

Aid for Trade: does it enhance the intra-trade of Sub-Saharan African integrations?

Case of the Aid for Trade provided by the EU and the USA to ECOWAS
countries

BEÁTA UDVARI, PhD

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Abstract

*Aid for Trade (AfT) initiative has become one of the facilities of international development cooperation since 2005. Its objective is to improve developing countries' participation in world trade through developing the supply-side capacity in these countries. Since its launch, several analyses were born proving the positive impacts of Aid for Trade on export promotion and on trade costs. However, it is not investigated – as far as we know – whether AfT may increase trade within an economic integration. To test this hypothesis, the Economic Community of West African States (ECOWAS) is analysed. Since the European Union and the USA are the largest donors and have strong economic connections to Africa, the analysis is narrowed only to their AfT activity. The research is based on gravity model (where the dependent variable is intra-trade, and the independent ones are GDP, GDP per capita, distance and Aid for Trade and some dummy variables), covering the period of 2002-2012. Results of the analysis strengthen that neither AfT from the EU, nor from the USA causes any growth in intra-trade within ECOWAS. Consequently, AfT from these donors mainly follow their own strategic and economic interests and not the interests of the recipient countries.**

Journal of Economic Literature (JEL): F13, F15, F35.

Key words: Aid for Trade, US, EU, ECOWAS, intra-trade, gravity model

Beáta Udvari, PhD, assistant professor, University of Szeged, Faculty of Economics and Business. E-mail: udvari.beata@eco.u-szeged.hu

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1. Introduction

Since the 1990s, number of integrations has grown significantly, and by 2010, more than 300 preferential trade agreements were counted, out of which a large number is due to the integration process of developing countries. Primary objective of these integrations is to foster trade between partner countries, therefore one of the key indicators of their success is the extent of intra-trade. In line with this process, integrations of developing countries are on the agenda of several international organizations. The reason for this is maybe that role of international trade in economic development has become an important factor, though there is no unambiguous evidence for this statement.

In 2005, Aid for Trade initiative was launched having the aim to improve developing countries' trade capacities. In order to reach it, donor countries provide financial assistance. Consequently, at least two parallel processes (integrations and Aid for Trade) are going in order to foster developing countries' trade, so it is important to analyse whether these processes strengthen each other or not. During my research, no analysis was found which had analysed potential impacts of AfT on integrations. Thus, *present paper seeks the answer on the question whether Aid for Trade provided to the member countries of the Economic Community of West African States (ECOWAS) influences, if yes, in what extent, the intra-trade*. Since the European Union and the USA are the largest donors in the world and have strong economic connections to Africa, the analysis covers only their AfT activity. Then, these donors unambiguously declared in official documents that they support the African integration process by offering financial assistance, too. The reason for choosing the ECOWAS is twofold: 11 countries of the 15 ECOWAS-members belong to the group of least developed countries as the main target group of AfT, on one hand, and most of them receive significantly high AfT regarding the African countries.

The paper is structured as follows. First, the main characteristics and problems of African integrations and ECOWAS are detailed. In the second part, Aid for Trade is introduced, outlining its impacts on trade and economic development and emphasizing the EU's and the USA's activity. Then, the empirical analysis is introduced and the results are presented.

2. Main features of African integrations and the ECOWAS

According to the 2011 world trade report of the World Trade Organization, number of the preferential trade agreements exceeds 300 in number (WTO 2011). The majority of them are bilateral trade agreements, but they can be considered as first steps to create a deeper

integration (Hosney 2011). In Africa, several integrations were established in the last few years, however, there are several features hindering their success. Although, their names follow the integration levels created for developed countries, it is difficult to tell on which level a certain African integration stands. Most of them have not been able to establish free trade area so far, however, there are some success stories: WAEMU and CEMAC operate as monetary unions, or SACU as a customs union (Udvari and Kis 2014). Although the central aim is to foster trade between member countries in all integrations, data show that this aim could not be reached. According to UNCTAD data, intra-trade of the African integrations is mainly lower than 20 percent, and trade with countries outside of Africa is more significant (Udvari and Kis 2014). There are several reasons for the low level of success and of intra-trade (Erdősi 2012, Longo–Sekkat 2004, Szent-Iványi 2010, Tarrósy 2010, Tétényi 2010):

- lack of political will (the political support of an integration is at a low level);
- overlapping integrations (a country belongs to 3-5 integrations which have different aims);
- lack of human and financial resources (establishing and maintaining an integration need human and financial capital for building the institutions);
- bad economic policy (African countries follow ineffective economic policy);
- lack of transport infrastructure (roads and other transport sites at a low quality hinder the growth in intra-trade);
- unfavourable and disadvantageous industrial structure;
- civil wars and conflicts; and
- differences in development levels of participating countries.

