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IMPACT OF DEVELOPMENT AID ON CROSS-BORDER TRADE: CASE OF WAEMU

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ABSTRACT: *The effectiveness of development assistance in the economic growth of developing countries and especially in their trade is complex and often discussed. This article tries to have a look at the cross-border trade situation of WAEMU member states and the impact of development aid on their cross-border trade, which is seen as a driver of the economic growth of countries. The results of the GMM and the individual specific effects estimation on panel data for the period 2005-2015 showed a low positive impact of aid on the cross-border trade which promotes the economic growth. These results have, however, raised other questions.*

KEYWORDS: Development aid, Cross-border trade, WAEMU.

INTRODUCTION

Cross-border trade is a means of achieving a wide range of development goals through equitable and sustainable economic growth. The WAEMU zone applies to the promotion of the dynamics of the new international economy, which introduces new elements such as increasing returns to scale and differentiating products in its member states. In order to promote economic growth, these states must invest in the structuring of the production apparatus while promoting the creation of efficient infrastructures for cross-border trade and the securing of their commercial borders. There was a big change mainly due to the remarkable opportunities due to the influence of this new dynamism on the relative prices in the markets.

In order to help the least developed countries achieve a sustainable level of development, developed countries finance the development of sectors they consider to be "key" in developing countries. Development aid up to the 1990s was essentially linked and partly dependent on the trade desired by the donor country, according to some. The effect of aid on trade differs from one country to another, or from one area to another. The existence of a direct link between aid and trade is unequivocal. A series of data on trade costs, produced in January 2013 through collaboration between the World Bank and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), highlighted disproportionate costs for countries Developing countries, which also have lower trade integration than high-income countries. The aid should be beneficial to the beneficiaries and not the contrary. His involvement in trade, as well as his role, have been the subject of much criticism and aroused the curiosity of more than one.

The objective of this study investigates the impact of aid on trade in WAEMU countries from either side of their borders. In this regard, it illustrates a simple model of general analysis that will provide an assessment of the effectiveness or inadequacy of aid to the economies of these countries through trade. In this study, cross-border trade is seen as the key to economic growth. The study is supported by an economic analysis of how aid affects the share of trade and thus influences the economy of the WAEMU zone. As such, it is assumed that the impact that aid

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will have on the share of trade's contribution to GDP will help to better judge its effectiveness on the capacity of cross-border trade in these countries to promote their economies.

LITERATURE REVIEW

Africa's low economic growth can be attributed to a number of factors, the barriers to international trade and the lack of solid financial pillars can not be dissociated from the main factors that could have contributed to the poor economic performance of the continent (Beck et al.,2002 and Ndulu et al., 2007). Reducing trade costs has significant implications for the poor who consume imported products within a country. It should result in lower consumer prices. Bringing markets near localities reduces the costs of trade, ie local distribution costs. At the international level, there are a number of restrictions in the trade sector, including transport, customs fees, political influences, etc. Development aid is affecting a number of sectors, and in recent years this aid has been particularly interested in trading

Analyses of the effectiveness of aid are numerous and often decried. Aid is often seen as a way for donor countries to expand their market share through economic and political pressures. So it is said of the aid that it takes more than what it brings. Some authors have been bent on the issue long before the systematic discussion of the impact of aid on countries' external trade. Previous authors such as Wagner (2003), Lloyd, McGillivray and Morrissey (2000) and Morrissey (2006) have focused on examining that relationship by taking into account foreign aid at the global and trade level. Researches on this subject present various results. Wagner (2003) tested the link between aid and export expansion, and found that "aid is associated with an increase in exports of goods amounting to 133 percent of aid". His study showed that donor exports are increasing at the expense of the primary objective of aid, which is to contribute to the development of the receiving countries. These results were supported by the research carried out by Pettersson and Johansson (2011) who focused on a comprehensive bilateral trade relationship between donor and recipient countries in order to gain a clearer picture of the different aspects of foreign aid. Indeed, like Wagner, their results led them to the conclusion that general foreign aid had a positive influence on exports. At the general level, this impact was higher for donor countries than for recipient countries. Several other authors have found the same answers to the more pronounced benefit that donor countries derive from their exports through the aid for trade, which is less significant for exports from recipient countries. Keshab Bhattarai (2016) conducted a study on the impact of foreign aid on growth and trade in 48 countries. He used a UK business model that produced results showing that aid has been more effective in promoting exports from advanced economies than in promoting economic growth in developing economies.

