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Original Paper

Can One Promote a Delegation of the Bilateral Aid to Multilateral Donors to Improve Foreign Aid Effect on Economic Growth in ECOWAS (Note 1) Countries?

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Abstract

This article analyzes the relationship between external aid and economic growth in the ECOWAS region, with a focus on bilateral and multilateral aid effects. The key idea behind this analysis is an argument of Svensson (2000) that multilateral aid is more effective than bilateral aid because of the high degree of altruism of bilateral donors. He therefore suggested a delegation of bilateral aid to multilateral institutions. To appreciate his suggestion, this analysis used panel data from the 16 ECOWAS countries from the period 1984 to 2014. The results of the estimates, based on the dynamic least squares estimator (DOLS), show a negative effect of foreign aid on economic growth. This negative effect on economic growth persists when the components of aid are introduced into the model. In addition, results highlight that governance is a channel through which foreign aid affect positively economic growth. In these conditions, bilateral aid is more effective on economic growth than multilateral aid. These results about foreign aid received by ECOWAS countries invalidates Svensson's (2000) theory. Therefore, a delegation of bilateral aid to multilateral institutions is not relevant because bilateral aid contributes more to economic growth if governance is taken into account.

Keywords

bilateral aid, multilateral aid, economic growth, governance

1. Introduction

Foreign aid in economics theory is considered as an additional resource to domestic resources in order to finance economic growth. In Harrod-Domar growth model, for example, foreign resources allow to increase investment that leads to increased production. But, as Chenery and Strout (1966) pointed out in their two-gap growth model, achievement of a growth objective depends on investments efficiency.

Taking these factors into account, many studies have examined the issue of foreign aid effectiveness in terms of contribution to economic growth in recipient countries. The results of these studies are strongly discussed and three major trends emerge from economics literature.

While some studies concluded that aid does not affect or even negatively affects economic growth (Boone, 1994; Easterly, 2003; Easterly, 2008; Gyimah-Brempong et al., 2012; Moyo, 2008), others showed a positive relationship between aid and growth (Arndt et al., 2015; Clemensn et al., 2004; Galiani et al., 2014; Lof et al., 2015) with a decreasing marginal return of aid (Collier & Dollar, 2001; Dalgaard et al., 2004; Durbarry et al., 1998; Hansen & Tarp, 2001). Others else concluded that aid is only effective at supporting positive economic growth when recipient countries adopt good economic policies (Burnside & Dollar, 2000; Burnside & Dollar, 2004; Chauvet & Guillaumont, 2003).

The Economic Community of West African States (ECOWAS) is a zone whose member countries have received foreign aid since their independence. From 1980 to 2016, these countries received aid of about 14.78% on average their GDP. During the same period, they estimated their GDP per capita of about 585.07 US dollars with an average evolution of about 2.57% per year. Despite the increased evolution of the GDP per capita, it is not clear that foreign aid contributed on it. Indeed, Figure 1 in appendix established the relationship between foreign aid and GDP per capita. From this Figure, the trend emerging is a negative correlation between these two economic variables.

Given aid flows received and the relationship between aid and GDP per capita established by the scatter plots, and according to the ongoing debate in empirical literature on the issue, we questions the ability of foreign aid to promote economic growth in ECOWAS countries. To this main question we can add these subsidiary questions.

1.1 Does Foreign Aid Effect on Economic Growth Depend on Donors?

This question draws its meaning from the debate about aid effectiveness depending on whether it comes from a bilateral or multilateral donor. Indeed, in his model, Svensson (2000) was looking for incentive mechanisms to make external aid more effective. He conducted his analysis as a strategic game form between donor and recipient, focusing on the problem of moral hazard that affects aid efficiency. He concluded that aid from multilateral donors was more effective than that from bilateral donors because of their high degree of altruism. Svensson (2000) therefore suggested that bilateral donors delegate their aid to multilateral institutions.

This degree of altruism is expressed mainly through bilateral donors aversion to poverty and their aid allocations which strongly depend on their strategic interests (Raschky & Schwindt, 2012). In contrast, multilateral institutions are less averse to poverty. Because of their aim, these organizations are focused

on economic performance and their aid allocations depend on it (Hagen, 2006; Torsvik, 2005).

