International Journal of Economics and Finance; Vol. 9, No. 5; 2017
ISSN 1916-971X E-ISSN 1916-9728
Published by Canadian Center of Science and Education

The Impact of Foreign Aid on Economic Growth in Morocco: Econometric Analysis Using VECM

Kawthar Aghoutane[1] & Mohamed Karim[1]

[1] EREMEFP, Mohammed V University, Rabat, Morocco

Correspondence: Mohamed Karim, Mohammed V University, Rabat, Morocco. Tel: 212-661-683-260. E-mail: xmedkarimx@gmail.com

Received: March 2, 2017 Accepted: April 5, 2017 Online Published: April 15, 2017

doi:10.5539/ijef.v9n5p87 URL: https://doi.org/10.5539/ijef.v9n5p87

Abstract

The present work aims to contribute to the empirical literature on the effectiveness of Foreign aid in Morocco. We use the Vector Error Correction Model (VECM) to jointly capture the long-run relationship and short-run dynamics between Official Development Assistance and economic growth. Other variables such as investment, exports, and government consumption are also included in the model. The results indicate that the foreign aid promotes growth through government consumption in the short term. However, the impact of aid on economic growth becomes negative in the long term.

Keywords: foreign aid, ODA, economic growth, VECM, Morocco

1. Introduction

International aid acts as an income transfer. This transfer may or may not produce economic growth for the recipient countries. Official Development Assistance (Note 1) as defined by the OECD's Development Assistance Committee (DAC), includes all resource inflows that are provided to countries and territories on the ODA recipient list, or Multilateral institutions, and which must emanate from public bodies, including States and local authorities, or bodies acting on behalf of public bodies, with the aim of promoting economic development and improving the standard of living of developing countries.

For more than 50 years, the effectiveness of foreign aid has been a subject of controversy among researchers. Numerous theoretical and empirical studies have been carried out to analyze the impact of aid on economic growth. Nevertheless, very few empirical studies have been carried out on Morocco.

Morocco, an emerging country with a population of nearly 34 million, is a major beneficiary of international financial cooperation. From 1981 to 2014, the international community has devoted about $ 30 billion of official development assistance to Morocco (Note 2). ODA to Morocco has more than quadrupled since 2000, when the Millennium Development Goals were set, to reach an unprecedented record of US $ 2.25 billion in 2014 wich represent 2.1% of Morocco's GNI (WDI, 2016).

Although ODA flows to Morocco have not always evolved constantly, they are now reaching a considerable level, which inevitably means questioning their effectiveness. In this perspective, the central problem of the relationship between aid and growth is to know specifically whether foreign aid affects positively and significantly economic growth in Morocco.

This work will be organized around three points. The first step will be to review the theoretical foundations of ODA, as well as the main trends in aid internationally. Secondly, we will arrive at a simple methodology to identify the nature of the empirical link between different variables. This will allow us to draw useful information in terms of interrelations between variables and in terms of economic policy requirements, including aid policy.

2. Literature Review

Numerous theoretical and empirical studies have been conducted to assess the effectiveness of international aid. Researchers are striving to obtain clear answers to these questions, which are at the heart of ODA debates. We can classify studies according to three categories. Pro-aid studies highlighting the usefulness of international aid, anti-aid researchers who show that aid has a negative impact on economic growth, and finally, those who believe

that aid does not help, and has no impact on economic growth.

2.1 Aid-Growth: Positive Relationship

The work of Burnside and Dollar (1997, 2000) is at the heart of the debate on aid effectiveness in terms of growth. According to these authors, international aid is only effective in terms of growth when the recipient countries adopt a good economic and social policy. Their results showed that countries with good fiscal, monetary and trade "policy" are best suited to converting aid into economic growth. In this case, good economic policy leads to controlled inflation, a low budget deficit and the implementation of a policy of open trade. However, this definition of good policy is not the subject of unanimity. Thus, the World Bank has defended this idea in the 1998 Assessing Aid report which summarizes the principle in the form of "if commitment, money - if not, ideas" (Note 3). Karuna Gomanee, Sourafel Girma and Oliver Morrissey (2005) highlight the indirect effect of international aid on economic growth through transmission mechanisms such as investment or government spending. Indeed, they identify investment as the most important transmission mechanism by examining the relationship between aid and growth on a panel of 25 countries in sub-Saharan Africa during the period 1970-1997. The results of the estimation show a significant and positive effect of foreign aid on economic growth. Everything being equal, on average, a one percentage point increase in aid as a percentage of GDP contributes to a quarter-percentage-point increase in the growth rate. This result supports what Hansen and Tarp (2001) have demonstrated. They found that aid is likely to increase the rate of growth, and this result is not conditioned by "good policy". This is in line with the result of Guillaumont and Chauvet (2001) that the return on aid is higher in countries vulnerable to macroeconomic shocks. Moreira (2005) conducted a cross-country study, using OLS and GMM, and concluded that aid has less effect on growth in the short-run than in the long-run.This study suggests that the work of the previous generation is consistent with the new generation of aid effectiveness studies and that less importance should be attributed to the "micro-macro paradox" as an overall appraisal of aid effectiveness. Another study carried out by Camelia Minoiu and Sanjay G. Reddy (2009) indicates that aid promotes growth in the long-run; the effect is significantly large and robust. Kurihara (2014) through an impulse response function of various aid recipient countries, assumes that in general, the impact of foreign aid on economic growth is short, at best one or two years. However, too much dependence on foreign aid should be avoided for sound and sustainable economic growth.

