

# FOREIGN AID INFLOWS AND ECONOMIC GROWTH IN ECOWAS SUB-REGION

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## **Abstract**

There exist mixed studies on the effect foreign aid inflow has on economic growth. There also exist scanty studies that employed the entire countries (15) of ECOWAS sub-region in the investigation of the impact foreign aid inflows has on economic growth in the sub region. In the light of the continuous increase in foreign aid inflows to ECOWAS sub region, the impact this inflow has on the economy of the sub-region was examined for the period 2005 to 2017. Furtherance to the study objectives, diagnostic tests were carried out. Stationarity test revealed that the variables were non-stationary at level; but attained stationarity at first difference. With the exception of panel ADF statistic, Pedroni's and Kao panel cointegration tests revealed that the null hypothesis of no cointegration should be rejected. Generalized Method of Moment estimation result revealed that foreign aid inflows exerted a positive but insignificant impact on economic growth in ECOWAS sub-region. The over-identifying restrictions test revealed that the instrument of measurement used in the model was valid. It was recommended among others that policy makers should ensure that aid inflows are employed productively.

**Keywords:** ECOWAS, Foreign Aid Inflows, Economic Growth

**JEL classification:** F02, F35, F43

## **1. INTRODUCTION**

One of the reasons for external funds/capital inflow is to bridge savings-investment gap in the domestic economy and hence stimulate economic growth. The inflow of Official Development Assistance (hereafter referred to as foreign aid/official aid); a component of capital flows; to Economic Community of West

African States (ECOWAS) in the last two decades shows an upward trend. Foreign aid inflows compete among the largest sources of external capital inflows to the ECOWAS sub-region (UNDP, 2009; OECD 2010 and 2014; World Bank, 2014). This upward trend could be attributed to a number of factors such as the decision made by some donor agencies and advanced countries to provide resources to finance poverty reduction measures, attend to humanitarian needs and bridge development gap in most less developed regions of the world such as the ECOWAS sub-region (OECD, 2014; World Bank, 2014).

Studies such as De Haas (2007 and 2010) and Salisu and Ogwumike (2010) revealed that there has been a relatively sustained increase in the growth performance of virtually all the countries of the sub-region particularly since the mid-1990s. However, the literature shows mixed results with regards to the effects foreign aid inflows have on economic growth. Specifically, Kurihara (2014), Adamu and Ighodaro (2011) revealed that foreign aid affects growth positively; Koyameh-Marsh (2012) revealed that foreign aid affects economic growth negatively. Furthermore, a cursory look at the literature with respect to ECOWAS sub region, most of the studies employed few countries to represent the sub-region. This cast doubt on reliability of the results and policy recommendation due to the heterogeneous nature of countries within ECOWAS sub-region. This study therefore seeks to examine the impact foreign aid inflows has on economic growth in ECOWAS sub-region by employing the fifteen member countries for the period 2005 to 2017. In other words, this study seeks to test the hypothesis that there exists no significant impact of foreign inflows on economic growth in ECOWAS sub-region.

### **STYLIZED FACT**

Since year 2000, most reports shows that SSA and in particular ECOWAS countries, account for an increasing share in foreign aid inflows globally (Kurihara; 2014, Bruckner; 2013). This is believed to have been fueled by the decision of some donor countries and agencies/organisations to increase the amount of foreign aid given to SSA and by extension ECOWAS countries in other to assist them in fast-tracking the attainment of Millennium Development Goals (MDGs) by 2015 (UN, 2013). Thus, in the last two decades, the volume of aid inflows to ECOWAS sub-region experienced huge increase. The sub-region accounted for about 35 percent of foreign aid inflow to SSA between 2000 and 2011(UN, 2013). In addition, a cursory look at some ECOWAS countries, such as Nigeria, shows that net aid inflow grew from 0.4 percent in 2001 to 5.5 percent and 9.0 percent in 2005 and 2007 respectively, but dropped to 5.5 in 2008 while that of Ghana, Gambia and Sierra Leone recorded about 12.1, 12.8 and 46.1 percent respectively in 2001 (Adamu and Ighodaro 2011).

