THE ROLE OF AID FOR TRADE IN THE EUROPEAN UNION’S DEVELOPMENT POLICY

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Paper prepared for the annual conference of ETSG
Paper version: 9 August 2011

“If market access had been the key to development, the ACP countries would be amongst the richest in the developing world.” (Curran, Nilsson and Brew 2008, p. 531)

ABSTRACT
Aid for Trade is a new international program to help developing countries meet the challenges of the multilateral trading system and benefit from the liberalization process. The European Union as the largest aid provider in the world is among the donors which has accepted this program and attempts to build in its development policy. The paper overviews the EU’s development policy and its effectiveness, and then it presents how the Aid for Trade can be integrated into it and contribute to the improvement of the development activity. The empirical analysis investigates how the Aid for Trade program contributes to the trade expansion of the EU with the developing countries. The results show that regarding the Aid for Trade, only the assistance on economic infrastructure has significant impact on the trade flows between the EU and the investigated developing countries, therefore assistance on economic infrastructure is the driving force in the Aid for Trade activity of the EU. Furthermore, our results show that the non-ACP countries can benefit from the Aid for Trade in a larger extent than the ACP countries regarding its impacts on the total trade with the EU.

JEL: F13, F35, O19
Keywords: Aid for Trade, EU development policy, gravity model, ACP countries

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1 INTRODUCTION

Trade not aid – Aid not trade. Recently both approaches are accepted to help developing countries solve their unfavourable economic (and social) situation. Several developing countries – especially the least-developed ones – are unable to take part in international trade effectively, and their share of world export is decreasing: the African countries perform the worst. However, they could enjoy significant international (financial and non-financial) assistance offered by the developed countries: the preferential market access and free trade agreements were to ease and improve their role in the global trade.

Although the impacts of export promotion and trade openness on the macroeconomic performance are not clear\(^2\), the international community has been paying great attention on the role of international trade in economic development and poverty eradication. The more focused aid activity is in process for achieving these objectives. Members of the World Trade Organization (WTO) adopted the Aid for Trade initiative in 2005, which aims to improve the international performance of the developing and least-developed countries by improving the supply-side capacity.

Although the European Union is among the world’s biggest aid providers, the European Aid for Trade activity is not on the economic research agenda. As a result, the research objective of this paper is to analyse whether the Aid for Trade assistance from the European Union contribute to the trade expansion of the recipient developing countries with the EU. As the EU has a special relationship with the African, Caribbean and Pacific (ACP) countries and emphasizes the importance of this country block in its development policy, the empirical analysis investigate the influential power of belonging to this group. For the analysis, a gravity model is built up in which the aid for trade proxies are independent variables.

The paper is structured as follows. Section 2 describes the Aid for Trade initiative and it overviews the recent literature of this field. Section 3 gives an overview of the EU’s development policy and its results, emphasizing how the Aid for Trade can be integrated in this policy. Section 4 contains the empirical analysis of the Aid for Trade: after the methodological issues we represent the results. The paper ends with the concluding remarks.

\(^2\) See, for instance, Hoekman and Özden (2005), Lee (2005) or Subasat (2002).
2 THE AID FOR TRADE INITIATIVE

The Doha Development Agenda\(^3\) of the World Trade Organization (WTO) has the objective to continue the liberalization process. To complement the potentials of the Doha Round and support countries unable to follow the liberalization process, the Aid for Trade (AfT) initiative was launched by the WTO. Beside the unfavourable situation of some developing countries in international trade, Stiglitz and Charlton (2006) mention three other reasons why the Aid for Trade facilitation is needed: firstly, the political reasons which ensure that the Doha Round go forward; secondly, the compensation reason especially for the preference-dependent countries as a result of the experiment of some agreements and the preference-erosion; thirdly, AfT embodies fairness aspect, as the developed (rich) countries may be the main winners of the Doha Round. Furthermore, Deardorff and Stern (2009) and Abbott et al (2009) emphasize that the AfT seems to be essential for the developing countries as they would be the main losers if the Doha Round failed. Besides, Hoekman (2010) points out that the Aid for Trade is the first initiative where the trade and development community work together.