Most time, studies separately analyze the effects of bilateral and multilateral aid without necessarily coming to a comparative assessment of their effectiveness on economic growth. Very few authors, to our knowledge, have been interested in a comparative analysis of bilateral and multilateral aid effectiveness. In this respect, Lessmann and Markwardt (2010) in a classic growth model performed a comparative analysis and highlighted differences in effectiveness between bilateral and multilateral aid. According to their results, and contrary to Svensson's results, bilateral aid has a slightly higher effect on economic growth than multilateral aid. Wako (2011), using panel data of 42 Sub-Saharan African countries for the years 1980 through 2007, appreciated the effect of bilateral and multilateral aid on economic growth of these countries. He found that there was no evidence for the (conditional or unconditional) effectiveness of both kinds of aid. According to him, bilateral or multilateral aid on their own, or in interaction with policy, is ineffective at enhancing economic growth, regardless of whether one measures it relative to the recipients' gross domestic product or in per capita terms. Other authors, interested in the issue, went beyond the source of aid and appreciated donors' own policies for effective allocation of aid (Dreher et al., 2015; Gary & Maurel, 2015; Minasyan et al., 2017). The main conclusion from their studies is that more coherent donors' policies are associated with stronger economic growth in recipient countries.

1.2 Does Aid Effectiveness Depend on the Quality of Governance in ECOWAS Countries?

The interest of this question comes from economic debates on non-linear influence of aid on economic growth. This non-linearity results on the one hand from the presence of transmission channels of aid effects (Chenery & Strout, 1966; Burnside & Dollar, 2000) and on the other hand from the capacity of recipient countries to absorb foreign aid (Collier & Dollar, 2001).

Several authors have tested the presence of transmission channels in their analysis of aid effect on economic growth. Already, Burnside and Dollar (2000) in their study showed that aid would only be effective on economic growth in countries with good policies and institutional quality. Several studies have undertaken, with varying degrees of success, to confirm these results (Collier & Hoeffler, 2002; Kosack, 2003; Mosley, 2015). In addition, Collier and Dehn (2001) also found that external shocks could also influence aid effect on growth. In this sense, a group of studies concluded that aid was effective in countries exposed to macroeconomic fluctuations and large climatic variations (Dalgaard et al., 2004; Hudson, 2015), and foreign aid would contribute to mitigate these external shocks effects.

Regarding absorptive capacity, studies pointed out that too much aid could compromise its efficiency on economic development of recipient countries. In this regard, Hansen and Tarp (2001) has shown that marginal returns of aid become negative when these flows exceed 25% of GDP, while Lensink and White (2001) has set this threshold around 40%. As for Gyimah-Brempong et al. (2012), they found that aid effect on economic growth in 77 developing countries is positive only if the level of aid was between 6.6 and 14.4% of GDP.

The literature on aid effectiveness remains extremely rich and varied. The debate on aid effects is so controversial that we can said that there are as many papers exposing a positive relationship between aid and growth than papers supporting a negative effect or no significant effect on income growth (Doucouliagos & Paldam, 2009). This heterogeneity highlights the lack of consensus on aid effects on economic growth.

The purpose of this study is to empirically examine the relationship between economic growth and foreign aid, especially taking into account its two main sources: bilateral and multilateral aid. The idea is to investigate the effects of bilateral and multilateral aid both in order to assess the complementarity that could result from these two modes of aid delivery. This study also examines the role of governance in the relationship between external aid and economic growth. Based on this literature, the following hypotheses will be tested:

- ✓ Multilateral aid is more efficient to economic growth than bilateral aid;
- ✓ Aid has decreasing marginal effect on economic growth and the quality of governance is a channel that improves aid effect.

As previously reported, the relationship between foreign aid and economic growth has attracted much interest in the economic literature. However, very few studies, to our knowledge, have made a comparative empirical analysis of the effect by source of aid, especially in ECOWAS. The essential contribution of this paper lies in this comparative analysis while appreciating the role of governance.

2. Materials and Methods

The econometric analysis is based on a traditional neoclassical growth model in open economy, derived from the Cobb-Douglas type function. This kind of model is widely used in the empirical literature on aid effectiveness. Thus, from this function, Hansen and Tarp (2001) developed a model of aid analysis in which income growth depends on aid, investment, and policy variables. This model is used by Dalgaard et al. (2004) and Gyimah-Brempong et al. (2012) to analyze the impact of aid on growth in developing countries. The results concluded that there was a direct and quadratic relationship between aid and income growth and an indirect relationship through investment and through economic policies.