2.2 Negative Relationship Between Aid and Growth

Unlike the above studies, the anti-aid studies found that there is a negative relationship between aid and growth in recipient countries for a number of reasons, including governance issues (Papanek (1972), Brautigam and Knack (2004), Malik (2008)).

Among the first authors to question the effectiveness of foreing aid included Griffen and Enos (1970) who found, from an empirical study, a simple negative correlation between aid and growth in 27 countries, showing even a negative impact of aid on domestic savings. Peter Bauer (1972) argues that aid is ineffective and detrimental to the private sector and hinders development because it acts as a disincentive to investment. However, his thesis has not been the subject of an empirical study.

For a category of researchers, large amounts of aid also affect the real exchange rate of the recipient country and hinder the competitiveness of its export sector. This event is often referred to as "Dutch Disease" (Rajan & Subramanian, 2005). As the study by Rajan and Subramanian shows, in countries that received more aid during the 1980s and 1990s, not only the export sectors with high degree of labor intensity have developed less rapidly than the others, but the development of the manufacturing sector as a whole has also slowed (Note 4).

2.3 No Aid-Growth Relationship

Boone (1994, 1996) in his most cited work in this field concludes that there is no relationship between aid and growth. Indeed, the author found no significant or positive impact of the aid on growth or investment or on poverty reduction. As for Henri Schwalbenberg (1998), even with the inclusion of "bad" economic policies, did not find significant results to affirm either a positive or negative relationship between aid and economic growth.

A 2001 study on the impact of aid on growth concludes that once outliers are removed from the population sample, aid has no impact on economic growth (Dalgaard & Hansen, 2001). A follow-up study carried out three years later adds a variable to account for the climate of the geographical location of developing countries. The results showed that the relationship between aid and growth in countries in the tropics is non-existent (Dalgaard, Hansen, & Tarp, 2004). Nevertheless, some scholars still argue that the lack of a link between international aid and economic growth does not deny the possibility of such an existence. They believe that the institutional and political reform of host countries has the capacity to foster a positive aid-growth relationship (Barro 1991; 2000).

3. Methodology

In most of works cited above, the authors use either a panel data model or a general linear model for the methodological approach. Also, determining the channels of transmission is essential in order to guide policies aimed at optimizing the effect of ODA on economic growth. To do this, the use of the multi-variant approach of cointegration is essential. The methodological approach will first be to define the variables involved in the study, then to explain the instrument of analysis linked to the verification of the link empirical relationship between foreign aid and economic growth in Morocco.

3.1 Data and Variables

The choice of variables is based on existing literature (works of Karuna Gomanee, Sourafel Girma and Oliver Morrissey (2005), and Pahlaj Moolio, (2015)). Ultimately, four variables are defined for examining the empirical link between international aid and economic growth:

- Gross Domestic Product: $LGDP_t$;
- Official Development Assistance: $LAID_t$;
- Consumption of public administrations: LCG_t;
- Investment which here represents the Gross Fixed Capital Formation (GFCF): $LINV_t$;
- Exports: LEX_t;

All variables are transformed into logarithms. The data are extracted from the World Development Indicator (WDI) of the World Bank database (2016) and the moroccan High Commission for Planning (HCP) database. The data used is annual and covers the period from 1981 to 2014. The tool used to process this data is Eviews 6.0, a statistical software package used mainly for time series.