2.1 Basic points of the Aid for Trade

The Aid for Trade initiative was declared at the WTO’s Hong Kong Ministerial Conference in 2005. The member states agreed that this programme should be completely separated from the Doha Development Round. The Hong Kong declaration details the objectives of the programme (WTO 2005, p. 11): ‘Aid for Trade should aim to help developing countries, (…) to build the supply-side capacity and trade-related infrastructure that they need to assist them to implement and benefit from WTO Agreements and more broadly to expand their trade.’

A task force was set-up to detail and interpret the initiative to specify the programme scope and the ultimate goals: the AfT supports developing countries to help them (1) expand their export, (2) participate in the multilateral trade system, and (3) benefit from liberalisation. Achieving these objectives can contribute to the economic growth and poverty reduction of a country. In order to fulfil these goals the task force recommended the development of six categories for the financial assistance (WTO 2006):

1. Trade policy and regulation. This covers the training of officials taking part in trade negotiations, preparing them to participate effectively in resolving disputes. Additionally, institutional and technical support is provided to ensure that trade

\(^3\) Deardorff and Stern (2009) claims that the world development is misleading, as – they think – development means reducing trade barriers (that is further liberalization and not economic development).
agreements can be incorporated into national legislation and ultimately implemented. Under this category, assistance is available to ensure that less-developed countries comply with international regulations and standards.

2. Trade development. Among other things, this area of intervention includes stimulating investment and supporting institutions in the trade of services, business support services and institutions, e-commerce, market analyses and market development.

3. Trade-related infrastructure covers the development of physical infrastructure (road network, ports, telecommunication, energy network), which is indispensable for a country intending to join the global trading network.

4. Building productive capacity creates an opportunity to strengthen economic sectors by developing the business environment, banking services, financial institutions and tourism.

5. Trade-related adjustment. Clearly signifies adjustment to the government budget, provided to cover costs derived from trade liberalisation (compensating for falling preferences and lower customs duties) and to push through trade reforms.

6. Other trade-related needs. This is the ‘odd one out’ since it provides an extremely broad scope for aid. This category essentially means that anything which has a link to trade is eligible for support, as it will definitely fall into this category anyway.

One should remember that the Aid for Trade is a financial and technical assistance program (Hoekman and Wilson 2010) with having the financial aspect somewhat stronger. The relation between aid and economic growth is not unambiguous: both positive and negative correlations were proved by empirical methods (Cali and te Velde 2011, Doucouliagos and Paldam 2007, Hoekman and Wilson 2010). Consequently, the effects of the financial assistance are uncertain. Therefore it remains interesting to analyse the features of more focused development assistance like the Aid for Trade.

2.2 Potential economic effects of the Aid for Trade

Although, the declaration and scope specification of the Aid for Trade was passed some years ago, the growing number of research papers analysing the program contains either only a general description of the programme or an empirical analysis only concerning certain, but not all countries. In the international literature, the analyses of the potential economic effects of the Aid for Trade can be divided into two aspects. Beyond the impacts on the trade costs, changes in the export performance are investigated, as well. It is interesting that an international consensus seems to appear regarding the potential consequences of the AfT.
Hoekman and Wilson (2010) point out that the Aid for Trade is necessary in the current uncertain economic period as the international trade can help poor countries recover from the unfavourable economic recession. Furthermore, the authors claim that the Aid for Trade may contribute to the economic diversification and productivity improvement in these countries. Since the Aid for Trade as a more focused assistance helps the improvement of trade capacities, the authors argue that the negative effects of aids (such as the Dutch disease) can be avoided.

Cali and te Velde (2011) gives an overall investigation on the impacts: they analysed the changes of trade costs in 130 developing countries in 2005-2009, and the export changes in 100 developing countries between 2002 and 2007. Using econometric models they proved that the AfT contributes to decrease in trade costs, while the assistance spent on economic infrastructure development contributes to export growth. But the improvement of the productive capacity does not have significant effect on the export performance. Helble et al (2009) built up a gravity model, which shows that one percent growth of the aid on the trade policy, being equal to 11.7 million dollars, causes 818 million dollars trade expansion globally.