However, some research contradicts this effect demonstrated by these authors. Lloyd et al (2000) found in their study a positive effect of aid at the recipient country level rather than at the level of donor countries. The results are generally dependent on the location and method of analysis. Ghimire, Mukherjee and Alvi (2013) considered aid for trade and not global aid to develop their analyses of the impact of aid on exports at the sectoral level. Cali, Razzaque & Velde (2011) carried out their study at a more regional level, concentrating their studies on the small island countries of the Caribbean to show the positive effect of the aid at the level of the beneficiary countries. Shankar Ghimire, Debasri Mukherjee and Eskander ALVI in their investigation on the impact of total (bilateral and multilateral) aid on developing countries' exports to the rest of the world by analyzing a longitudinal year data set of 121 aid recipient

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countries classified as low- and middle-income countries by the World Bank, found a positive and significant effect of AFT (Aid For Trade) on the multiple measures of export performance. However, targeted aid showed decreasing returns, reinforcing the idea of the important but limited role of aid in promoting aid recipient exporters.

It is important at the trade level to improve global partnerships associated with national measures. Aid for trade is part of a combination of measures that donors believe are more effective in reducing these costs. This assistance to exporting firms may take the form of export credit guarantees or technical assistance for obtaining product certifications or for the production of goods in compliance with international food safety standards, for example (Cadot et al. Al., 2014). A country's participation in international trade and its export performance depends on the quality of its institutions and transport and communication infrastructures as authors such as Francois and Manchin (2013) have argued. Empirical studies to assess the impact of aid to improve the productive capacities of exporting firms are few and inconclusive. Aid is more effective at this level through the improvement and/or transfer of technology, which could lead to growth at the productive level of firms in these countries, which would have a favorable impact on trade. Delgado et al. (2013) used the double data differences method from 1993 to 2009 to highlight the role of intellectual property enforcement through the agreements on Trade-Related Aspects of Intellectual Property Rights (TRIPS) in the generation of an increase in trade in knowledge-intensive goods, whether in the communication or information technology sectors. The results showed that the establishment of intellectual property rights favored mainly exports from developed countries to developing countries rather than vice versa. These results confirmed Ivus' previous research (2010). Calì and Velde (2011) estimate empirically the impact of aid for infrastructure improvements on trade and also the impact of aid dedicated to improving productive capacities of firms on the total amount of exports beneficiary countries and study. They find that the aid dedicated to improving productive capacities does not seem to have a significant effect on exports. They also find that aid reduces trade costs, thus promoting trade.

Francois and Manchin (2013) highlight that poor infrastructure and institutions have a negative impact on both exports and imports from developing countries. Vijil and Wagner (2012) find that aid to infrastructure has a positive impact on the exports of the recipient countries. They confirm the idea of Francois and Manchin (2013). Their study showed that a 10% increase in aid commitments for infrastructure leads to an increase in the export-to-GDP ratio of 2.34%.

There are two main channels through which untied aid could affect the size of trade flows: on the one hand by improving the productive capacity of exporting firms and, on the other, by reducing the costs associated with the trade. The aid deployed is more beneficial sometimes to the external trade of donors than to that of the recipients, but it must be noted that the proper maneuver in the trade of countries depends on situations peculiar to each State. Taking aid as a whole to determine its impact on trade provides a general overview of the aid at the country level. Trade is closely tied to the existing infrastructure, knowledge, security and trade policies of each country, and the existing partnership between donors and recipients.

