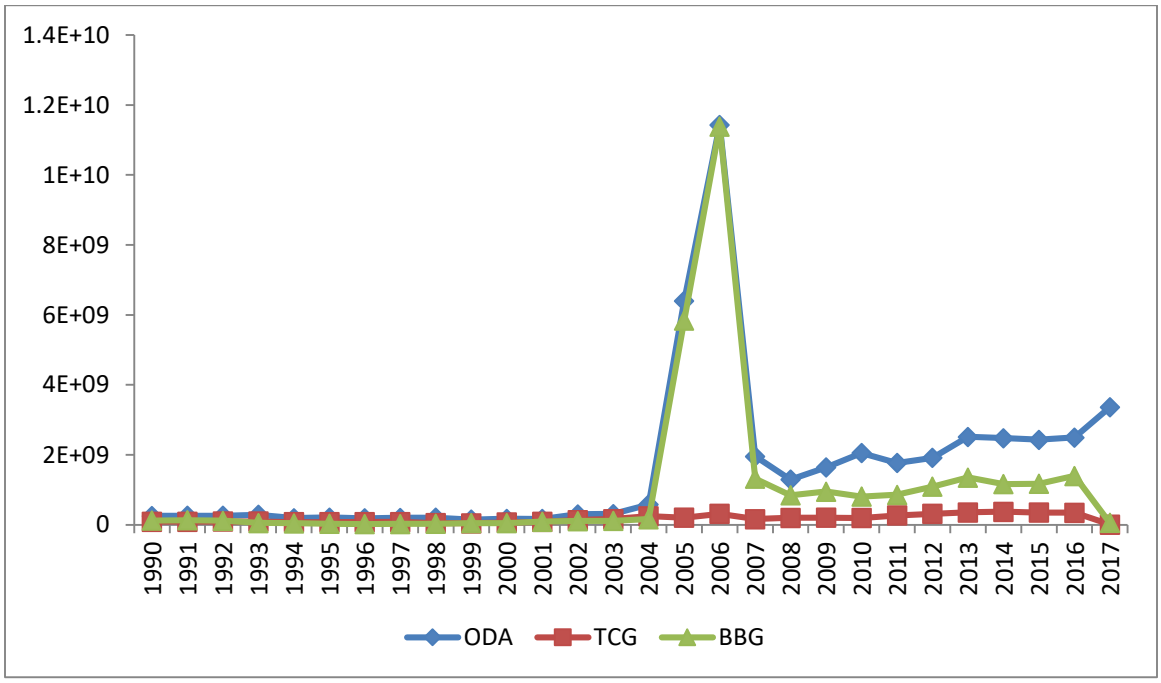

Figure 1: Trends of foreign aid inflows to Nigeria, 1990-2017.

Source: Authors' illustration based on data adapted from CBN Statistical Bulletin and WDI.

As observed from figure 1, the latest value for ODA inflows to Nigeria stood st US$3358790000 as of 2015. It varied during the study period (1990-2017), reaching a record high of $11,431,960,000 in 2006. It was also found that broad-based grants fluctuated and reached maximum of US$11,388,180,000. The inflow of broad-base grants was relatively low between 1990 and 2004 and relatively stable during 2007-2017. Additionally, the value of technical cooperation grants reached an all-time high value of US$376,740,000 in 2014. However, the value of this indicator fluctuated over the rest of the study period. Overall, the trends of the series indicates that Nigeria has remained a key destination of international aid in the past two and half decade.

Phillips-Perron Unit Root Test Results

The empirical results of the unit root test conducted at 5 percent level of significance using Phillips and Perron (1988) method are summarized in Table 2.

Table 2: Phillips-Perron unit root test results

Levels test results			
Series in the model	**Adjusted t-statistic**	**Probability value**	**Stationarity status**
LOG(PCE)	-2.043	0.553	Non-stationary
LOG(ODA)	-2.357	0.392	Non-stationary
LOG(BBG)	-1.704	0.721	Non-stationary
LOG(TCG)	-4.302	0.011	Stationary
First difference test results			
Series in the model	**Adjusted t-statistic**	**Probability value**	**Stationarity status**
LOG(PCE)	-6.498	0.000	Stationary
LOG(ODA)	-4.120	0.017	Stationary
LOG(BBG)	-5.043	0.002	Stationary

Source: Authors' computation based on data from CBN Statistical Bulletin and WDI.