Regarding the trade costs, Naito (2010) has similar results: due to the AfT, the transport costs may decrease, but the global growth cannot be proved in all cases as a result of the decreasing potential of the donor countries. Analysing the Caribbean countries, Moreira (2010) argues that these countries underperform in the international trade because of their bad infrastructure and unfavourable institutional background. According to his results, the AfT – if it is well-focused – will be beneficial concerning growth possibilities for the countries in the region in the long term. But the author emphasizes that complementary reforms (such as flexibility on the labour market, better governance, more effective business environment) are needed before implementing trade reforms.

Vijil and Wagner (2010) investigated the effects of AfT on the export expansion using econometric methods emphasizing the infrastructure side. According to their results, 10 percent growth in the assistance on trade infrastructure development may result 1.22 percent growth in the recipient country’s export. All these comply with 2.3 percent decrease in tariffs and non-tariff barriers. Consequently, the authors argue that the Aid for Trade has positive impacts on the recipient country’s export.

Although the Aid for Trade initiative emphasizes the primary situation of the least-developed countries, analyses show that their privileged situation is not as clear as expected. Although the LDCs are amongst the most preferred countries regarding the Aid for Trade
assistance in share of the population, the economic background seems not to be an exclusively
determining factor of granting AfT as there are richer and more developed countries at the
level of the LDCs regarding the obtained Aid for Trade assistance (Udvari 2011).

In general, the Aid for Trade seems to have positive impacts on the recipient countries’
export or trade costs. But reviewing the literature we do not find any reference specific to the
European Union’s activity in this field, however, it is the largest provider of development aid
in the world. Consequently, our aim is to fill this gap with our research.

3 The EU’s Development Policy: Integrating the Aid for Trade
The European Union has built up widespread relationship with the developing countries. As a
result, the EU pays great attention on their development opportunities establishing a unique
development policy: it does not only grant financial assistance, but also trade preferences.
Recently, the European Union admits that trade can contribute to the economic development
of the developing countries and help reduce poverty (EC 2006). It must be emphasized that
the EU’s development activity appears as the complex activity of the Community itself and
the member states together (Montes and Migliorisi 2004).

The EU distinguishes the developing countries and grants them preferences in different
extent: the main beneficiaries are the so called African, Caribbean and Pacific (ACP)
countries (Persson and Wilhelmsson 2006). These countries could enjoy trade and other
preferences granted by the four Lomé Conventions and now by the Cotonou Partnership
Agreement. Although the effectiveness of the EU’s activity is widely criticized (for instance,
Slocum-Bradely and Bradely 2010), these agreements seem to be a unique attempt to
integrate the ACP states into the world economy. Therefore, this paper gives an emphasis on
the relationship with the ACP countries, and the economic connections with other developing
are missed. Before investigating how much role the Aid for Trade initiative may have for the
further improvement of the European development policy, we have to detail the earlier
experiences of the EU’s development activity.

3.1 The Lomé Conventions and their results
The four Lomé Conventions were the first attempts of the European Union to integrate the
ACP countries into the global economy. Although it was not declared at that time but these
conventions belong to the EU’s development policy tool sets (Horváth 2005). The first
convention was signed in 1975 and three other followed it. They expired after five years,
excluding the fourth one which has a 10-year lifetime. Consequently, between 1975 and 2000
the ACP countries could enjoy great preferences in the framework of these agreements. The number of ACP countries changed during this period: 46 ACP countries signed the first Lomé Convention, while 68 countries indorsed the fourth one (Bilal and te Velde 2003).

The EU granted not only trade preferences, but interventions on other economic areas, for instance diversification and investment, as well (Figure 1) (Babarinde-Faber 2004, Bjornskov-Krivonos 2001, Nunn-Price 2004). Trade preferences ensured the ACP countries’ free access to the European markets in a non-reciprocal way. These were complemented by the possibility of technology transfer, industrial cooperation, the free movement of capital, modernization of the economy and financial support mainly from the European Development Fund and partly from the European Investment Bank and the EU budget.