This analysis of the impact of aid on economic growth in ECOWAS countries draws on this model. The interest in using this model is that it allows to take into account the quadratic form of aid and allows aid to interact with governance.

2.1 Model Specification

With reference to aid-growth literature, the basic equation of economic growth to investigate as follows:

$$y_{i,t} = \alpha_{0,i} + \alpha_{1,i} A_{i,t} + \alpha_{2,i} X_{i,t} + \alpha_{3,i} Z_{i,t} + \kappa_i + \tau_t + \mu_{i,t} \qquad (1)$$

Where subscripts “i” and “t” respectively refer to country and to time. “A” defines foreign aid (as a percentage of GDP) which is split into bilateral and multilateral component and “Z” represents

governance variable. "X" is a vector of control variables. κ_i, τ_t and $\mu_{i,t}$ respectively capture the individual-specific effects, the time-specific factors and idiosyncratic error.

In equation (1), aid is considered as an exogenous variable explaining the growth rate of real GDP per capita. However, it is important to point out the complex environment in which aid is allocated and analyzed. This complexity, highlighted in Burnside and Dollar's (2000) study, is explained by the fact that aid must be allocated to countries with good institutions. Under such conditions, the possibility of endogeneity problem is very likely when estimating relationship between foreign aid and growth. Therefore, it would be cautious to take into account the endogenous nature of aid. Moreover, the observation of Figure 2 in the appendix, which relates aid to per capita income, shows a non-linear dynamic of the general trend curve resulting from scatter plots. Such dynamic suggests a threshold effect of aid that it would be interesting to test in this analysis. That is why aid, in equation (2), is introduced in quadratic form and interact with governance.

$$y_{i,t} = \beta_{0,i} + \beta_{1,i} A_{i,t} + \beta_{2,i} A_{i,t}^2 + \beta_{3,i} \left(Z_{i,t} * A_{i,t} \right) + \beta_{4,i} X_{i,t} + \kappa_i + \tau_t + \mu_{i,t} \qquad (2)$$

2.2 Estimation Issues and Procedures

The model (2) as presented is a static approach to investigated phenomenon. This approach does not allow to take into account the possibility of a dynamic dimension of the phenomenon. This dynamic dimension is a significant issue in the relationship between foreign aid and economic growth. Indeed, in the policies of aid allocation, it's important to note that donors integrates the level of GDP per capita of recipient countries. So foreign aid tends to go to low-income countries. There is therefore a causality "income-aid" well-established in economics literature: lower is the country's income, more aid it receives. The study here is about the causality "aid-income": does aid allow to increase income? The possibility of endogeneity problem therefore is very likely that estimation method must take into account.

Conventional estimators (fixed/random effects estimators) that impose the homogeneity of the estimated parameters are not appropriate for equation (2) because they can be seriously biased (Pesaran & Smith, 1995). Besides, the problem of endogeneity (possibility of double correlation between aid and economic growth) needs to be adequately addressed in order to achieve robust estimators. The most widely used techniques that take into account these econometric problems are: the Fully Modified (FM) and Dynamic Least Squares (DOLS) estimators developed by Chiang and Kao (2002), the error correction estimators proposed by Pesaran and Smith (1995) namely Pooled Mean Group (PMG) and Mean Group (MG).

This study adopts the DOLS estimator because of its superiority (best estimators) on the FM estimator. According to Chiang and Kao (2001), on small samples (relatively small size), the DOLS estimator provided a better correction of long-term endogeneity bias than the FM estimator. This estimator is an extension of Stock and Watson's (1993) one. To obtain an unbiased estimator of the long term

parameters, the DOLS method estimates a parametric correction by including lagged levels as well as lagged differences of variables. In other words, the technique consists in including leads and lags of $\Delta X_{i,t}$ in the cointegration relationship in order to remove the correlation between the explanatory variables and the error term.

Thus, considering the equation (2) and assuming the presence of non-stationary variables, the DOLS estimator is provided by the following equation:

$$y_{i,t} = \delta_0 + \delta_1 y_{i,t} + \delta_2 M_{i,t} + \sum_{k=-q_1}^{k=q_2} \lambda_{i,k} \left(\Delta y_{i,t-1+k} + \Delta M_{i,t+k} \right) + \nu_{i,t} \qquad (3)$$

In this equation (3), $M_{i,t}$ represents the set of explanatory variables other than $y_{i,t-1}$. $\lambda_{i,\mathrm{k}}$ is the estimated parameter of anticipation or delay in first difference of the explanatory variables.