2.1. Fostering African integration process

The failure and problems of the African integrations may be solved by involving more financial resources. However, it is sure that African countries themselves are unable to put more money in this process. Consequently, more external financial assistance is needed – and not only financial assistance is important, but also the supportive approach of donor countries to the integration process. Since, if donors do not support African countries to establish successful integrations, all efforts are in vain. Thus, this chapter summarizes some approaches of important donor countries regarding the support of African integration process.

There are several views which say that African development may be reached by fostering regional integration process on the continent. The African Development Bank has been paying attention to African integrations since its establishment in 1963, however,

systematic operations were developed only in the last decade (ADB 2012). It means that a large development bank deals with this question leading to growing financial resources on this objective.

Financial resources may come from larger donor countries, too, in the form of official development assistance. According to OECD CRS (2014), the largest donors in the world are the European Union and the United States of America as they provided about 60 percent of total ODA to developing countries in 2012. Furthermore, the EU and the USA have built up strong relationship with African countries. Because of this, it is worth to analyse whether these donors has officially declared that they support the integration process in Africa. As for the EU, the special relationship with Africa appears in the form of ACP group (African, Caribbean and Pacific countries) and of different contracts (see, for instance, the four Lomé Conventions). The newest agreement between the EU and the ACP countries is the Cotonou Partnership Agreement signed in 2000. Article 1 of the revised Cotonou Agreement declares the objectives of the partnership and claims (EC 2010, p. 16): *“Regional and sub regional integration processes which foster the integration of the ACP countries into the world economy in terms of trade and private investment shall be encouraged and supported.”* Then, the fundamental principles in Article 2 say that *“Particular emphasis shall be put on regional integration, including at continental level”* (EC 2010, p. 17). Going on, Section 3 of the Cotonou Agreement declares regional cooperation and integration, and Article 30 details the capacity building obligations in order to foster economic integration processes of the ACP countries. Consequently, the EU tries to foster economic integrations among the African countries in order that they participate in world trade more effectively. This let us assume that the aid from the EU would serve this objective.

The United States adopted the African Growth and Opportunity Act (Trade and Development Act of 2000; AGOA), in which the US obliged to expand the *“United States assistance to sub-Saharan Africa’s regional integration efforts”* (US 2000, p. 3). Furthermore, AGOA is to provide trade preferences to Sub-Saharan African countries which comply with the eligible criteria. Consequently, the US’s efforts are very similar to those of the EU: both donors officially support the regional integration process in Africa and tend to provide financial assistance to them. However, both of these donors do these in order that the African countries shall trade more. Perhaps a paradox situation may come up: regional integration is supported but donor countries expect African recipient countries to trade with donors because of the trade preferences they provided to them. As a consequence, integrations may be established but trade relations will be diverted more to donor countries.

2.2. Results of the ECOWAS

The Economic Community of West African States was established in 1975 by Benin, Burkina Faso, Cote d'Ivoire, the Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, and Togo. Cape Verde joined the integration in 1977, while Mauritania has left it since then. As a result, the integration has now 15 member states. Attempts to foster trade between the member states play essential role (Nwauche 2011):

- elimination of tariffs, quotas and administrative barriers;
- establishing a customs union;
- establishing a common market (including the free movement of people and capital);
- establishing a monetary union (however, there is already a monetary union within the integration, this is the so-called WAEMU – West African Economic and Monetary Union).

There are significant differences between the development level of the member states, resulting in some leading countries and the 'followers'. Leading countries are Nigeria and Cote d'Ivoire; they are the largest trading partners, too. However, Nigeria seems to be stronger, as the centre of the ECOWAS stays in Lagos (capital of Nigeria), and Nigeria is the largest oil producer in Africa (Erdösi 2012). The leading position can be experienced in trade data, too. Ghana and Cote d'Ivoire are the main trading partners of the member states, however, most of the member states trade with countries outside the integration. Altogether, aims to foster trade between the partner countries do not seem to appear. Although Nigeria is a leading country in the ECOWAS, its intra-trade is below 5 percent regarding both the exports and imports (UNCTAD 2014). Banik and Yoonus (2012) supports the further of ECOWAS claiming that growth in intra-trade may cover the shortages coming from the decreasing trade between the ECOWAS and the rest of the world.