WAEMU CROSS-BORDER TRADE

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International trade is old as the civilizations. Formerly known as the "Silk Road", it comes from the concept that a country does not hold all the raw materials and all the factors of production on its territory. WAEMU is made up of small countries open to the outside world. In this respect, their economies are dependent on the downward fluctuations in the prices of primary products on the world market.

The African economic situation has been very unstable over the last six years. In 2015, sub-Saharan Africa has experienced its weakest growth in 15 years. This was not the case for the WAEMU, which, despite the fragile security situation in some member countries and a less favorable external environment in 2015, showed economic growth of more than 6% for the third consecutive year. This is attributed to vigorous private consumption, investment in infrastructure and favorable agricultural crops in the area. All of WAEMU's international trade in goods and services has improved over the last three years. The WAEMU commission has reported a surplus of the trade balance in 2016 started in 2014. International trade reached -8.7% of GDP in 2015 against -9.9% in 2014. The balance of goods and services in the Union thus improved by 1.2 percentage points in 2015. In 2016, the balance of payments surplus totaled 68.3 billion, due to a contrasting trend in the main accounts. This trade surplus improved because of lower imports and was reinforced by an increase in exports.

Cross-border trade requires certain costs, deadlines and formalities that are difficult for some African countries, specifically for WAEMU. Africa's share of international trade is about 4% of world trade. The economy of these countries depends heavily on agricultural and mining products, an essential source of wealth and currency creation. These are: cocoa and its derivatives, cotton, hydrocarbons, coffee and its derivatives, gold and uranium ores, which generally represent more than 50% of exports. The industrial production which has improved in these days remains low significance in their exports. The goods of the Union are exported mainly to Europe, Africa, Asia and America. Switzerland, Germany and France remain respectively the main destinations for the external sales of goods of the Union.

Understanding of the trade situation of the member states can not be limited solely to the taking into account of the statistical data on trade flows. It is in this perspective that it is important to take stock of WAEMU's cross-border trade with the rest of the world and its member states in order to examine the patterns of international trade faced by their trade. Cross-border trade is associated with three categories of procedures associated with export and/or import. This concerns compliance with cross-border and documentation requirements and transport procedures. Table 1 and Table 2 below summarize the timing and costs of cross-border trade logistics (excluding tariffs) for the regions and the member states of the union in relation to the process categories of the process of exports and imports for the year 2016. The tables include data from "doing business", which measures the overall process of moving goods from a warehouse of the home economy to a warehouse at a trading partner abroad through land or sea transport. The ranking of the economies of doing business is done in relation to the cross-border trade facility which is obtained by sorting the distance scores of the border for the cross-border trade indicator. These scores are the simple average of all border distance scores calculated for delays and costs of delivering required documentation and compliance with cross-border export and import trade procedures.

Table 1 : Regions' Cross-border trade in 2016

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Countries	Trading across borders DTF	Compliance with cross-border trade procedures				Compliance with documentation requirements			
		Time (Hours)		Cost (USD)		Time (Hours)		Cost (USD)	
		Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.
Sub-Saharan Africa	51.1	103	583.4	675.9	92.6	107.4	229.6	320.1	143.9
Latin America and the Caribbean	68.26	63.5	526.6	684.7	55.7	83.4	110.5	119.6	65.5
East Asia and the Pacific	68.08	57	401.7	435.9	73.3	70.9	131.8	127.8	71
South Asia	57.89	59.4	376.1	644.5	78	106.4	182.6	348	116.1
Europe and Central Asia	84.04	28	195	202.3	26.9	26.4	110.7	90.9	25.8
Middle East and North Africa	55.98	64.4	459.6	554.5	77.4	101.2	261.3	305.1	120.6

Source: Author's computation using Doing Business data

In Table 1, sub-Saharan Africa is the lowest regional group in terms of international trade, with 51.1. It has higher export costs than imports. By comparing the cost of Africa's cross-border trade with other regional groups, it is found that the costs facing the continent are very high, limiting export activity by favoring imports. Indeed, costs remain more bearable and less cumbersome for some countries than others. This is mainly due to the level of infrastructures development.