Table 1 shows yearly growth rate of foreign aid in ECOWAS sub-region. Form the Table, it can be observed that the ECOWAS sub-region experienced negative growth rates in some years such as 2007, 2009, 2011, 2013 and 2017. This

could be attributed to slump occasioned by some distorting factors (civil disturbance, economic down-turn, political upheaval etc) of the major recipient countries in the sub-region such as Nigeria, Senegal, Ghana, Cote d' Ivoire, Burkina Faso and Mali. However, on the average, the growth rate was positive for the period 2000 to 2017.

**Table 1.** ANNUAL growth rate (AGR) in foreign aid (FA) inflows to ECOWAS sub-region between 2000 and 2017 (in billions of current US\$)

Years	FA	AGR %
2000	3.17	0
2001	4.321	0.363
2002	4.839	0.12
2003	4.99	0.031
2004	6.613	0.325
2005	11.763	0.779
2006	17.683	0.503
2007	9.134	-0.483
2008	10.247	0.122
2009	9.856	-0.038
2010	12.158	0.234
2011	12.059	-0.008
2012	13.005	0.078
2013	12.151	-0.005
2014	12.366	0.018
2015	9.623	0.136
2016	10.05	0.044
2017	9.64	-0.041

Source: Author's using World Bank WDI (2018)

Taking into consideration the diversity and composition of ECOWAS sub-region, Table 2 shows the inflow of foreign aid based on official language/colonial heritage of Member State. From Table 2, it can also be observed that Francophone has the highest average, followed by Anglophone and Lusophone countries. The average of Francophone countries is higher even when Anglophone and Lusophone countries are put together. This could be attributed to the fact that besides sharing of common currency with France alongside its inherent attendant effects, for example, having the potency of easing capital inflows, francophone countries are more in numbers. In other words, Francophone countries are eight in numbers while Anglophone and Luxophone countries are five and two in numbers and respectively.

**Table 2.** FOREIGN Aid Received as a percentage (%) of GNI in ECOWAS Sub region between 2000 and 2017

Years	Ang	Franc	Lux
2000	42.121	62.858	40.503
2001	44.561	75.672	29.988
2002	43.618	80.033	29.844
2003	38.755	71.868	50.7416
2004	43.973	78.575	30.449
2005	38.712	69.171	28.765
2006	34.838	73.931	27.87
2007	30.277	69.152	28.823
2008	19.273	74.544	28.457
2009	24.001	84.279	29.691
2010	23.508	77.195	35.394
2011	19.058	75.376	24.895
2012	17.74	71.768	22.878
2013	13.273	65.557	24.807
2014	24.361	61.992	23.584
2015	30.53	72.79	30.44
2016	29.76	73.46	29.77
2017	30.49	72.84	30.41

Source: Author's using World Bank WDI (2018)

Note: Ang=Anglophone Countries, Franc=Francophone Countries, Lux=Luxophone Countries

## 2. LITERATURE REVIEW

### 2.1. CONCEPTUAL CLARIFICATION

Foreign aid is referred to as the resources (in form of cash or kind) such as loans, growth and technical assistance from advanced/rich countries or international organization/agencies to poor countries (IMF, 2005). It comprises both financial and material resources by public, private and wealthy individuals to address developmental concern and challenges (IMF, 2006). It is often disaggregated into bilateral aid (aid from one public institution to another public institution) and multilateral aid (aid provided by international organisations such as UN, World Bank, UNICEF and IMF).

Gross Domestic Product is a measure of currently produced final goods and services evaluated at market prices (Froyen, 2009), it can also be seen as the value of output produced in a country by all factors of production owned

domestically or owned by non-resident (Obadan, 2012). Obadan (2012) further opined that Gross National Product (GNP) is the value of product produced by residents from factors of production they own anywhere in the world. Thus, one may therefore view GDP and GNP as relevant measures of aggregate production activities in an economy/economic growth.