There are some researchers who analysed the economic results of the integration empirically. Golub and Mbaye (2009) analysed the reasons for low trade between the Gambia and Senegal. They point that it is due to some historical reasons. Other authors used econometric models: Coulibaly (2007) analysed seven – African, Asian, and Latin-American – integrations and their impacts on trade between 1960 and 1999. One of the analysed African integrations was the ECOWAS. The author showed that the years since when the country has been member of the integration play significant role in the growth of intra-trade. Afesorgbor and Bergeijk (2011) went a little further analysing the role of European contracts too. However, they found the impacts of EU agreements less than the impacts of the integration

itself. Furthermore, they showed that the overlapping membership of different integrations does not lead to decreasing trade in the case of ECOWAS.

Besides, there are some analyses on how the involvement of external financial resources (FDI, official development assistance or remittances) influences the success of the ECOWAS. Adom (2012) narrowed the analysis on the official development assistance. The results indicate that external financial resources did not foster the establishment of the trade infrastructure but strengthened the dependence from donors. However, the author adds as a recommendation that the intra-trade can be fostered by improving cross-border infrastructure (including the telecommunications), establishing more efficient institutions for decreasing the transport costs, and developing the industry. All these can be found as the main aims of the Aid for Trade, therefore it is important to analyse how this initiative may contribute to the development of intra-trade.

3. Aid for Trade

Liberalization process is still continuing and the current round is named Doha *Development* Agenda. Since many countries could not follow the liberalization process and could not benefit from the current process, Aid for Trade (AfT) initiative was launched by the WTO in 2005. AfT may be essential for the developing countries, since they would be the main losers if the Doha Round fails (Deardorff and Stern 2009; Abbott et al. 2009).

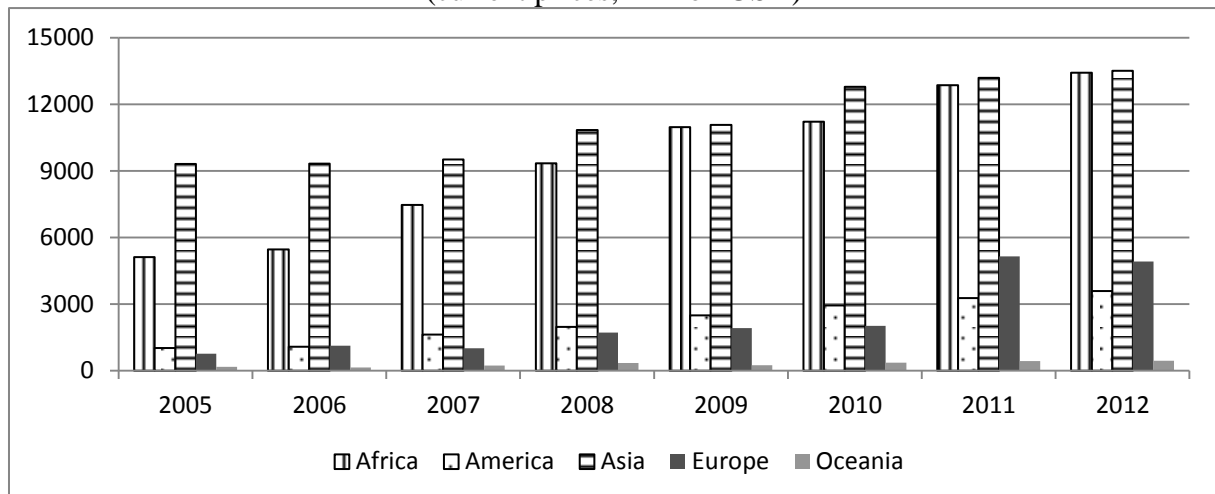
The programme objectives are the following: AfT supports developing countries to help them *expand* their exports, *participate* in the multilateral system of trade, and *benefit* from liberalisation. In order to fulfil these goals, *six areas for the financial assistance* were determined (WTO 2006): *trade policy and regulation; trade development; trade-related infrastructure; building productive capacity; trade-related adjustment; and other trade-related needs*. As a result, its primary objective is to improve the supply-side capacity (Hallaert and Munro 2009), which may lead to the development of the business environment. A business environment with high quality is essential to catch the positive effects of participating in international trade (Freund and Bolaky 2008, Dreger and Herzer 2011). However, the program has a sharp critic: though AfT aims to support least developed countries, there are empirical evidences showing that in practice aid allocation does not follow this expectation (Udvari 2011, Uhrin and Schusztter 2013). For instance, the European Union implemented more AfT projects in China (as one of the largest exporters in the world) than in Sub-Saharan Africa (Udvari 2013).