The Phillips-Perron unit root result reveals technical cooperation grant is stationary at levels while the other variables are found to be non-stationary. Consequently, the non-stationary variables were further subjected to first difference test and the outcome of the test revealed that they depict a difference stationary process (DSP). The order of integration of the series based on the outcome of the unit root test is mixed. While technical cooperation grants is I(0), the rest of the series the model are all I(1). The mixed order of integration in the series necessitated the application of ARDL bounds test for cointegration.

Bounds Cointegration Test

The cointegration test conducted using ARDL bounds test method at 5 percent level of significance is summarized in table 3.

Table 3: ARDL bounds cointegration test result

Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	k
F-statistic	22.157	3
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.72	3.77
5%	3.23	4.35
1%	4.29	5.61

Source: Authors' computation based on data from CBN Statistical Bulletin and WDI.

NB: K denotes number of explanatory variables

The cointegration test result reported in table 3 reveals that the variables have long run equilibrium relationship. As observed from the result, the computed F-statistic (22.157) is greater than the critical F-value (4.35) at 5 percent level of significance. This finding provides basis for rejecting the null hypothesis that no long run relationship exists in the series. Following the evidence of long run equilibrium relationship in the series, the ARDL method is applied to estimate the long and short run dynamic relationship between infrastructure development and underlying measures of foreign aid.

Estimation of the ARDL model

The ARDL estimates which captured he short and long run effects of the underlying measures of international aid on infrastructure development is summarized in table 4.

Table 4: ARDL short and long run estimates

Dependent Variable: LOG(PCE)				
Short run result				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(PCE(-1))	-1.004272	0.150643	-6.666570	0.0069
DLOG(PCE(-2))	-0.678351	0.144960	-4.679563	0.0184
DLOG(ODA)	0.885044	0.245710	3.601985	0.0367
DLOG(ODA(-1))	-0.646871	0.258326	-2.504082	0.0874
DLOG(ODA(-2))	-0.574017	0.237152	-2.420456	0.0941
DLOG(ODA(-3))	-0.666065	0.148 063	-4.498527	0.0205
DLOG(ODA(-4))	0.414936	0.102562	4.045708	0.0272
DLOG(BBG)	-0.307899	0.129130	-2.384413	0.0972
DLOG(BBG(-1))	0.005338	0.138435	0.038558	0.9717
DLOG(BBG(-2))	0.482701	0.186042	2.594585	0.0808
DLOG(TCG)	0.148445	0.129759	1.144005	0.3356
DLOG(TCG(-1))	0.180937	0.168672	1.072716	0.3620
DLOG(TCG(-2))	0.725696	0.164309	4.416659	0.0215
DLOG(TCG(-3))	0.923415	0.253766	3.638841	0.0358
DLOG(TCG(-4))	-0.185700	0.207124	-0.896563	0.4360
CointEq(-1)	-0.690182	0.111491	-6.190463	0.0085
Long run result				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(ODA)	5.338420	0.920490	5.799541	0.0102
LOG(BBG)	2.573408	0.528798	-4.866520	0.0166
LOG(TCG)	-3.119946	0.593097	-5.260429	0.0134
C	6.047367	3.958683	1.527621	0.2241
Adjusted R-squared	0.869		Prob.(F.stat.)	0.0061

Source: Authors' computation based on data from CBN Statistical Bulletin and WDI.

The short run result reveals that the contemporaneous value of ODA has significant positive relationship with public capital expenditure. With 1 percent increase in ODA inflows, Public investment increases to about 0.8850 percent. This indicates that ODA plays important role in boosting infrastructural development in the short run. However, the effects of lagged values of ODA on public infrastructure are mixed. While lag 3 of ODA is negatively linked to public investment, lag 4 has significant positive effect on public expenditure. Additionally, the second and third lags of technical cooperation grants are positively and significantly linked to public capital expenditure in the short run. This offers appreciable empirical evidence on the effectiveness technical grants in boosting infrastructure development in Nigeria. On the other hand, the short run effects of broad-based grants on public capital expenditure are not statistically significant at 5 percent level of significance. This finding could be linked to the growing incidences of aid fungility in Nigeria and other low-income countries. As observed from the error correction coefficient (-0.690), the model is highly convergent to the degree of 69 percent. This suggests that any short run disequilibrium in the short run can be reconciled to equilibrium position in the long run. More importantly, the long run result indicates that ODA and broad-based grants positively influenced public capital expenditure. As observed from the regression estimates, ODA has the larger positive impact on public investment expenditure than broad-based grant in the long run. This indicates that ODA is important channel through which foreign aid bolster infrastructure development in Nigeria. On the contrary, technical cooperation grants do no significantly impact on public investment in the long run. This could linked high incidences of corruption that undermine the effectiveness of international aid in fostering infrastructure development. The adjusted R-squared (0.869) and probability value (0.0061) of the F-statistic (37.063) are suggestive that the entire model are statistical significant at 5 percent level. Thus, the explanatory variables account for appreciable proportions of the overall variations in public capital expenditure.