## 2.2. EMPIRICAL LITERATURE

Bitew (2014) examined the relationships and impact aid inflows have on growth in Ethiopia. Cointegration and granger causality technique were employed. The findings revealed that foreign aid exhibited negative and positive impact on growth in the short-run and long-run respectively. Granger causality revealed also that there exist is a unidirectional causality between foreign aid and growth in Ethiopia. Driffield and Jones (2013) examined the impact of FDI, foreign aid and remittances on growth in some developing countries. A systems methodology was employed to account for the inherent endogeneity in the model. The results showed that foreign aid, FDI and remittances significant and positive impact on growth. Similarly, Adamu (2013) examined the impact foreign aid has on growth in ECOWAS using a panel data and simultaneous-equation model covering the period 1990 to 2009. The result revealed that foreign aid positively affects growth in member countries of ECOWAS. As such, it was recommended that member countries should seek for more foreign aid to provide the needed fund to boost economic growth. Bruckner (2013) also looked at the simultaneity problem between aid and growth in 47 developing countries between 1960 and 2000. The findings revealed that foreign aid affects growth positively.

Also, Adamu and Ighodaro (2011) examined the impact foreign aid has on growth in Nigeria. They employed ECM technique in a time series analysis for the period 1980 to 2009. They found that foreign aid and exports significantly and positively impact on growth in Nigeria. It was recommended that Nigeria government should seek more foreign aid in her quest for economic growth. Orji, Uche and Ilori (2014) examined the implications of four different types of foreign capital inflows, namely; FDI, foreign aid, FPI and remittances on output growth in WAMZ economies over the period 1981-2010. Using SURE technique, it revealed that there are differences in the growth impact of the various forms of foreign capital inflows employed. Specifically, they found that foreign aid positively impact on output growth in Sierra Leone and Ghana, whereas, FDI foster more output growth in Nigeria and Gambia. Furthermore, the result showed that remittances have the highest impact in Liberia and that none of the inflows has positive impact on Guinea's economic growth.

Kurihara (2014) on his part, examined the relationship between foreign aid and economic growth from 1985-2012 for developing countries using VAR technique. The results showed that foreign aid and international trade promote economic growth. It was recommended that foreign aid is necessary, but too much reliance on it could be harmful to economic growth. Similarly, Jones (2013) examined foreign aid-led growth hypothesis in a panel of West African Countries

with Pendroni Residual Cointegration Test, ECM, Johansen Fisher Panel Cointegration Test. The panel cointegration analysis revealed that there exists a long-run relationship between foreign aid and growth. This was also affirmed by the tests for the individual countries. Granger causality tests showed bidirectional causality between foreign aid and economic growth.

On the other hand, Veledinah (2014) investigated the relationship between foreign aid and Growth for the period 1970 to 2012. Time series data and VECM estimation technique were employed for the study. It was revealed that foreign aid positively but insignificantly impact growth in the short-run. Examining the impact of foreign aid on economic growth in Egypt using Johansen Cointegration test and VECM, Ali (2013) revealed that the impact foreign aid has on growth is significant and negative in both the short and long-run. It was suggested that Egyptian authorities should rely more on indigenous resources to promote growth with less emphasis on foreign sources. Kolawole (2013) investigated the impact foreign aid and foreign direct investment has on growth in Nigeria for the period 1980-2011. The analysis was based on the two-gap theory while ADF test and ECM estimation technique were employed. It was revealed that foreign aid exhibited insignificant impact on growth in Nigeria.

Eregha (2013) revealed that foreign aid has positive and significant impacts on investment on one hand; and on the other hand, a negative impact between foreign aid and economic growth was established. It was also found that the uncertainty variable has a negative and significant impact on both investment and economic growth. This was held after investigating if the stability of aids flows impact on growth and capital formation in ECOWAS countries using a pooled panel analysis for the period 1970-2008. This was a follow-up on the initial study by Eregha, Sede and Ibidapo (2012) when they examined aid and economic growth by analyzing the place of uncertainty influence in the relationship between aid and investment cum growth link in ECOWAS. They employed pooled panel regression technique for the period 1970-2008 in 10 countries of ECOWAS sub-region namely; Benin, Cote d'Ivoire, Gambia, Ghana, Mali, Niger, Nigeria, Senegal, Sieria-Leone, and Togo. The result revealed that foreign aid has negative and significant impact on growth in the region. It was recommended that aid should not be seen as a medium to buy growth, rather, factors that militate against growth should be corrected without compromising increase in the inflow of aid.