2.3 Description of Variables and Data

The estimation uses four categories of variables for the analysis:

✓ The economic growth appreciated by the *growth rate of real GDP per capita*.

✓ Foreign aid measures the amount of external resources received as official development assistance (Aid/GDP). Over the period 1980 to 2016, aid to ECOWAS countries represented about 14.78% of GDP per year. This aid split up into bilateral and multilateral aid. Bilateral donors are represented by single country agencies that provide aid directly to developing countries or NGOs. Alternatively, multilateral donors exist where more than two bilateral donors pool their aid flows and, through the international organization's own decision processes that aggregate the member countries' preferences, then provide the aid to developing countries or NGOs. During this period, the most important part of this foreign aid was delivered by bilateral donors (57.76%), while multilateral donors delivered about 42.24%. Figure 1 below shows the evolution of these two components of foreign aid delivered to ECOWAS countries. The main information from this Figure is that, from the 1996s, there has been a pronounced fall in the real amount of foreign aid provided by donors for these developing countries. Economics literature attributes this pronounced decreasing to the aid fatigue.

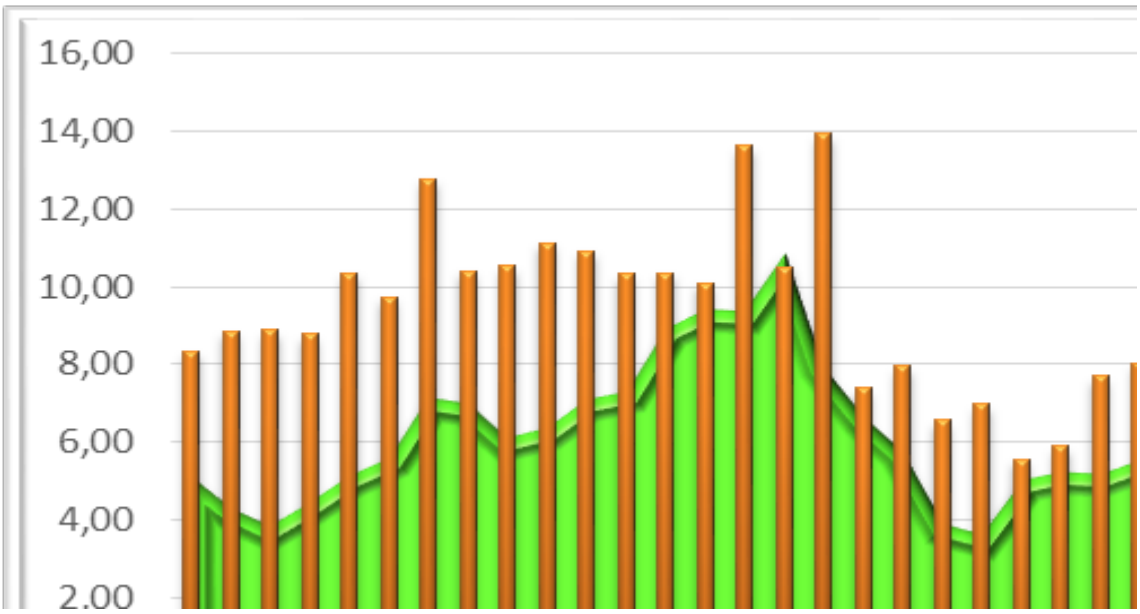

Figure 1. Bilateral and Multilateral Aid to ECOWAS Countries, 1980-2016

✓ Governance denotes institutional variables. Many institutions attempted to develop indicators to assess governance in countries. Among these institutions, there are the Country Policy and Institutional Assessment (CPIA) developed the World Bank since 1996, and the International Country Risk Guide Series (ICRG) which began publication in 1984. This are the latter indicators that are used in this study. These indicators are derived from expert surveys of economic and political conditions in about 140 countries. This study uses the ICRG indicators. The choice for these indicators results from the fact that the series are longer than those of other institutions. For the analysis, the governance variable is obtained by summing the scores of the 12 ICRG indicators whose maximum score for a country is 100. Figure 3 shows the overall level of institutional quality in the ECOWAS countries (Note 2). From 1984 to 2014, ECOWAS countries was characterized by a low level of governance with an average score estimated at 51.69. Nevertheless, there is an improvement in governance during this period because the score increased from 45.93 in 1984 to51.75 in 2014.