3.1. AfT amounts in Africa

While analysing the amounts and tendencies of Aid for Trade, the first year is 2005 as the year of introduction of the programme, and the closing years is 2012 as the last year with available data. Only countries having full data available were taken into consideration. In the OECD database there were 144 countries having the full dataset.

Figure 1 shows the paradox situation that at the beginning of the program, Asian countries received significantly higher AfT assistance than Africa. At the same time, Africa is on the way to catch up to Asia, and in 2012 there was only a slight difference between them. It can be also seen that Africa and Asia are highly the areas where the largest amount of AfT arrives at: in 2012 these two regions received more than 80 percent of the total AfT. This tendency strengthen one of the critics of the AfT: not the least developed countries are highly supported but the low middle income countries.

Figure 1 Aid for Trade disbursements in several regions, 2005–2012
(current prices, million USD)



Source: own construction based on OECD-CRS (2014)

In Asia, at the beginning more than 35 percent of their total ODA belonged to the AfT assistance, while this rate was only 27 percent in Africa. However, this rate became almost equal by 2012: 34-35 percent of the ODA can be considered as AfT in Asia and in Africa. America as a region has the same rate, but Europe exceeds this rate as it has 60 percent of its total ODA as AfT, while in Oceania it is only 22 percent in 2012.

Regarding the level of concentration of AfT, the top 20 recipient countries were analysed (Table 1). A huge concentration can be noticed, as the top 20 countries out of the 144 investigated states receive more than 60 percent of total AfT in 2007 and 2012, and it was nearly 60 percent in 2010, too. Moreover, more than 40 percent of total AfT were provided to

the top 10 countries. At the same time, there is only a little change in which countries received the highest amount of AfT: 12 countries appeared among the top 20 countries in all years. Another interesting case is that China is on the list in all years (but with decreasing position) though China is one of the largest exports in the world.

Table 1 TOP 20 recipient countries of AfT, 2007, 2010, 2012
(Disbursements, Million USD, current prices)

Country	2007	Country	2010	Country	2012
Iraq	1604,23	India	2298,31	Turkey	2867,84
Vietnam	1103,06	Afghanistan	1750,22	Vietnam	2839,21
India	1053,11	Vietnam	1716,14	India	1796,61
Afghanistan	889,54	Indonesia	1123,83	Egypt	1506,32
China	797,36	Egypt	889,51	Afghanistan	1503,95
Indonesia	646,35	Morocco	738,00	Morocco	1075,77
Philippines	604,09	Tanzania	732,79	Bangladesh	925,30
Uganda	491,55	Turkey	720,33	Brazil	897,59
Morocco	479,57	Ethiopia	557,22	Tanzania	819,45
Ethiopia	478,17	Ghana	552,79	Kenya	789,30
Egypt	405,49	China	508,64	Serbia	760,99
Pakistan	385,62	Tunisia	492,82	Indonesia	739,44
Tanzania	366,96	Bangladesh	466,61	Ghana	642,14
Nigeria	339,80	Iraq	465,46	Pakistan	636,26
Kenya	331,31	Nigeria	428,21	Ethiopia	594,31
Bangladesh	330,49	Uganda	422,98	Tunisia	576,52
Madagascar	328,26	Kenya	390,13	China	542,23
Mozambique	325,77	Philippines	383,48	Congo, Dem. Rep.	506,74
Ghana	314,07	Jordan	366,00	Sri Lanka	483,09
Mali	297,24	Sri Lanka	363,20	Mozambique	456,91
World total	18 385,44	World total	26 619,64	World total	32 995,55
Share of TOP10	44,31%	Share of TOP10	41,62%	Share of TOP10	45,53%
Share of TOP20	62,94%	Share of TOP20	57,73%	Share of TOP20	63,52%

Source: Udvari – Kis (2014), p. 92

Similar paradox is that out of the top 20 countries, only 7 countries belong to the least developed countries or to the low income countries. Instead, middle income countries dominate this group. The first least developed country on the list is Afghanistan (on the fifth

place), however, it is not sure that the AfT assistance serves trade-related objectives because of the war (Udvari 2011). Consequently, economic, strategic and political interests of donor countries determine the aid allocation rather than the needs of recipient countries.