3.2 Model

Our econometric study consists in testing a VECM model linking aid to economic growth. This method allows to reveal jointly the long run and short run relationships between variables**.** Therefore, the VECM representation of this model is illustrated:

$$\Delta LGDP_t = \alpha_0 + \alpha_1 E_{t-1} + \sum_{i=1}^{n} \alpha_{2i}(1-L)\Delta LGDP_{t-i} + \sum_{i=1}^{n} \alpha_{3i}(1-L)\Delta LAID_{t-i} + \sum_{i=1}^{n} \alpha_{4i}(1-L)\Delta LCG_{t-i} + \sum_{i=1}^{n} \alpha_{5i}(1-L)\Delta LINV_{t-i} + \sum_{i=1}^{n} \alpha_{6i}(1-L)\Delta LEX_{t-i} + \varepsilon_t \quad (1)$$

Where L represents the lag operator, Δ is the difference operator, E_{t-1} is the error term, ε_t is a white noise. In fact, the first step in this analysis is to examine the stationarity tests of the time series, a prerequisite for each cointegration test to avoid spurious regressions. Then, we will test the existence of cointegration relations before examining causality between variables.

4. Results

4.1 Unit Root Test

The examination of stationarity remains an inevitable step before any treatment of the time series in order to avoid spurious regressions**.** It is therefore necessary to determine the order of integration of the time series using the Augmented Dickey Fuller test (ADF).This test is carried out under three possible model specifications, with constant and trend, with constant, and with no constant nor trend. We obtain the results summarized in the following table:

Table 1. ADF unit root test results

Variables	Model 1(Note5)		Model 2 (Note 6)		Model 3 (Note 7)		order of integration
	Level	First Difference	Level	First Difference	Level	First Difference	
LGDP	-3.300465	-9.856339*	0.747445	-1.367914	0.747445	-1.531163	I(1)
LAID	-2.767198	-6.906088*	-0.08961	-6.76485*	-0.08961	-6.876181*	I(1)
LCG	-2.408707	-4.428635*	7.113251	-4.318983*	7.113251	-1.642032	I(1)
LINV	-2.966963	-6.754366*	5.755222	-6.793194*	5.755222	-3.930961*	I(1)
LEX	-2.750822	-7.920314*	4.977442	-7.511282*	4.977442	-1.961299*	I(1)

*Indicates that the coefficient is significant at 5% probability level.

Source: authors' calculations.

As shown in Table 1, the results imply that the variables in the model represent DS processes at the level. The

tests applied to the first differences reject the null hypothesis of the unit root with the threshold of 5% (t-statistic > critical value). Since the first differences are stationary, the variables are integrated to the same order (I (1)), which means we can proceed to the Johansen's co integration.

4.1 Lag Selection

The number of lags depends on the size of the selected sample. It significantly influences the estimation. The number of lags to be used for applying the Johansen test is determined by calculating the Akaike (AIC) and Schwarz (SC) information criteria for lags ranging from 1 to 3. There are other criteria to determine the optimal number of lags like the Hannan-Quin criterion and the Final Prediction Error, which are based on the same principle. The results are shown in the following table:

Table 2. Selecting the number of lags

Lag	LogL	LR	FPE	AIC	SC	HQ
0	78.67280	NA	5.94e-09	-4.753084	-4.521796	-4.677690
1	213.1626	216.9191*	5.20e-12*	-11.81694	-10.42921*	-11.36458*
2	239.7493	34.30543	5.39e-12	-11.91931*	-9.375142	-11.08998
3	259.6714	19.27939	1.10e-11	-11.59170	-7.891090	-10.38540

* indicates lag order selected by the criterion.

We find that the minimum of the Akaike criterion corresponds to p = 2 while the Schwarz criterion corresponds to p = 1. In order to complete our test, we will compare the FPE criteria, and HQ and the Log-Liklelihood. The results obtained in table 2 indicate that the number of lags to be retained is 1.