Ogundipe, Ojeaga and Ogundipe (2014) examined the relationship between foreign aid and economic growth in SSA. System GMM technique was adopted to correct for the problem of endogeneity. The result revealed that foreign aid does not significantly impact on real GDP per capita in SSA. However, the impact became opposite when the role of economic policy was taken into consideration. Mallik (2008) examined the impact foreign aid has on growth in selected six Africa countries. Co-integration analysis was employed and it was revealed that foreign aid has a significant short-run impact on growth in one of the countries while a significant negative long-run impact was established between foreign aid and growth for the other five countries.

### 3. THEORETICAL FRAMEWORK AND MODEL SPECIFICATION

#### 3.1. THEORETICAL FRAMEWORK

Solow Growth Model of 1956 is adopted to provide the basic theoretical foundation for this study. The Solow model alongside its subsequent extensions has been employed in analyzing the impact of capital inflow on economic growth in the literature.

The aggregate Solow (exogeneous) growth model in its general form is given as:

$$y_t = f[A_t, k_t, l_t,] \quad (1)$$

Where:

$y$  is output,  $A$  is the level of technology/factor productivity,  $k$  is the capital stock,  $l$  is the quantity of labour and  $t$  is the time trend.

The model relates growth rate of output to growth rate of technical change, labour and capital stock. Also, time ( $t$ ) does not actually enter the production function directly, but via  $k$ ,  $l$  and  $A$ . This means that output variation over time is subject to changes in inputs. If we take the growth model to be twice differentiable, subject it to constant returns to scale and that technical change is Hicks-neutral, then the differentiation of equation (1) with respect to time and dividing through by  $Y$  result in equation (2):

$$\gamma / y = (A / A) + (Fk / y) \cdot (\kappa / k) + (fl / y) \cdot (l / l) \quad (2)$$

Where;

$\gamma / y$  = continuous time rate of growth

$A / A$  = hicks-neutral rate of change of technological progress

$\kappa / k$  = growth rate of capital stock

$l / l$  = growth rate of labour force

$Fk$  = marginal products of capital

$fl$  = marginal products of labour

#### 3.2. MODEL SPECIFICATION

In empirical analysis, the modification of Solow model results in its augmented form wherein growth rate depends not only on capital and labour but also on other policy variables such as interest rate, trade and inflation (Orji, Uche and Ilori, 2014; Papenek, 1973; Iyoha, Ighodaro and Adamu 2012; and Mankiw, Romer and Weil 1992). The interest variables are usually brought in through total factor productivity ( $A$ ). This means that total factor productivity is incorporated as a means explaining the growth process (Udah, 2010). Here, the interest variables are extended to include Foreign Direct Investment (FDI) and foreign aid while

labour is represented by stock of human capital (school-enrollment rates). School-enrollment rates are likely to be more accurate and more consistent cross-sectionally (Barro, 1991).

To avoid the problem of over parameterization of variables, the functional form of the model to be estimated is stated as:

$$Y(t) = f[FA(t), FDI(t), TRADE(t), HC(t), INF(t)] \quad (3)$$

Where:

$Y(\text{Output}) = \text{Real GDP per capita (RGDPPC, a measure of economic growth)}$ ;  $FA = \text{foreign aid inflow}$ ;  $FDI = \text{foreign direct investment inflow}$ ;  $TRADE = \text{Trade}$ ;  $HC = \text{human capital}$ ,  $INF = \text{inflation (proxy for macroeconomic stability)}$ ;  $t = \text{time trend}$ .