Table 2. WAEMU member states individual Cross-border trade in 2016

Countries	Trading across borders DTF	Cross-Border Trade: Ranking	Compliance with cross-border trade procedures				Compliance with documentation requirements			
			Time (Hours)		Cost (USD)		Time (Hours)		Cost (USD)	
			Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.
Mali	70.79	89	48	98	242	298	48	77	33	375
Togo	63.66	117	67	168	163	612	11	180	25	252
Senegal	60.85	130	61	53	547	702	26	72	96	545
Niger	60.48	132	48	78	543	462	51	156	39	457
Guinea-Bissau	52.86	153	67	72	677	755	60	36	316	384

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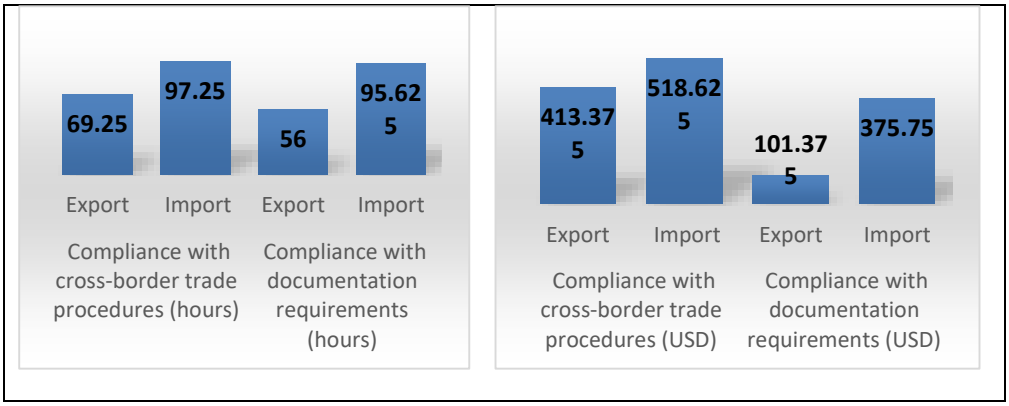
Ivory Coast	54.15	150	110	125	387	456	120	89	136	267
Benin	59.89	133	78	82	487	599	48	59	80	529
Burkina Faso	66.58	104	75	102	261	265	84	96	86	197

Source: Author's computation using Doing Business data

Among the WAEMU member countries, Mali ranks 89th in the world and ranks first in cross-border trade in the region. However, in these countries, the import cost is higher than the export cost, which is triple the cost in the case of Togo. These costs weaken the trade balance that remains low in the area. The graphs below illustrate the time and costs of businesses on the WAEMU side.

Figure. WAEMU cross-border trade



Source: Author's computation using Doing Business data

Trade costs are of great importance for the structure of trade and production, as well as for national incomes and rates and distribution of poverty at the level of Africa and more specifically in the Union. The average import hours for cross-border shopping and document procedures are almost the same, but their costs remain significant. Import costs for cross-border and inland trade procedures are 1.38 times higher than for documentation. This proves the weakness of trade infrastructures and policies at the level of the member states of the Union.

It should be noted that these countries belong to the franc-African zone supported and guaranteed by the Euro thanks to the franc. This excludes any maneuver in terms of exchange policy. As these countries do not often have the means, the adequate controls or political clout needed for the challenges of globalization and economic dominance, they need to take a wide range of measures to broaden horizons and invest in commercial infrastructure. In this context, development assistance is welcome provided it meets the real needs of countries and is allocated in an optimal and beneficial manner.