4.2 Johansen Co-Integration Test

After determining the optimum lags (1 lag), we can then establish the number of equilibrium relations existing between the four variables. The Johansen co-integration test is performed on a system of five variables ($LGDP_t$, $LAID_t$, LCG_t, $LINV_t$, LEX_t). In order to carry out the test it is necessary to perform the Trace and the Maximum Eigenvalue tests synthesized in the following table:

Table 3. Johansen Co-integration test results

Null hypothesis (H_0)	Trace test for the cointegrating rank			Results of H_0	Maximum-Eigenvalue test for the cointegrating rank			Results of H_0
	Eigenvalue	Trace statistic	Critical value at 5%		Eigenvalue	Max-Eigen statistic	Critical value at 5%	
None	0.731511	90.25586	69.81889	Rejected	0.731511	40.76332	33.87687	Rejected
At most 1	0.507506	49.49254	47.85613	Rejected	0.507506	21.58434	27.58434	Accepted
At most 2	0.434114	27.5361	29.79707	Accepted	0.434114	17.65022	21.13162	Accepted
At most 3	0.176678	9.885871	15.49471	Accepted	0.176678	6.026651	14.2646	Accepted
At most 4	0.117054	3.85922	3.841466	Rejected	0.117054	3.85922	3.841466	Rejected
Conclusion	Trace test indicates 2 cointegrating equations at the 0.05 level				Max-Eigen test indicates 1 cointegrating equation at the 0.05 level			

Source: authors' calculations.

The results of the trace and Maximum Eigenvalue tests show that there is indeed a cointegration between variables because the null hypothesis of absence of cointegration is rejected at the 5% level. Table 3 shows that the Max-Eigen test indicates 1 cointegration equation at the 5% threshold (21.58434<27.58434) while the trace test indicates 2 cointegration equations (27.5361<29.79707). We will therefore admit that there is one cointegration relation.

4.3 Model Estimation

The estimation of the VECM gives negative and significant coefficients of the error correction terms of the co-integration equations (CointEq1). This coefficient represents the speed of adjustment to long-run equilibrium.

4.3.1 VECM Long Run Estimates

As LGDP, LAID, LCG, LINV, LEX are cointegrated, the long-run relationship may have the following form:

$$LGDP = -0.18 * LAID - 0.38 * LCG + 0.62 * LINV + 0.44 * LEX + 6.93 \quad (2)$$

In the long term, aid has a negative impact on economic growth. Indeed, an increase of 1% of Official Development Assistance leads to a loss of approximately 0.18% of GDP. Similarly, government consumption has a negative effect on growth in the long run. On the other hand, the results of our model show that investment and exports have a positive impact on economic growth.

4.3.2 VECM Short Run Estimates

The multivariate analysis reveals a positive and significant causal relationship between aid and economic growth in the short run and with one-year delay. The table below shows that the Gross Domestic Product depends on its past value as well as that of aid and government consumption.

Table 4. Estimate of the model

	$\Delta LGDP_t$	$\Delta LAID_t$	ΔLCG_t	$\Delta LINV_t$	ΔLEX_t
CointEq1	-0.268081*	-1.153607*	-0.220664*	-0.113111	-0.342853*
	(0.03711)	(0.37320)	(0.05825)	(0.07844)	(0.07366)
	[-7.22474]	[-3.09110]	[-3.78803]	[-1.44194]	[-4.65442]
$\Delta LGDP_t(-1)$	-0.396543*	-1.068074	0.075065	0.424063	-0.079675
	(0.15220)	(1.53077)	(0.23894)	(0.32175)	(0.30214)
	[-2.60544]	[-0.69774]	[0.31416]	[1.31798]	[-0.26370]
$\Delta LAID_t(-1)$	0.052607*	0.105874	0.080878*	0.040764	0.065574
	(0.02022)	(0.20341)	(0.03175)	(0.04275)	(0.04015)
	[2.60120]	[0.52050]	[2.54733]	[0.95344]	[1.63330]
$\Delta LCG_t(-1)$	0.228492*	-1.853059	0.318753	0.033162	-0.010146
	(0.10521)	(1.05817)	(0.16517)	(0.22242)	(0.20886)
	[2.17178]	[-1.75120]	[1.92987]	[0.14910]	[-0.04858]
$\Delta LINV_t(-1)$	-0.045692	-1.639887	-0.339801*	-0.170409	-0.080337
	(0.09966)	(1.00237)	(0.15646)	(0.21069)	(0.19784)
	[-0.45847]	[-1.63602]	[-2.17183]	[-0.80882]	[-0.40606]
$\Delta LEX_t(-1)$	-0.199386	-1.299900	-0.199016	0.004679	-0.445071*
	(0.11176)	(1.12404)	(0.17545)	(0.23626)	(0.22186)
	[-1.78407]	[-1.15645]	[-1.13431]	[0.01980]	[-2.00609]
R-squared	0.656416	0.352632	0.297568	0.090022	0.328420
SCR	0.028602	2.893302	0.070492	0.127827	0.112716
S.E. equation	0.033167	0.333588	0.052069	0.070117	0.065843
F-statistic	9.934568	2.832522	2.202856	0.514425	2.542939
DW	1.873246	2.064008	1.918589	1.927272	2.021599

* implies that the coefficient is significant at 5% probbility level.