The explicit form of the model is given as:

$$\ln G D P P C g_{it} = \beta_{11i} + \beta_{12i} \ln G D P P C_{it-1} + \beta_{13i} \ln F A_{it} + \beta_{14i} \ln F D I_{it} + \beta_{15i} \ln T R A D E_{it} + \beta_{16i} I N F_{it} + \beta_{17i} H C_{it} + \varepsilon_{it} \quad (4)$$

### 3.3. METHODOLOGY AND INSTRUMENT VALIDATION

To correct the analytical issues associated with cross sectional studies such as this, Generalise Method of Moment estimator developed by Blundell and Bond (1998) and Arellano and Bover (1995) for dynamic estimation is adopted. This is because GMM estimator correct for country-specific effects as well as the bias caused by the inclusion of the lagged dependent variable. Blundell and Bond (1998) estimator has garnered attraction in empirical growth literature as observed in studies such as Dalgaard, Hansen and Tarp (2004) aid and growth, Cohen and Soto (2007) education and growth.

The test for the validity of selected instruments was carried out using J-statistics. It helps to ascertain the instruments' independence from an unobservable error process with J-statistics test proposed by Hansen (1982). This study performed the J-statistics test with the instruments chosen from lagged endogenous and explanatory variables in the model. When this test(s) is carried out, no further checks are practically required for evaluating the estimates of the GMM (Baum, Schaffer and Stillman, 2003; Roodman, 2009).

## 4. EMPIRICAL RESULT AND INTERPRETATION

To provide a wider outlook for the data set, descriptive statistics is reported for the combined data in Table 3. From Table 3, real per capita income average growth rate is about 4.57 percent for the period. Also, the real per capita income is highly variable across sections in the study (country groups) over time. This is demonstrated by the high standard deviation value of 16.05. The skewness is however low and negative indicating that the real per capita income growth rate

figures for most of the countries lie to the right (are more than) of the mean value. The J-B has a high value of about 228.28 and it passes the significance test at the 1 percent level. This indicates that the density function of the series is non-normally distributed. Similar position can also be held for all other variables excluding human capital whose standard deviations falls below 10 percent indicating fair stability of these variables across sections and over time in the study.

**Table 3. DESCRIPTIVE Statistics for Pooled Sample**

	Mean	Max.	Min.	Std. Dev.	Skewness	J-B stat	Prob.
RGDPPCG	4.57	15.14	-9.49	16.05	-0.68	228.28	0
FDI	6.01	89.48	-0.26	10.31	5.34	12326.49	0
FA	14.16	181.19	0.44	19.07	5.44	12915.25	0
TRADE	75.19	321.63	30.73	44.18	3.35	1975.22	0
INF	6.98	103.82	-9.82	11.15	4.86	11350.38	0
HC	65.70	81.50	46.80	7.84	-0.22	1.95	0.38

*Source: Author's computations using Eviews*

The results as shown in Table 4 indicate that all the variables employed are non-stationary at level rather attain stationarity at their first differences. This is as revealed by homogenous and heterogenous panel unit tests.

**Table 4. PANEL Unit Root Test Result**

Variables	Homogeneous Unit Root Process				Heterogeneous Unit Root Process			
	Level		1 <sup>st</sup> Diff		Level		1 <sup>st</sup> Diff	
	LLC	Breitung	LLC	Breitung	IPS	ADF-Fisher	IPS	ADF-Fisher
GDPPC	11.11	5.32	18.19	-3.00**	4.32	74.56	-16.07**	400.09**
FA	18.49	14.56	-4.49**	1.74	14.73	30.86	-9.73**	289.41**
FDI	-2.37	-2.30	-20.32**	-17.40**	-1.64	93.50**	-24.51**	602.00**
TRADE	-3.42	-3.99	-23.53**	-20.00**	-3.80	127.82	-27.82**	890.95**
INF	0.63	2.58	-21.05**	-12.16**	0.76	64.37	-19.41**	454.07**
HC	-8.60	-7.33	-22.59**	-15.81**	-7.56	185.47	-27.11**	654.89**

*Source: Authors Computation using Eviews, (\*\* = significant at 5%)*

Also, except for the panel ADF statistic, the cointegration analysis of the within-group tests and the between-group tests in Table 5 showed that the null

hypothesis of no cointegration should be rejected. Also, the residual based (Kao) panel cointegration test shown in Table 5 indicates that the null hypothesis of no cointegration of the series should be rejected.