In the share of total ODA, there is a totally different ranking. It is due to the fact that some countries receive a relatively low level ODA, and the received ODA is rather AfT. In some countries (St. Helena, Tokelau, Turkey) total AfT exceeded 80 percent of total ODA in 2012. Since this rate should be more than 53 percent in 2012 to reach the TOP20 country list, the AfT has become a significant aid type.

In 2012, 11,675 million USD AfT assistance arrived at Africa, which is around 40 percent of the total AfT amounts. The central and West African countries are the most supported countries, and the northern African countries receive less AfT which is mainly due to their relatively high development level. However, the level of concentration is extremely high in Africa: the top 20 African countries receiving the largest amount of AfT receive more than 80 percent of the total African AfT, and the top 10 countries reaches the 60 percent. And 16 African countries are continuously on the top recipient countries (Udvari and Kis 2014).

In Africa, the share of AfT of total ODA is not so high: with some exemptions, this rate is below 50 percent. However, this share is continuously growing: while 30 percent was enough to appear on the Top20 list, it increased to 33 percent by 2012. Nevertheless, out of the 49 African countries, the share of AfT of ODA is below 40 percent according to the 2012 data.

3.2. Possible economic effects of AfT

Although AfT belongs to the financial assistances 'group', its economic impacts seem to be more spectacular and persuasive than the general development assistance. According to the official documents, it is not expected that the AfT would behave as a tied aid, that is recipient countries should not follow the conditions of donor countries. However, relevant literature analysing the potential impacts of AfT assumes this. These studies can be grouped: studies which analyse the impacts of AfT on export volumes regardless of donors (Cali and te Velde 2011, Petterson and Johansson 2011); or studies which investigates the impacts of AfT provided by a donor on the trade between the recipient and the donor (Bearce et al., 2013; Udvari, 2013; Uhrin and Schuszter, 2013).

Cali and te Velde (2011) analysed the export volume changes by involving 100 developing countries into the investigations. According to their econometric results, AfT assistance on the development of economic infrastructure results in growth in exports.

Petterson and Johansson (2013) have similar results: assistance on the development of trade infrastructure results in the largest export growth, however, the authors do not give as large emphasis to AfT as Cali and te Velde did. Helble et al. (2009) found the assistance on trade policy as a significant factor: one percent growth in trade policy aid results in 818 million USD trade expansion worldwide. Bearce et al. (2013) narrowed their analysis to the aid activity of the USA. Their results indicate that one dollar growth in AfT results in 65 dollar trade expansion in the recipient country, but this impact may be higher in needy (poorer, landlocked) countries. Vijil and Wagner (2010) found that 10 percent growth in aid on improving trade infrastructure results in 1.22 percent growth of the recipient's export. Furthermore, Vijil (2013) analysed how the AfT may contribute to economic integration. According to her results, AfT has positive effects on both South-South and North-South integrations. However, there is no answer how AfT influences the intra-trade within an integration.

Besides the general and overall approaches, there are studies investigating the effects from a donor's perspective. These analyses may be more reliable since the good performing countries would not cover the less good performing countries' achievements (or vice versa). Brayzs (2013) dealt with four donors (USA, Japan, Germany and Norway) in four recipient countries (Indonesia, Philippines, Timor-Leste and Vietnam). The author stated that the AfT has different impacts depending on the donor and the recipient.

According to some empirical analyses (Udvari 2013, Uhrin and Schusztter 2013) it is sure that though there are some good objectives, economic, political and strategic interest is more important for the donor countries, than the real needs. For example, Iraq and Afghanistan are among the most supported countries. Or in the USA's aid policy, the USA's own interests are the most important factor. All these may hinder the effectiveness of AfT.

Huchot-Bourdon et al. (2009) analysed these processes in another way. They analysed the relationship between FDI, trade and development, and they created groups of developing countries reflecting the different needs developing countries have and determining the priorities of recipient countries to help donors in their aid allocation. One of the authors' results is important for us: trade-related needs are more important in East and West Africa (that is, in the member countries of ECOWAS), especially the infrastructure development. Consequently, Aid for Trade may have significant effect in the region's development process, including the integration process too. In the following part, the empirical analysis is detailed, where the USA's and the EU's Aid for Trade activity is analysed regarding the ECOWAS.