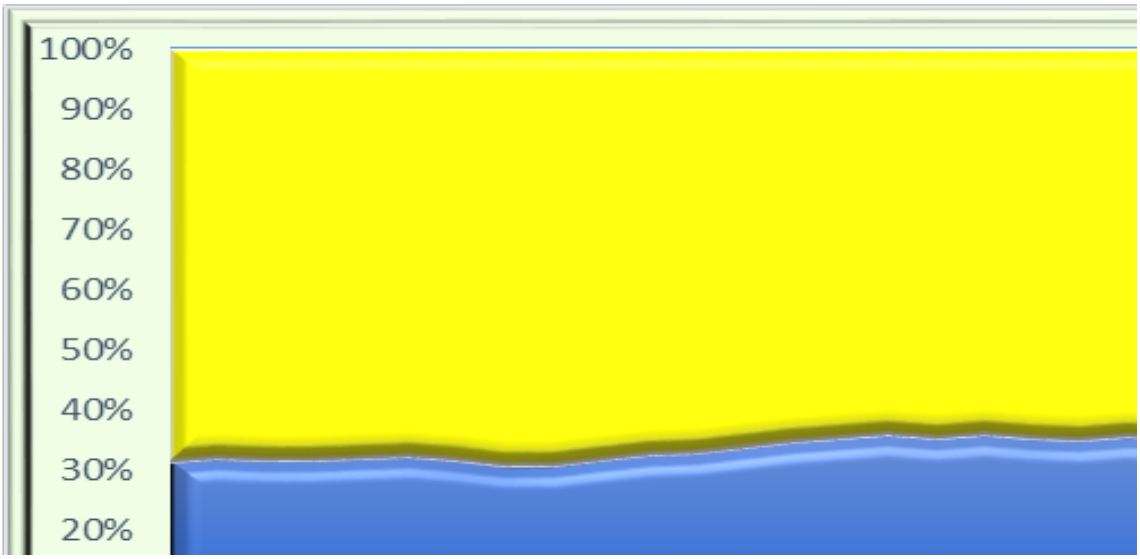

Figure 2. Governance in ECOWAS Countries, 1984-2014

✓ Control variables relate to *investment* and financial development valued by the *broad money* (all as a percentage of GDP). They also concern the human capital measured by the *active population* (as a percentage of the total population) and the *gross enrollment rate*, the economic stability appreciated by the *rate of inflation*.

We use quantitative data for this analysis coming from three sources. The data relating to foreign aid are drawn from the Organization for Economic Co-operation and Development (OECD) database. The data about governance comes from the IRCG database. For control variables, they come from the World Bank database.

3. Results and Discussions

The effects of foreign aid (and split into bilateral and multilateral aid) on economic growth has been estimated through the economic growth model presented above. The results relate to stationarity and cointegration tests on the one hand and regressions on the other.

3.1 The Results of Unit Root and Cointegration Tests

To determine the order of integration of variables and examine the presence of a long-term relationship between them, the first step of the empirical approach was to perform unit root and cointegration tests. For this purpose, two tests developed by Levin et al. (2002) and by Im et al. (2003) were used to assess the non-stationarity of the variables.

The first test, imposing the assumption of homogeneity of the autoregressive root, assume, as null hypothesis, a unit root for all the individuals of the panel versus the hypothesis of the absence of unit root for the set of individuals. Under these conditions, it is unlikely that in case of rejection of the null hypothesis, we can accept the hypothesis of an autoregressive root common to all individuals.

The second test responds to this concern by considering a model with individual effects and no deterministic trend. It postulates the unit root versus the possibility of cohabitation of two categories of individuals in the panel. Individuals for whom the variable is stationary and those for whom it's not. The results of implementing of these two tests are presented in the following Table.

Table 1. Results of Unit Root Tests Applied to the Variables

Variables	LL		IPS	
	Coefficient	P-value	Coefficient	P-value
GDP Growth**	−0.159	0.366	−1.659	0.989
Aid*	−0.491	0.000	−3.172	0.000
Bilateral Aid*	−0.650	0.000	−3.864	0.000
Multilateral Aid*	−0.640	0.000	−3.760	0.000
Money*	−0.422	0.000	−3.206	0.000
Inflation*	−0.667	0.000	−3.841	0.000
Investment*	−0.321	0.001	−2.542	0.050
Active pop**	−0.108	0.000	−2.471	0.101
Education**	−0.112	0.995	−1.869	0.910
Governance**	−0.213	0.135	−2.099	0.630
Democraty**	−0.188	0.362	−1.860	0.919
Corruption**	−0.244	0.171	−2.143	0.553

Source: Author.