The main purpose of aid is to alleviate poverty and help to create a more favorable climate for these countries by providing them with the means to meet their needs. The issue of its effectiveness in the area is discussed, given the high levels of aid received by member countries and their progress on the development plan and especially the trade.

METHODOLOGY

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To analyze the impact of development aid on trade as well as the economy, research is based on data of some selected African countries, namely Mali, Togo, Ivory Coast, Senegal, Benin, Niger, Burkina Faso and Guinea-Bissau. These countries were selected on the basis of the common realities and characteristics of a single geographical, economic, political and social region specific to the WAEMU. Important information is incorporated into similarities between countries.

The investigation covers the period 2005 to 2015 with data coming from Aid data, World Bank, OECD and WTO. They will be arranged in a panel, thus allowing the follow-up of the given sample of individuals over time and thus providing multiple observations on each individual in the sample. This choice is also fueled by the desire to identify and estimate effects that are simply not detectable in pure time series and pure cross-sectional data. All the analysis will focus on the individual dimension and the temporal dimension.

This study is dependent on the ratio of "trade to GDP" (*TOGDP*). This variable expresses the share of trade performance and the trade openness of the countries. The trade-to-GDP ratio is an indicator of the relative importance of international trade in the economy of a country. It is chosen as a dependent variable to have a perception of the possible impact of development assistance on the openness of a country to international trade. In other words, the impact of development aid on the cross-border trade of the selected countries is presented as a regression with the aid flows as an explanatory variable (X) and the trade to GDP as a variable explained (Y). The analysis integrating only these two variables is very likely to be misleading because it can not be correctly measured due to the absence of other variables in the model that could explain the economic situation affecting the trade of the countries. Consequently, the study takes into consideration parameters linking the two variables. Specification or control by other variables will thus avoid a bias in the estimation of the interest parameter, which relates the aid to the trade and the economy. The control variables in the model are: inflation, population growth rate, public spending, exchange rate (*Ex_rate*) and financial deepening indicator (*M2/GDP*) which measures the proportion of transactions facilitated by quasi-money as medium of payment. The Inflation (*Inf*) is an important economic indicator that is directly related to a country's cost of living and economic growth. When the population grows faster than production, economic growth becomes regressive, hence the importance of taking into account the rate of population growth (*PGR*). Public spending expresses all payments, investments and consumption of government transfers (*Gov_exp*). These variables avoid a bias in the estimation of the interest parameter. The econometric model used in this study is composed of variables inspired by previous empirical research on the same problem, it can be written as follows:

$$TOGDP_{it} = ß_0 + ß_1 Aid_{it} + ß_2 M2/GDP_{it} + ß_3 Inf_{it} + ß_4 PGR_{it} + ß_5 Gov\_\exp_{it} + \varepsilon_{it}$$

ANALYSIS AND FINDINGS

This study analyzed the panel data with the specific individual effects and a dynamic panel regression. To be more relevant in the analysis, first, was to analyze the level of correlation between the variables with the VIF test. The study takes into account the time differences in the relationship between aid and growth from trade, as the effect of aid on growth or trade is generally not immediate. Many authors have put aside the hypothesis that aid is an exogenous variable and therefore a possibility of inverse causality. The analyses in this study take this

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possibility into account. As a result, the analyses first concern the application of the generalized moments method which solves the problem of endogeneity in the study. This method makes it possible to regulate the endogeneity not only at the level of the aid but also at the level of the other explanatory variables by the use of a series of instrumented variables generated by the delays of the variables. It also resolves the issue of reserve causation, that can be solved by GMM test. The analyzes continued with the individual specific effect tests, the Hausman test, the heteroskedasticity test. The choice between the fixed effect and the random effect was determined with the Hausman test. The heteroskedasticity was tested using Breusch-Pagan test. The results of the analyses are as follows:

Table 3. Regressions results

	Dynamic panel-data estimation	Individual specific Effects	
Dependent Variable: TOGDP	Generalized Method of Moments (GMM)	Fixed Effects	Random Effects
_cons		-0.1173 [0.2612]	-0.0580 [0.2486]
TOGDP L1	0.2493 [0.2493]		
Aid	0.0896 [0.0401]**	0.0674 [0.2322]***	0.0631 [0.0223]***
Excrate	-0.0024 [0.0012]*	-0.0029 [0.0017]*	-0.0028 [0.0017]*
Popgrowth	-0.4036 [0.2056]*	-0.0339 [0.0349]	-0.0371 [0.0284]
M2/GDP	0.0039 [0.0002]*	0.0009 [0.0088]	0.0001 [0.0079]*
Gov_exp	0.0080 [0.0034]**	0.0096 [0.0035]***	0.0077 [0.0032]**
Inf	-0.0001 [0.0010]	-0.0007 [0.0012]	-0.0007 [0.0012]
	Arellano-Bond test for AR(1) = 0.495 Arellano-Bond test for AR(2) = 0.741 Sargan test: Prob>Chi2= 0.494	Prob>F= 0.0000 Hausman test: Chi2=4.52 Prob>Chi2= 0.4681	Prob>Chi2= 0.0000

Note: * means statistically significant at the 1% level; ** means statistically significant at the 5% level; *** means statistically significant at the 10% level; Absence of stars means statistically not significant.

Source: Stata 12 output

The result of VIF test is 1.1 > 5 which is acceptable and means there is no multicollinearity in the model. From the GMM results, it can be seen that aid is significant at 5% level, but with a low impact, an 8% increase in aid will increase the trade by one unit. The Sargan test does not reject the assumption of validity of the instruments used in the regression. The use of t-2 delay differences in the aid variable as instruments has been done because of its endogeneity, the other explanatory variables are instrumented by their delays t-1 in difference and are considered

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as exogenous variables. The existence of autocorrelation is refuted as either first-order or second-order (AR (1) and AR (2)) because Arellano and Bond's autocorrelation test rejects the hypothesis of lack of autocorrelation. All other explanatory variables are significant in the GMM test other than inflation. Unlike other variables that all have a positive relationship with the dependent variable, population growth and the exchange rate negatively impact it.

According to the results of estimation of the specific effects, there is a positive relationship between aid and the share of trade contribution to development. According to the Hausman test, the random effect is the appropriate effect on the data. Looking more closely, it can be seen that a 6% increase in aid would allow a contribution in the cross-border of a unit. Control variables are almost all statistically significant except for inflation and population growth, which have a non-significant negative relationship, unlike GMM (significant negative impact of population growth).

Looking more closely at the impact of population growth on our explained variable, we can say that the external trade of these countries is not able to support a share of the needs of a growing population financially. This may be due to a number of factors, both at the level of infrastructure and at the systematic and even political level. Although deferred, its negative impact is part of one of the major development problems in these countries. It was also noted that government spending was successful in promoting trade as an engine of development but still remained insufficient.

CONCLUSION

This study investigates the impact of development aid on cross-border trade of WAEMU countries adopting the methodology of "GMM" dynamic panel and individual specific effects for the period 2005 to 2015. The empirical analysis yielded unambiguously positive impact on cross-border trade. Thus in consistence with initial hypothesis and research questions, the study shows that development aid bares positive impact on general cross-border trade in the sampled countries of interest. Development aid is a complex phenomenon whereby in spite of the positive significance of the research findings, there still exist some limitations. Since development is the benchmark of every country, it is expected that the positive impact of aid on trade should enhance growth. Yet why are these countries and its metropolis still standing deficient in its consumer surplus? Are aids really channeled into right investments in a bid to assist these countries?

The findings of the study bring to light insightful realities on the phenomenon raising delicate questions such as these which will further propel acutely curious academic researchers into delving deeper into the subject matter.

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