According to the results above, the value of the coefficient of determination R^2 shows that almost 66% of fluctuations in economic growth are explained by the four variables defined above. Therefore, the explanatory power and the overall significance of the model are good.

The VECM short run estimates show that the coefficient associated with the aid variable is positive and significant (0.053) in the regression at the 5% level. It means that an increase of 1% of foreign aid is equivalent to an improvement of 0.05% of GDP. Similarly, government consumption (CG) has a positive and significant short run effect on economic growth at the 5% level, so an increase of 1% of CG generates an increase of almost 0.23% of GDP. Other significant results of this model show that aid also has a positive impact on government consumption in the short run. Indeed, an increase of 1% of aid causes an increase of 0.08% of public consumption.

5. Model Diagnostics

In summary, all tests of the diagnostics demonstrate that the model is stable and has no signs of autocorrelation, normality, or heteroskedasticity problems. The results of residual normality test are significant. The residues follow a normal distribution, which is favorable for our model. "The stability condition test" reveals that none of

the pointslies outside the circle, suggesting that the VECM model is stable. "The serial correlation" test gives a probability greater than 5% (level of significance) so the errors are serially uncorrelated. "The heteroskedasticity test" reveals an absence of heteroskedasticity in the model as shown by the probability value.

6. Discussion

The results of our study suggest that foreign aid has a mixed impact on economic growth in Morocco. Indeed, in the short run, ODA has a relatively positive effect on economic growth. However, this effect becomes negative in the long run.

The analysis of the short-term parameters of our model shows that the impact of aid on economic growth is positive. Indeed, an increase of 1% of aid is equivalent to an improvement of 0.05% of GDP. We also note that ODA has a positive impact on government consumption in the short run. Also, government consumption contributes to an improvement in economic growth (Table 4), which may justify the presence of a positive relationship between aid and economic growth. We can then conclude that through the channel of government consumption that aid influences economic growth. Thus, the error correction term is significantly negative and equal to -0.27, indicating that GDP adjusts at a rate of 27% relative to its equilibrium level following any shock from exogenous variables, and the shock is entirely reabsorbed after one year.

However, the impact of aid on economic growth is negative in the long term. In this case, the results show that an increase of 1% of ODA contributes to a decrease of 0.18% of GDP. The long-run result is consistent with the findings of Boone (1995) (Note 8) which considers that the aid contributes to an increase in government spending rather than capital accumulation. There is therefore no tax reduction allowed by the allocation of aid, and therefore no increase in household consumption and more generally no increase in production. Mallik (2008) also found a negative impact of aid on long-term economic growth. The empirical results of the study shows that in five of the six countries entering the model (Note 9), the natural logarithm of foreign aid as a percentage of real GDP has a significant negative long-term effect on the natural logarithm of real GDP per capita. Moreover, our model shows that foreign has no impact on investment and exports in Morocco. This should lead to a reflection on the need to reorient aid in order to optimize its impact on economic growth.

7. Conclusion

The purpose of this study is to highlight the nature of the effect of aid on economic growth in Morocco. We suggest a reasoning which consists in making the dynamic regression, to settle the problem of the stationarity of the variables, consequently, to integrate a vector error correction model (VECM). It must be noted that raising the level of foreign aid increases economic growth in the short-run via government consumption, but this impact becomes negative in the long-run.

The negative impact of aid in the long-term will raise the question of the quality of transmission channels. This leads us to reflect on the presence of other variables as transmission channels. We could still assume that investment in education and health would probably play a role in channeling aid effectiveness.

References

Bauer, P. T. (1972). *Dissent on Development.* Cambridge: Harvard University Press. Retrieved from http://EconPapers.repec.org/RePEc:oup:ajagec:v:56:y:1974:i:4:p:845-846

Boone, P. (1996). Politics and the Effectiveness of Foreign Aid. *European Economic Review,* 289-329. https://doi.org/10.1016/0014-2921(95)00127-1

Bräutigam, A., & Knack, S. (2004). Foreign Aid, Institutions, and Governance in Sub-Saharan Africa. *Economic Development and Cultural Change, 52*(2), 255-285. https://doi.org/10.1086/380592

Burnside, C., & Dollar, D. (1997). *Aid, policies and growth.* Policy Research Working Paper 1777. The World Bank. Retrived from http://documents.worldbank.org/curated/en/698901468739531893/pdf/multi-page.pdf