IPS = IM-Pesaran-Shin's test; LL = Levin-Lin-Chu's test; Stationary at level (*), in first difference (**).

The results of the unit root tests show that GDP growth and governance indicators (governance, democracy and corruption) are stationary in first difference, while the foreign aid (total aid, bilateral and multilateral aid) are stationary at level. For the control variables, investment, broad money and inflation are stationary at level; the active population and education being stationary in first difference.

In order to highlight the long-term relationship between the variables and based on the results of the panel unit root test, we use the cointegration tests in panel developed by Westerlund (2007). The tests apply to variables that are integrated of order one. The underlying idea is to test the absence of cointegration while determining whether each of the individuals in the panel can adopt an error correction model. For this, one considers an error correction model in which the parameter a_i represents the speed of adjustment towards the long-term equilibrium. The model consists of four tests: Gt, Ga, Pt and Pa. The first two tests are called group mean tests, and the alternative hypothesis is that at least one observation has cointegrated variables. The last two tests are named panel tests and in this

case, the alternative hypothesis is that the panel, considered as a whole, is cointegrated. The results are presented in the following Table.

Table 2. Results of Cointegration Tests

Test	Value	z-Value	P-robust Value
Gt*	−1.316	3.509	0.053
Ga***	−0.711	5.256	0.008
Pt	2.635	9.046	0.925
Pa**	0.689	4.481	0.028

Source: Author.

(***), (**) and (*) = significant respectively at 1%, 5% and 10%.

The results in Table 2 show that the non-cointegration hypothesis is rejected for all statistics except for Pt. Considering these results, it can reasonably be concluded that, for part of the sample, the variables are notsignificant.

3.2 Discussion of Estimates Results

The second step of the empirical analysis was to estimate the economic growth model using the DOLS estimator. Estimates have been made taking into account total foreign aid received and its components whom are bilateral and multilateral aid. The results reported in Tables 3 and 4 are generally satisfactory. Indeed, the Chi tests are significant and the gradual introduction of the interest variables shows a certain stability of the model; which is a signal of the estimates robustness. The results from these estimates lead to the following conclusions.

3.2.1 Foreign Aid Is Harmful to Economic Growth, Whether Bilateral or Multilateral

This conclusion is derived from the results estimated of the basic model provided by columns (I) of Table 3. These results, which allow to assess the direct effects of aid, show that foreign aid has negative effects on economic growth. For example, a unit increase (as a percentage of GDP) of aid leads to a drop in economic growth of 0.064%. These results confirm previous studies of authors who found that foreign aid negatively affects the economic growth of recipient countries (Easterly, 2003; Gyimah-Brempong et al., 2012; Moyo, 2008). But in looking at its components, the results are only significant in multilateral aid. These first results make the validity of the conclusion of Svensson (2000) in ECOWAS countries rather subtle. It could be accepted in the sense that only multilateral aid has a significant effect on economic growth. However, its negative effects limits the scope of Svensson's thesis in ECOWAS.

Another interesting result emanating from columns (II) is the non-validation of the threshold effect in the relationship between foreign aid and economic growth. Indeed, the introduction of the quadratic variable of aid (also for bilateral and multilateral aid) modifies the sense of the relationship between aid

and economic growth, but the coefficients are notsignificant.