*Figure 1 Scheme of the Lomé Conventions*

These interventions were assumed to contribute to the economic and social development of the contracting ACP countries. Although the trade preferences are the key element of the Lomé Conventions, we believe that they were more than simple trade conventions, since they contained (development) elements linked to industrialization and foreign direct investments, as well as elements about financial assistance. All aimed to diversify the economy and hinder the ACP countries’ dependence on (generally agricultural) export product while enable them to decrease the risk deriving from fluctuating products price of their exported goods. Altogether the importance of the Lomé Conventions is that their two key elements, namely the trade preferences and long-term free access to the European market, were granted to the recipient countries in contractual form (Babarinde and Faber 2004, EC 1996). This latter provided more economic and trade possibilities to the ACP countries.
More than half of the ACP countries were contracting parties of the GATT, which dealt with tariff cuts of only industrial products without addressing the agricultural ones, which presented a major disadvantage for the developing countries (Stiglitz 2003). Furthermore, non-tariff barriers were imposed on goods produced by the ACP countries (Somai 1997) resulting in a non-favourable position in the international trade. Considering this fact, the Lomé Conventions were really unique and played great role in the ACP trade as the granted trade preferences covered 90% of the ACP export products (Babarinde and Faber 2004).

In spite of these preferences and attempts, the economic (including the trade) consequences of the Lomé Conventions are very mixed. Most researchers accept that the Conventions were not so effective, but without them the situation would be worse (Babarinde and Faber 2004, Persson and Wilhelmsson 2006, Udvari 2010a). Nevertheless, the relationship between the two partners has become significant: the EU has been the most significant trade partner of the Sub-Saharan African countries with having important effects on their economic development (Hinkle and Schiff 2004). At the same time, the EU-ACP trade became neither diversified nor more in volume, consequently the export-led growth in these countries did not have any sign (Curran, Nilsson and Brew 2008).

After the Lomé Conventions had expired, their basic concepts have appeared in the Cotonou Agreement signed in 2000 for 20 years. However, the main challenge for the ACP countries is to meet the WTO obligations as the trade preferences under the new Agreement have to be reciprocal (Babarinde and Faber 2004, Hinkle and Schiff 2004, Meyn 2008). Consequently, the trade capacity and trading ability of these countries become more significant as they have to compete with several more developed countries.

The Cotonou Agreement gives an opportunity to sign Economic Partnership Agreements which maintain the aim to integrate the ACP countries into the global economy (Curran, Nilsson and Brew 2008, Slocum-Bradely and Bradely 2010). The EU also would like to use them as a part of its development policy (Hinkle and Schiff 2004). The potential impacts of EPAs are still under analysis. Hinkle and Schiff (2004) claim that these initiatives create opportunities for African countries to integrate into the global economy. Anania (2010) emphasizes that the ACP countries are to benefit much from the EPAs regarding the banana trade. Moreover, the ACP states expressed their needs that the Aid for Trade should connect to the EPAs for helping their implementation (Meyn 2008). Consequently, trade remains an important factor in the EU-ACP relationship and in the EU’s development policy in the future. Therefore, it is important to investigate how the Aid for Trade initiative can contribute to these processes.
3.2 Aid for Trade as a potential facility for filling the gap

After reviewing the most important and relevant literature (Babarinde and Faber 2004, Bjornskov and Krivonos 2001, Cosgrove 1994, EC 1996, Farrell 2005, Hurt 2003, Oyewumi 1991, Santos 1999, Whiteman 1998), we can summarize the potential reasons for the low effectiveness of the Lomé Conventions. The reasons can be grouped as external factors (changes in the global economy) and internal factors (factors within the country) (Table 1).

The internal factors are more important from our analysis’ point of view, as the changes happening in the world economy cannot be influenced by a new program or a new development facility.