Burnside, C., & Dollar, D. (2000). Aid, Policies, and Growth. *The American Economic Review, 90*(4), 847-868. https://doi.org/10.1257/aer.90.4.847

Dalgaard, C., & Hansen, H. (2000). *On Aid, Growth and Good Policies.* CREDIT Research paper 00/17. Center for Research in Economic Development and International Trade, University of Nottingham. Retrieved from https://www.econstor.eu/bitstream/10419/81761/1/00-17.pdf

Dalgaard, C., Hansen, H., & Tarp, F. (2004). On the empirics of foreign aid and growth. *The Economic Journal, 114*(496), F191-216. https://doi.org/10.1111/j.1468-0297.2004.00219.x

Gomanee, K., Girma, S., & Morrissey, O. (2002). *Aid, Investment and Growth in Sub-Saharan Africa*. School of

Economics, University of Nottingham. Retrieved from http://www.eadi.org/typo3/fileadmin/WG_Documents/Reg_WG/morrissey.pdf

Griffin, K., & Enos, J. (1970). Foreign Assistance: Objectives and Consequences. *Economic Development and Cultural Change, 18*, 313-327. http://dx.doi.org/10.1086/450435

Guillaumont, P., & Chauvet, L. (2001). Aid and Performance: A Reassessment. *Journal of Development Studies*. http://dx.doi.org/10.1080/713601083

Hansen, H., & Tarp, F. (2001). Aid and Growth Regressions. *Journal of Development Economics*. http://dx.doi.org/10.1016/S0304-3878(00)00150-4

Kurihara,Y. (2014). Does Foreign Aid Promote Economic Growth? *Global Business and Economic Research Journal*. Retrieved from http://www.journal.globejournal.org/index.php/GBERJ/article/view/125

Malik, G. (2008). Foreign Aid and Economic Growth: A Cointegration Analysis of the Six Poorest African Countries. *Economic Analysis and Policy, 38*, 251-260. https://doi.org/10.1016/S0313-5926(08)50020-8

Minoiu, C., & Reddy, S. (2009). Development Aid and Economic Growth: A Positive Long-Run Relation. *Quarterly Review of Economics and Finance, 50*(2), 2010. Retrieved from https://ssrn.com/abstract=903865

Moolio, P. (2015). The Impact of Foreign Aid on Economic Growth in Cambodia: A Co-integration approach. *KASBIT Business Journal, 8*(1), 4-25. Retrieved from https://www.researchgate.net/publication/278671985_The_Impact_of_Foreign_Aid_on_Economic_Growth_in_Cambodia_A_Co-integration_Approach

Moreira, S. (2005). Evaluating the impact of foreign aid on economic growth: A cross-country study. *Journal of Economic Development, 30*(2). Retrieved from http://www.jed.or.kr/full-text/30-2/J02_702.PDF

Olayinka, K. B. (2013). Foreign Assistance and Economic Growth in Nigeria: The Two-Gap Model Framework. *American International Journal of Contemporary Research, 3*(10). Retrieved from http://www.aijcrnet.com/journals/Vol_3_No_10_October_2013/19.pdf

Papanek, G. F. (1972). The Effects of Aid and Other Resource Transfers on Savings and Growth in Less Developed Countries. *Economic Journal, 82*(327), 934-50. https://doi.org/10.2307/2230259

Rajan, R., & Subramanian, A. (2005). *What undermines aid's impact on growth*. Working Paper N° 11657, Cambridge. Massachusetts: National Bureau of Economic Research. https://doi.org/10.3386/w11657

Schwalbenberg, H. (1998). Does Foreign Aid Cause the Adoption of harmful Economic Policies? *Journal of Policy Modeling, 20*(5), 669-675. http://dx.doi.org/10.1016/S0161-8938(97)00111-7

Notes

Note 1. The term is used interchangeably of international aid, foreign aid ... etc.

Note 2. WDI, 2016.

Note 3. ADF with Constant and Linear Trend.

Note 4. ADF with Constant.

Note 5. ADF with no constant nor trend.

Note 6. World Bank, (1998). Assessing Aid: What Works, What Does not, and Why. Page 58.

Note 7. Raghuram Rajan (2005). Aide et croissance: un défi pour les gouvernements.

Note 8. Boone P., (1995). The impact of foreign Aid on savings and growth. Working paper, London School of economics.

Note 9. The Central African Republic, Malawi, Mali, Niger, Sierra Leone and Togo.