Table 3. Results of the Estimates of Foreign Aid Effects on Economic Growth

Variable	Total Foreign Aid		Bilateral Aid		Multilateral Aid	
	(I)	(II)	(I)	(II)	(I)	(II)
Investment	0.22***	2.22***	0.21**	0.23***	0.21**	0.19**
	(2.36)	(2.48)	(2.11)	(2.40)	(2.26)	(2.19)
Active Pop	-0.15	-0.14	-0.15	-0.14	-0.15	-0.13
	(-0.70)	(-0.71)	(-0.66)	(-0.65)	(-0.72)	(-0.66)
Education	0.10***	0.09***	0.10**	0.10**	0.10***	0.08**
	(2.37)	(2.33)	(2.25)	(2.19)	(2.37)	(2.14)
Aid	-0.064**	-0.08	-0.08	-0.19	-0.15***	-0.19*
	(-1.94)	(-1.00)	(-1.30)	(-1.29)	(-3.12)	(-1.75)
SquaredAid		0.003		0.001		0.001
		(0.50)		(1.08)		(1.27)
Money	-0.15***	-0.14***	-0.15***	-0.14***	-0.14***	-0.13***
	(-2.83)	(-2.82)	(-2.60)	(-2.56)	(-2.68)	(-2.60)
Inflation	-0.07*	-0.05	-0.07*	-0.06	-0.07*	-0.06
	(-1.82)	(-1.48)	(-1.74)	(-1.51)	(-1.83)	(-1.54)
Governance	0.18***	0.16***	0.21***	0.19***	0.17**	0.15**
	(2.56)	(2.37)	(2.80)	(2.57)	(2.31)	(2.28)
Wald Chi2	47.04***	43.66***	39.81***	37.86***	50.91***	37.78***
Number of Countries	11	11	11	11	11	11
Number of Observations	297	297	297	297	297	297

Source: Author.

1) provides results of the basic model estimate giving the direct effect of aid on economic growth;

2) provides the results of the non-linear model estimates (squared aid);

(***; **; *) indicate that the variable is significant at 1%, 5% or 10% respectively.

3.2.2 Governance Is a Channel That Improves Foreign Aid Effect on Economic Growth

To appreciate the role of governance, it has been assumed to be a channel through which foreign aid affected economic growth. For this purpose, the governance variable was introduced into the model as an interacted variable with aid. Columns (III) and (IV) of Table 4 present the results of this test. The results in column (III) indicate positive and significant effects at 1% of interaction variables. They highlight that governance is a channel through which foreign aid (both bilateral and multilateral aid) positively affects economic growth in ECOWAS countries. They thus corroborate the results of

Burnside and Dollar (2000; 2004), which showed that aid is effective on economic growth only in countries with good governance. These results also indicate that the correlation resulting from the interaction between bilateral aid and governance is stronger than that with multilateral aid. Such result leads to the conclusion that, in a good governance environment, bilateral aid has a higher positive effect on economic growth than multilateral aid. This conclusion is confirmed by the specific governance indicators used. Indeed, the results in columns (IV) present democracy and corruption variables crossed with foreign aid (total, bilateral and multilateral aid). They indicate a positive and significant correlation with economic growth, except for the interaction variable between multilateral aid and corruption. They also point out that the interaction variables between bilateral aid and governance indicators are stronger correlated with economic growth. These results suggest that by taking into account governance, Svensson's (2000) idea about the predominance of multilateral aid effect (as opposed to bilateral aid effect) on economic growth could not be validated in ECOWAS countries. On the contrary, it could be argued that good governance contributes to eliminate the aid negative effect on economic growth resulting of the basic model estimates and to minimize the altruism negative effect of bilateral donors on their aid effectiveness.

Table 4. Results of Regressions of Aid Effects with Emphasis on the Role of Governance

Variables	Total Foreign Aid		Bilateral Aid		Multilateral Aid	
	(III)	(IV)	(III)	(IV)	(III)	(IV)
Investment	0.12* (1.72)	0.14** (1.96)	0.15 (1.46)	0.19* (1.84)	0.08 (0.97)	0.18** (2.02)
Active Pop	-0.10 (-0.64)	-0.08 (-0.52)	-0.09 (-0.40)	-0.08 (-0.39)	-0.12 (-0.60)	-0.10 (-0.53)
Education	0.06** (2.12)	0.05* (1.76)	0.06 (1.28)	0.05 (1.11)	0.08** (2.08)	0.06* (1.70)
Aid	-0.52*** (-8.38)	-0.44*** (-9.00)	-0.86*** (-7.25)	-0.92*** (-8.27)	-0.55*** (-7.66)	-0.50*** (-7.62)
Money	-0.15*** (-3.68)	0.11*** (-2.77)	-0.08 (-1.39)	-0.05 (-0.95)	-0.10** (-2.13)	0.07* (-1.71)
Inflation	-0.03 (-1.14)	-0.04 (-1.33)	-0.02 (-0.47)	-0.03 (-0.73)	-0.05* (-1.44)	-0.01 (-0.44)
Aid*governance	0.009*** (7.82)		0.009*** (7.64)		0.005*** (5.63)	
Aid*corruption		0.07*** (2.99)		0.10*** (2.82)		0.0008 (0.03)
Aid*democraty		0.04*** (3.84)		0.05*** (3.17)		0.04*** (2.92)
Wald Chi2	120.46***	132.13***	76.46***	108.72***	72.71***	74.03***

Number of countries	11	11	11	11	11	11
Number of observations	297	297	297	297	297	297

Source: Author.