CONCLUDING REMARKS

The role of foreign aid in driving the overall development process in low-income countries has remained one of the controversies in macroeconomic debate. This paper therefore, contributes to the growing debate by investigating the aid-development nexus with a focus on infrastructural development. The findings indicate that ODA has been effective in boosting public capital expenditure in both short and long run. Again, the results also reveal that the effectiveness of broad-based grants in bolstering public capital expenditure manifests in the long run whereas technical cooperation grants exerts positive and significant effects on public investment in the short run. Given the findings, this paper concludes that while broad-based grants and technical cooperation grants are important channels through which international aid stimulate public investment, ODA has a sustained positive effect on infrastructure development in the long run. Thus, the recommendation proffered based on the findings is that the General Budget Support

(GBS) development aid from donor countries and agencies should prioritize public capital expenditure with a view to improving the level of infrastructural development in Nigeria.

References

Bakare, A.S. (2011). The Macroeconomic Impact of Foreign Aid in Sub-Saharan Africa: The Case of Nigeria. *Business and Management Review,1(5).*

Collier, P. (2007): "The Bottom Billion: Why the Poorest Countries Are Failing and What Can Be Done About it. New York: Oxford University Press

Domar, E. D. (1946). Capital expansion, rate of growth, and employment. *Econometrica, Journal of the Econometric Society*, 137-147.

Easterly, W. (1999). *The ghost of financing gap: how the Harrod-Domar growth model still haunts development economics*. The World Bank.

Easterly, W. (2003), Can Foreign Aid Buy Growth? *Journal of Economic Perspectives,17(3).*

Easterly, W. (2006). *The White Man's Burden*. London: Penguin.

Gillanders, R. (2016). The effects of foreign aid in Sub-Saharan Africa. *The Economic and Social Review, 47*(3, Autumn), 339-360.

Harod, R. (1939). An Essay in Dynamic Theory. Economic Journal 44, 14-33.

Ishnazarov, D., & Cevik, N. (2017). Foreign Aid Effectiveness In Oic Member Countries: Beyond Economic Indicators. *International Journal of Economics, Management and Accounting*, *25*(2), 315.

Lancaster, C. (2006). *Foreign aid: Diplomacy, Development, Domestic Politics*. Chicago, IL: University of Chicago Press.

McGillivray, M. and Morrissey, O. (2000). Aid Fungibility in Assessing Aid: Red Herring or True Concern? *Journal of International Development, 12(1),413–428.*

Moreira, S. B. (2005). Evaluating the impact of foreign aid on economic growth: A cross-country study. *Journal of Economic Development*, *30*(2), 25-48.

Mosley, P. (1986). Aid-effectiveness: The Micro-Macro Paradox. *Ids Bulletin*, *17*(2), 22-27.

Najeb, M. (2014). A contribution to the theory of economic growth: Old and New. *Journal of Economics and International Finance*, *6*(3), 47.

Ogundipe, A., Ojeaga, P., & Ogundipe, O. (2014). Is aid really dead? evidence from sub-saharan africa. *International Journal of Humanities and Social Science, 4(10),300-314.*

Pesaran, M. H. and Shin, Y. (1999). An autoregressive distributed lag modelling approach to cointegration analysis. Chapter 11 in S. Strom (ed.), *Econometrics and Economic Theory in the 20th Century: The Ragnar Frisch Centennial Symposium*. Cambridge University Press, Cambridge.

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of applied econometrics*, *16*(3), 289-326.

Rady, T. (2012). Foreign aid and development: What can developing nations learn. *Journal of Economics and Economic Education Research*, *13*(3), 123.

Rotarou, E., & Ueta, K. (2009). Foreign Aid and Economic Development. *The Kyoto Economic Review*, *78*(2), 157-189.

Sachs, J. D. (2005). *The End of Poverty: Economic Possibilities of Our Time*. New York: Penguin Press.

Snowdon, B. (2009). The Solow model, poverty traps, and the foreign aid debate. *History of Political Economy*, *41*(1), 241-262.

Staicu, G., & Barbulescu, R. (2017). A Study of the Relationship between Foreign Aid and Human Development in Africa. In *International Development*. InTech.

Tang, K. B., & Bundhoo, D. (2017). Foreign Aid and Economic Growth in Developing Countries: Evidence from Sub-Saharan Africa. *Theoretical Economics Letters*, *7*(05), 1473.