<table>
<thead>
<tr>
<th>External factors</th>
<th>Internal factors</th>
</tr>
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<tbody>
<tr>
<td>Decreasing demand for raw materials</td>
<td>Low quality of the infrastructure</td>
</tr>
<tr>
<td>Appearance of the Asian Dragons</td>
<td>Underdevelopment of the physical and human capital</td>
</tr>
<tr>
<td>Economic transition in Central- and Eastern-Europe</td>
<td>Low level of investment and savings</td>
</tr>
<tr>
<td>Agreements adopted on the Uruguay Round of the GATT</td>
<td>Underdevelopment of the financial sector</td>
</tr>
<tr>
<td>Creation of the single market in the EU (stricter rules)</td>
<td>High level of corruption</td>
</tr>
<tr>
<td>Asymmetric interdependence between the EU and the ACP countries</td>
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The Green Book about the relationship of the EU and the ACP countries issued by the European Commission in 1996 claims that not the external, but specifically the internal factors played great role in the failure of the Lomé Conventions regarding the economic development of the beneficiary countries. The lack of several factors which are keys to the development hindered the ACP countries from materializing the benefits of the Lomé Conventions and the trade preferences (EC 1996). Among others, the document mentions the infrastructure, the low level of entrepreneurship and physical and human capital, the low investment and savings and the underdeveloped financial sector as factors lowering the effectiveness of the Lomé Conventions. Furthermore, it emphasizes that most of the participating countries depend on trade of goods with fluctuating prices on the world market.

Comparing the categories covered by the Aid for Trade with the reasons of the low effectiveness, all but one (corruption) factors can be developed and improved through the Aid for Trade (Figure 2). The underdeveloped infrastructure and physical and human capital can
be developed through the trade-related infrastructure category, while the productive capacity category ensures financial support for the improvement of the financial sector in the recipient countries. Besides, the level of investment and saving can be increased through the trade development category. These suggest if the Aid for Trade is well-focused, the effectiveness of the EU’s development policy can be raised.

Figure 2 Common points of the potential reasons for the low effectiveness of the Lomé Conventions and the areas of Aid for Trade

3.3 Aid for Trade strategy in the European Union
The Aid for Trade enjoys an increasing role in the European Union. Therefore, analysing how such an initiative can be integrated into the European development policy is becoming more crucial. The European Commission adopted an Aid for Strategy in 2007 with five supporting pillars, which are the followings (EC 2007, EC 2009a):

- **Quantitative objectives.** Both the traditional and wide⁴ Aid for Trade has to be increased in line with the overseas official development assistance. Besides, the traditional assistance has to reach the two billion euro by 2010.

- **Quality and pro-poor objectives,** where the most important thing is that providing aid has to comply with the Paris Declaration on Aid Effectiveness. The EU tries to achieve the main aim (poverty eradication) of its development policy with it.

- **Expanding the EU capacities.** The suitable facilities and opportunities have to be explored to expand the available assistance. One of the most important ways is

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⁴ The EU divides the six areas of the Aid for Trade into two groups: the traditional AfT (trade-related assistance) consists of two areas (trade policy and trade development). The wider Aid for Trade covers all the six areas (EC 2009a).
to change information on the available capacities and have a common cooperation where it is possible, which means that the member states have to harmonize their development activity.

- **Priority for the ACP countries.** Since the EU provides the most preferences for these countries, it is unambiguous that the possibilities of the Aid for Trade need to be used to improve the relationship between the EU and the ACP-group. If a country wants to receive AfT assistance, the trade has to be mentioned in the national development plans. Furthermore, the EU aims to provide 50 percent of the increased development assistance to the ACP countries.

- **Effective monitoring and controlling systems.** For this reason, reports need to be prepared within the EU and submitted to the World Trade Organization in a scheduled process.\(^5\)

There is a wide range of financial sources of the Aid for Trade as the assistance on this program is a part of the EU’s overseas development assistance, so the financing has to happen through similar facilities. All these refer to the fact that the European Union do not tend to extend the financial capacities but reorganize the current sources (Udvari 2010b).

One part of the EU-assistance stems from the European Development Fund (EDF), but it provides financial support mainly for the ACP countries. The EDF covers 22.6 billion euro in the programming period of 2007 and 2013 for the ACP countries (EC 2009b).\(^6\) Other source of the EU financing is the EU budget. But the accurate amount of it is unknown as 5.7 percent of the budget provides money for the EU as a global partner title on the expenditure side. This activity is not only aid activity but pre-accession funds, as well. Consequently, the direct assistance on aid covers a smaller part of it. Beside of these sources, there are the financial supports of the member states, as well. Since the development policy of the European Union has not become a single policy yet, contributions of the member states play a significant role.