(III) and (IV) provide results of the non-linear model estimates (foreign aid interacting with governance indicators);

(***; **; *) indicate that the variable is significant at 1%, 5% or 10% respectively.

4. Conclusion

The purpose of this article was to evaluate foreign aid effect on the economic growth in the ECOWAS countries, especially taking into account the components of this aid (bilateral and multilateral), and the role of governance. Empirical results based on a dynamic panel data approach indicate a negative correlation between foreign aid and economic growth, regardless of component of aid. Testing the possibility of a reversal effect, the results indicate a modification of sign of the squared aid but its coefficient is not significant. In these conditions, the hypothesis of the presence of threshold effects in the correlation between aid and economic growth cannot be validated because of the non-significance of the squared aid coefficient.

In addition, the introduction of governance as an interaction variable with foreign aid shows a positive effect on economic growth. This result constitutes the signature that governance can be considered as a channel through which foreign aid has positive effect on economic growth. And this positive channel is maintained with the governance indicators used that are corruption and democracy. With these results, we note that contrary to the theory of Svensson (2000), bilateral aid has a stronger correlation with economic growth than multilateral aid in ECOWAS economies if governance is taken into account in the analysis. These different results suggest that ECOWAS countries have an interest in focusing on governance as it is a channel to improve foreign aid effect on economic growth. The idea of delegating bilateral aid to multilateral institutions as suggested by Svensson (2000) therefore does not seem relevant. On the contrary, the results suggest a reverse delegation, in a good governance environment.

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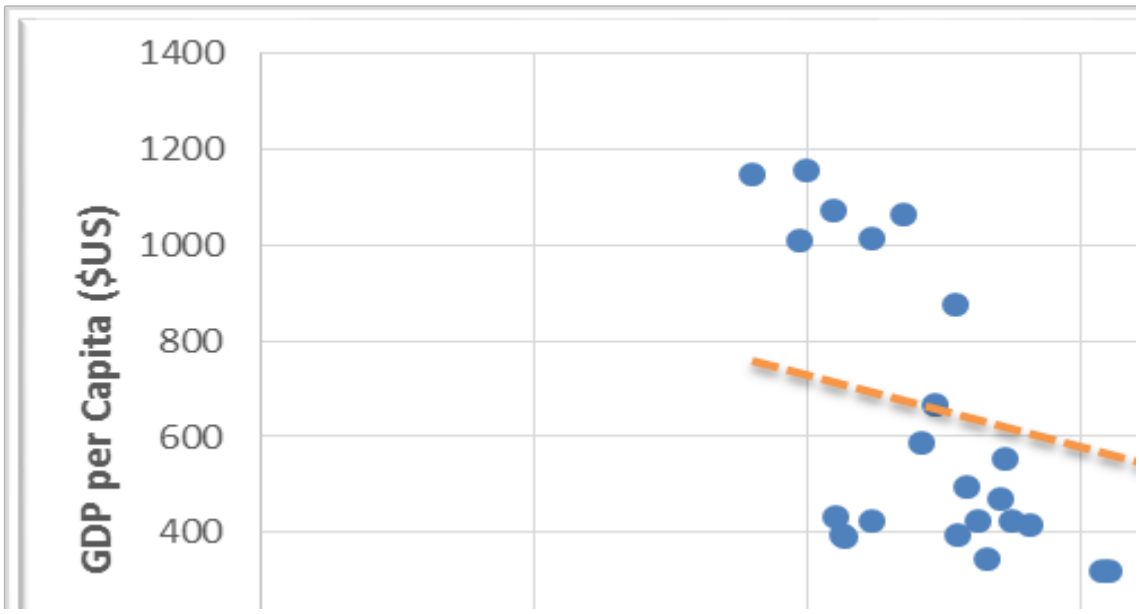
Notes

Note 1. Economic Community of West African States.

Note 2. Two ECOWAS countries (Benin and Cape Verde) do not appear in the ICRG database.

Appendix 1

Linking the Foreign Aid Evolution with That of the GDP per Capita over the Period 1980-2016



Appendix 2

Highlighting of the Non-Linear Relationship between Foreign Aid and GDP per Capita over the Period 1980-2016