**Table 5. PANEL Cointegration Test Results**

Within Dimension			Between dimension		Kao (ADF)
	Statistic	Weighted Statistic		Statistic	
Panel v	-3.12**	-2.56**	Group rho	14.17**	-2.88***
Panel	3.31**	5.13***	Group PP	-1.79*	
Panel PP	-2.82***	-3.88**	Group ADF	6.66**	
Panel ADF	4.85	1.66			

Source: Authors Computation using Eviews, (\*\*\*, \*\*, \* = significant at 1%, 5% & 10%)

Table 6 shows the effect of foreign aid on economic growth. It can be observed from the Table that the effect of foreign aid on growth is positive but statistically insignificant. A 1 percent increase in foreign aid leads to an increase in growth to the tune of about 0.002 percent. Other variables such as trade and inflation exhibit a positive and significant effect on growth. Human capital and FDI conforms to ‘a priori’ specification though were statistically insignificant.

The consistency of GMM estimator depends on the validity of model specification and moment conditions assumptions. The standard Sargan-Hansen J-statistics employed revealed that the moment restrictions are valid and that the model is well specified.

**Table 6. DYNAMIC Effect of Foreign Aid Inflows on Economic Growth**

Variable	Coefficient	t-Statistic	Prob.
GDPPC(-1)	0.750	148.59	0
FA	0.002	0.01	0.99
FDI	0.305	0.84	0.40
TRADE	0.533	2.91	0
INF	5.945	35.32	0
HC	1.806	0.68	0.50
J-statistic	104.3		
Prob(J-statistic)	0.030		

Source: Authors Computation using Eviews 10

## 5. POLICY IMPLICATION OF FINDINGS

The analysis indicates that foreign aid is positively related to economic growth in ECOWAS sub-region. This is in line with studies such as Kurihara (2014), Bitew (2014), Adamu and Ighodaro (2011). This therefore implies that

more interest should be paid on foreign aid as a source of capital inflow to ECOWAS sub-region in order to ensure that they support developmental process.

However, aid inflow to ECOWAS sub-region did not exert a significant impact in relation to growth affirming the null hypothesis. This therefore implies that foreign inflows are yet to be channeled into productive uses that can reflate the economy of ECOWAS sub-region. Also, since the inflow of foreign aid can easily be influence by government policies, execution and implementation of aid programmes should be accorded maximum attention by relevant policy makers.

Heavy dependence on aid may have raised some fears among policy makers. This is because huge dependence on foreign aid is like ‘putting one’s eggs in same basket’ which predisposes an economy to sharp fluctuations. In other words, where a country heavily depends on foreign aid; developmental policies become vulnerable to sharp fluctuations to aid inflows. However, a plausible opinion is that foreign aid flows should be used for productive ventures that can sustain the economy over time.

## 6. CONCLUSION AND RECOMMENDATION

The impact of foreign aid inflows to ECOWAS sub region economy was examined for the period 2005 to 2017. Furtherance to the study objectives, a model was drawn and analysis were carried out. Stationarity test revealed that the variables were non-stationary at level; but attained stationarity at first difference. With the exception of panel ADF statistic, Pedroni's and Kao panel cointegration tests revealed that the null hypothesis of no cointegration among the variables should be rejected. The over-identifying restrictions test revealed that the instrument of measurement used in the model was valid while Generalised Method of Moment estimation result revealed that foreign aid inflows exert positive but insignificant impact on economic growth in ECOWAS sub-region

In the light of the above findings, the followings are recommended;

1. Foreign aid inflows should be seen as a viable source of capital inflow to ECOWAS sub-region that can aid economic growth.
2. Policy maker in ECOWAS sub-region should ensure that foreign aid inflows are used for productive purposes so as to induce growth that can be sustained over time.
3. There should be policy coordination amongs ECOWAS countries aimed at further attracting and increasing the inflow of foreign aid to the sub-region.

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