The starting point of this investigation is that these donors explicitly support the integration process in Africa.

4. Role of AfT in the intra-trade of ECOWAS

Aid for Trade may play a significant role in fostering trade in Africa. Looking at the features of the African integrations and the opportunities of the ECOWAS, it seems that AfT may solve some of the reasons for low intra-trade. Furthermore, the EU and the USA as the largest donors officially support the African integration process. All these serve as a basis of the empirical analysis.

4.1. Gravity model

Present empirical analysis is conducted by gravity model. This model is suitable to estimate a country's potential trade (Gács 2007), and it enables to state whether trade between two countries is over or under the potential trade (Carey et al. 2007). Estimated trade is equal to the sum of potential trade and of factors decreasing trade (Wagner 2003). Thus, the model enables to involve factors like membership of a free trade area, common colonial history, common language, size of the market, or transport costs (Anderson 2001, Gács 2007).

Gravity model is often used in analyses of trade¹ and economic effects of aid², and the model in this study is built up by considering the lessons of these studies. To solve the problems caused by the volatility of aid, five or six-year averages are calculated (Berthelemy et al., 2009; Hansen and Tarp, 2001), but in our case it would result in a large decrease in the observations, therefore analysis of yearly data remained our aim. Another question in regression models is endogeneity which means that between dependent and independent variables there is opposite connection too (Gábor et al., 2012, Gács, 2007). In this case it means that it is not unambiguous whether aid cause an increase in trade, or whether better trade performance result in growth in aid. To handle these distorting effects, relevant literature offers different solutions (involving instrumental variable, exogenous variable or proxy indicators). The most often used tool in aid analyses is using lagged variables (for instance, Younas 2008), however, there is no agreement neither in using lagging nor in the extent of lagging (Doucouliagos and Paldam, 2007). In most aid literature, one or two years lagging appear which means that the effects of aid can be shown one or two years later. Consequently,

¹ For instance, studies of Africano and Magelhães (2005); Vijil and Wagner (2010); Aiello and Cardamone (2010) or Jakab et al. (2000).

² For example, Berthelemy et al. (2009); Wagner (2003), Cali and te Velde (2011).

in this study, the dependent variables are lagged by one year. Its economic content is that earlier economic performance determines a certain year's trade performance, and effects of Aid for Trade provided in the previous year appear in the following year's trade performance.

According to these considerations, analysing the effects of AfT provided to ECOWAS countries is conducted by the following (1) model:

$$\begin{aligned} \ln IT = & \beta_0 + \beta_1 \ln(Y_i \times Y_j) + \beta_2 \ln(Yc_i \times Yc_j) + \beta_3 \ln Dist_{i,j} + \beta_4 \ln AfT + \\ & + \beta_5 WAEMU + \beta_6 T_{2004} + \beta_7 T_{2005} + \beta_8 T_{2006} + \beta_9 T_{2007} + \beta_7 T_{2008} + \beta_8 T_{2009} + \\ & + \beta_9 T_{2010} + \beta_{10} T_{2011} + \beta_{11} T_{2012} + \varepsilon \end{aligned} \quad (1)$$

where:

- IT is the total export within the integration (intra-trade);
- $Y_i \times Y_j$ is the multiple of GDP of i and j developing country (proxy of market size);
- $Yc_i \times Yc_j$ is the multiple of GDP per capita of i and j developing country (proxy of income level);
- $Dist_{i,j}$ is the distance between i country and the five largest export partner (Benin, Cote d'Ivoire, Niger, Senegal, Togo) (proxy of transport costs);
- $\ln AfT$ shows the amount of Aid for Trade provided by the EU and the USA (the model is conducted separately for the EU and for the USA!);
- $WAEMU$ is a dummy, where 1 marks if the country is member of the economic and monetary union within ECOWAS, while 0 is the opposite;
- $T_{2004}, T_{2005}, T_{2006}, T_{2007}, T_{2008}, T_{2009}, T_{2010}, T_{2011}, T_{2012}$ indicate years between 2004 and 2012 with dummy variables, where 1 marks the certain year and 0 is its opposite;
- β_i is the coefficient of dependent variables;
- ε is error term.