As it was mentioned, the international literature is becoming wider on the general analysis of the Aid for Trade, but the EU’s activity is missed in this field and the empirical analyses concentrating on the EU or on the ACP countries are rare. In the followings, we attempt to analyse the EU’s Aid for Trade activity and test empirically whether the EU’s Aid

\(^{5}\) The European Commission issues a report on the Aid for Trade activity, the latest document was issued in 2009 (Aid for Trade Monitoring Report) (EC 2009a), the issue of 2010 is still under process (EC 2010).

\(^{6}\) Although there were attempts to integrate the EDF into the EU budget, it has not happened yet, and it seems that it will be the same situation in the following budgetary period (2014-2020).
for Trade assistance contribute to the trade expansion between the recipients and the EU, emphasizing the performance of the ACP countries.

**4 Empirical analysis of the EU’s Aid for Trade activity**

Before presenting the results, the methodological issues of the empirical analysis will be summarized: the selected countries and indicators used in the analysis, then the statistical methods. The emphasis of the investigation is based on the features of the EU’s AfT-activity and the primary role of the ACP countries.

**4.1 Methodological issues**

*Recipient and donor countries*

As the aid activity is in our focus, selecting the potential recipient and donor countries was the basis, this step determined which countries may appear in our sample. Our goal was to involve as many developing countries as recipients into the analysis as possible. Out of the 123 developing countries in the world⁷, **85 countries were involved – out of them 43 countries belong to the ACP group**. Out of the 85 involved countries, 34 countries are among the least developed countries, and out of them 23 belong to the ACP block. The remaining developing countries were dropped out as they did not receive any Aid for Trade assistance from the EU in the investigated period of 2005 and 2009.

As for the donor countries, the OECD’s Development Assistance Committee was the basis. All old EU member states (EU-15) are members of this organization, but none of the newly joined states are. As we could collect data only for these 15 member states separately, the EU’s donor activity is investigated according to their own activity adding their own aid budgets together. This cannot have a distorting effect, as the EU-15 has experience on the development policy and built up widespread aid activity, while the new member states have less relationship with the developing countries – so we can analyse the activity of the EU as a whole. Although the OECD’s database contains the European Community as a donor (*EU Institutions*), there were no data of its aid activity, so it had to be left out of the empirical research. Consequently, analysing the EU-15 gives the basis for the EU’s development activity in the aspect of Aid for Trade.⁸ Furthermore, *Article 210* of the Lisbon Treaty lays down that in order to establish a more effective development policy, the member states and

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⁷ There are 144 low and middle income countries (generally developing countries), but some of them are the so called transition economies (see UN 2011b). We left out these countries.

⁸ List of both the recipient and donor countries can be found in the Appendix.
the community work together and harmonize their development activity in the scene of international organizations. This enables to handle the EU-15’s development policy as the EU’s development policy.

**Indicators of Aid for Trade**

Determining the current Aid for Trade trends, we followed the recommendations of Turner (2007) and OECD (2011). According to them, the Aid for Trade is equal to the sum of assistance on several sub-sectors on which the OECD collects data. Both the commitments and disbursements are available, we followed the method of Vijil and Wagner (2010) and used commitments. In our analysis, the following sectors appear:

- **Trade related infrastructure** appears in the OECD database as *economic infrastructure* containing the subsectors of transport and storage; communications; and energy supply.

- The categories of **building productive capacity** and **trade development** appear in the OECD database as *building productive capacity* and consist of bank and financial services; business and other services; agriculture and industry subcategories.

- The category of **trade policy and regulations** is the same in the OECD database.⁹

We prepared a cross-sectional analysis because of the short (official) existence of the Aid for Trade. We collected data for the years between 2005 and 2009 (the official existence of the Aid for Trade). As a result, altogether 425 bilateral observations appeared in the regression model for both analyses. Regarding the analysis of aid, there is uncertainty among researchers: Cali and te Velde (2011) in their regression model calculated with lagged aid data, while Wagner (2003) analysed the aid effect on trade both lagged and not lagged. He concludes that the current (and not the previous) year’s development assistance contributes to the trade performance in the current year. Because of this situation, we collected the Aid for Trade data for 2004, as well, and run a lagged model, too. Since there are no significant differences between the results and significant variables of the lagged and non-lagged models, only the non-lagged models are presented in this paper. The data are from the on-line databases of UNCTAD Stat (UNCTAD 2011), OECD-CRS (2011) and CEPII (2011).