With a slight modification of equation (1), we can get answer whether AfT provided to countries of monetary union has effects on intra-trade. In order to answer the question, variable of $WAEMU * AfT$ appears in the model (2).

$$\begin{aligned} \ln IT = & \beta_0 + \beta_1 \ln(Y_i \times Y_j) + \beta_2 \ln(Yc_i \times Yc_j) + \beta_3 \ln Dist_{i,j} + \\ & + \beta_4 \ln(WAEMU * AfT) + \beta_5 WAEMU + \beta_6 T_{2004} + \beta_7 T_{2005} + \beta_8 T_{2006} + \\ & + \beta_9 T_{2007} + \beta_7 T_{2008} + \beta_8 T_{2009} + \beta_9 T_{2010} + \beta_{10} T_{2011} + \beta_{11} T_{2012} + \varepsilon \end{aligned} \quad (2)$$

Trade and GDP data are collected from the database of UNCTAD (UNCTADStat) and calculated on current prices. The reason for it is that constant prices of AfT are corrected by other year than in the case of GDP and trade, and there is a time factor in the model. The investigated period is between 2002 and 2012. Longer period cannot be analysed because there is no data on aid available. Data of Aid for Trade are collected from the database of OECD's Creditor Reporting System and are calculated according to the OECD recommendations (Turner 2008, Udvari 2013). Consequently, AfT is equal to the sum of aid to sectors of economic infrastructure (transport and storage, communication, energy), building productive capacity (bank and financial services, business and other services, agriculture, forestry, fishing, industry, mining and natural resources, tourism), and trade policy and regulation. Although AfT was launched in 2005, these sectors were also supported earlier, therefore it is useful to follow the method of Bearce et al. (2013) and to investigate longer period. As a result, the number of observation has grown enabling to have more reliable results of regression models. Before analysing the results, requirements of regression models (autocorrelation, heteroscedasticity and multicollinearity) were controlled, and if it was necessary, the relevant correction was made. This study contains these results.

4.2. Results of the analysis

Before presenting the results of the gravity models, it is worth to compare the data before and after the launch of the Aid for Trade program. AfT assistance has grown significantly since 2006, and the 15 countries in the sample received 150 million USD as a yearly average after 2006, while this amount was less than its half before 2006. Altogether, members of the ECOWAS receive one-fifth of total African AfT. Table 1 consists of AfT data by country: Nigeria, Ghana, Burkina Faso and Mali are among the highly supported countries, and Cape Verde and the Gambia belongs to the top countries regarding the share of AfT from GDP.

Table 2 AfT received by ECOWAS members (million USD), and the share of AfT from official development assistance (percent), 2007, 2010, 2012

	2007		2010		2012	
	Total AfT	AfT/ODA	Total AfT	AfT/ODA	Total AfT	AfT/ODA
Benin	100,66	27,81	184,19	32,03	139,44	31,82
Guinea-Bissau	41,66	43,79	13,05	13,04	16,06	26,18
Burkina Faso	242,06	36,53	231,19	30,82	291,10	35,99
Cote d'Ivoire	27,01	13,41	182,34	31,47	88,83	23,16
Gambia	15,32	20,27	33,63	37,56	51,14	47,31
Ghana	314,07	35,81	552,79	41,92	642,14	44,41
Guinea	39,45	20,60	62,21	28,33	71,85	29,50
Liberia	81,43	13,96	108,08	25,77	140,57	33,09
Mali	297,24	40,53	336,35	37,60	319,02	45,04
Niger	93,72	26,41	126,76	28,67	124,24	31,99
Nigeria	339,80	27,48	428,21	20,87	375,71	19,02
Sierra Leone	46,72	20,64	115,07	33,38	103,12	29,45
Senegal	182,47	27,02	244,65	30,81	262,95	31,35
Togo	2,62	2,35	36,52	24,18	36,38	22,13
Cape Verde	44,10	32,12	158,02	60,42	74,76	42,19
<i>Total</i>	<i>1868,31</i>	<i>–</i>	<i>2813,05</i>	<i>–</i>	<i>2737,31</i>	<i>–</i>

Source: Udvari – Kis (2014), pp. 99-100

Table 3 summarizes the results of the regression models. The table consists of the two models (1) and (2) detailed in the former chapter. All models were run to the Aid for Trade data provided both by the European and by the USA. Consequently, altogether four models can be compared to each other. The results are not so persuasive, though the R^2 is high (above 80 percent). All models indicate that the AfT provided by the USA and the EU does not have significant effect on the intra-trade of ECOWAS. In all the cases, income level, market size, distance, WAEMU-membership and the years are the most important factors which determine the intra-regional trade of ECOWAS. Market size and WAEMU-membership have positive impact on intra-trade: the larger the market is, the larger the trade is between the ECOWAS-members. Moreover, if countries belong to the economic and monetary union, intra-trade is higher than in any other cases. This result is not surprising as economic and monetary union results in closer economic cooperation. Other indicators of the models influence intra-trade negatively, that is some growth in the certain indicator results in decreasing intra-trade. The second models contain the AfT data provided only to the WAEMU members. This does not

result any changes – the Aid for Trade remains insignificant, and the market size, income level and distance are the significant variables as in the case of the first models.

Table 3 Results of the regression models

Variable	Model 1 (donor EU)		Model 1 (donor USA)		Model 2 (donor EU)		Model 3 (donor USA)	
	Coefficients	p-value	Coefficients	p-value	Coefficients	p-value	Coefficients	p-value
GDP per capita	-0.677	0.015	-0.675	0.000	1.945	0.000	1.927	0.000
GDP	1.936	0.000	-1.287	0.017	-0.678	0.013	-0.680	0.015
2004	-0.418	0.035	-0.425	0.033	-0.420	0.034	-0.423	0.033
2005	-0.540	0.052	-0.554	0.050	-0.551	0.045	-0.549	0.048
2006	-0.896	0.006	-0.909	0.006	-0.907	0.005	-0.906	0.006
2007	-1.143	0.002	-1.160	0.002	-1.139	0.002	-1.155	0.002
2008	-1.337	0.002	-1.372	0.002	-1.335	0.002	-1.367	0.001
2009	-1.893	0.000	-1.876	0.000	-1.835	0.000	-1.871	0.000
2010	-1.613	0.001	-1.652	0.000	-1.624	0.000	-1.649	0.000
2011	-1.1667	0.000	-1.704	0.000	-1.696	0.000	-1.704	0.000
2012	-2.108	0.000	-2.143	0.000	-2.135	0.000	-2.143	0.000
WAEMU-membership	2.494	0.000	2.475	0.000	2.806	0.000	2.473	0.000
Distance	-1.269	0.005	-1.287	0.004	-1.223	0.006	-1.286	0.004
Aid for Trade	-0.037	0.667	-0.003	0.959				
AfT to WAEMU-members					-0.122	0.295	0,005	0.956
Constant	-11.172	0.007	-10.995	0.009	-11.729	0.004	-10.914	0.008
R^2	82.5		82.5		82.8		82.5	
$Adj. R^2$	80.6		80.5		80.9		80.5	

Source: own calculation

All these suggest that assistance neither from the EU nor from the USA can have significant impact on fostering trade within the ECOWAS. The reasons can be caught from several aspects:

- 1) There could be a volume shortage. Neither the EU, nor the USA provides enough Aid for Trade in volume. As a result, there could not be significant effect on the intra-trade of the ECOWAS.
- 2) The recipient countries of the ECOWAS are not prepared to allocate the aid effectively.
- 3) Yet, Aid for Trade operates as a tied aid. Consequently, it is unsuitable to foster intra-regional trade but trade between donors and recipients. This process may be

strengthened by the growing trade preferences which are provided by the EU and the USA to the African countries.

5. Conclusions

The research objective of present study was to answer whether Aid for Trade assistance from the EU and the USA influences the intra-trade of a selected African integration, namely the ECOWAS. The EU and the USA are the largest donors in the world, and they provide significant amount of AfT to developing countries. Furthermore, these donors have significant relationship with African countries, and these economic relationships are declared in either an Act (in the case of the USA) or in a partnership agreement (in the case of the EU). These official documents declared without any doubt that both the EU and the USA support the economic integration process on the African continent. However, integrations in Africa have not been so successful so far, and it seems that Aid for Trade may solve the hindering factors contributing to more successful integration on the continent. Furthermore, since these donors (the EU and the USA) emphasize the importance of trade, it can be assumed that the AfT assistance provided by the EU and the USA to African countries may result in growing intra-trade within the ECOWAS.

To analyse the question empirically, a gravity model was built up in two forms. In all the cases, the gravity model does not show significant impact of AfT provided either by the USA or by the EU on intra-trade of the ECOWAS. This result complies with an earlier result suggesting that AfT may have trade diversion effect (growing AfT results in lower intra-trade). This result strengthens only that AfT does not foster intra-integration trade but does not answer whether trade between recipients and donors increased.

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