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⁹ Cali and te Velde (2010), Helble et al (2009), Hoekman and Wilson (2010), and Vijil and Wagner (2010) have similar approach in their empirical investigation.
Methodology

Our aim with the investigation is to analyse whether the Aid for Trade assistance significantly influences the trade between the selected developing countries and the European Union as a whole. For this purpose, a gravity model was calculated. Gravity models are appropriate methods to investigate a benchmark of trade flows (Carey et al 2007), and assumes that trade is positively affected by the income of the partner countries and negatively affected by their distance as the proxy of transport costs (Africano and Magelhães 2005). The specification for our purpose was based on the work of Wagner (2003) and Africano and Magelhães (2005) with slight modifications:

\[
\ln TT_{i,eu} = C + \beta_1 \ln Y_i + \beta_2 \ln Y_e + \beta_3 \ln Y_c + \beta_4 \ln Dist_{i,eu} + \beta_5 \ln EcI + \beta_6 \ln BPC + \beta_7 \ln TPR + \\
\beta_8 Time + \beta_9 ACP + \beta_{10} Oil + \beta_{11} LDC + \epsilon,
\]

where
- \( TT_{i,eu} \) denotes total trade (export plus import) between country \( i \) and the EU;
- \( C \) is a constant;
- \( Y_i, Y_e \) are the total GDP in country \( i \) and in the EU;
- \( Y_c, Y_e \) denote the GDP per capita in country \( i \) and in the EU;
- \( Dist_{i,eu} \) means the distance between country \( i \) and the European Union;
- \( EcI \) is the aid on economic infrastructure country \( i \) received from the EU;
- \( BPC \) denotes the aid on building productive capacity the \( i \) country received from the EU;
- \( TPR \) denotes the aid on trade policy and regulations the \( i \) country received from the EU;
- \( Time \) variable denotes the trend, where \( t = 1, 2, 3, 4, 5 \) for the years of 2005 and 2009 respectively;
- \( ACP, Oil, LDC \) are dummy variables for ACP-, oil exporting- and least developed countries, where zero means non-ACP and –oil exporting country, and 1 means the contrary. The same is true for the \( LDC \) dummy.

The dependent variable is total trade instead of exports of the recipient countries, because aid flows may influence both export and import performance. As Wagner (2003) concludes, the aid increases the exports of the donor country to the recipient. From this point of view, the Aid for Trade may have impacts not only on the exports but the imports of the recipient developing countries, as well. Regarding the distance as an independent variable, we have chosen Germany as a reference country to determine the distance between country \( i \) and
the European Union. As we want to handle the EU as a whole integration, a fix point was needed to which we can relate the distance of our sample countries. The mean of the nearest and furthest points was another potential solution but it results different “capital” for the EU, therefore we rejected this solution and accepted Germany as the fix point of the European integration. Another solution could have been Belgium as the political centre of the EU. We tested this distance as well, but we found no significant difference between the German and the Belgian version, therefore we decided to use Germany as the economic centre of the EU (since our analysis is an economic one).

In order to reach the most accurate results, we tested several models which contained different variables. The first model is the basic model containing only the basic determinants of trade (GDP, GDP per capita, and distance) – similarly to the work of Africano and Magelhães (2005), and Carey (2007). The second model involves the different Aid for Trade variables, while the third model contains two other dummy variables for ACP and oil exporting countries.

In our analysis it was a great challenge how to handle if the Aid for Trade is zero in a certain country in some – but not all – years. Wagner (2003) and Cali and te Velde (2010) mention a solution: if aid is zero, one can calculate as $(1+\text{aid})$, but they add that it may have distorting effects. To handle this situation, Wagner (2003) – who Cali and te Velde (2010) follow – recommends dummy variables (1 if aid is zero, and 0 if aid is above zero), which methodological issue we partly accepted. Consequently, calculating the logarithm of aid, we used the following specification as Wagner (2003) recommends: $\ln(\max(1, \text{aid}))$. But we find that the dummy variables contain no more information regarding the aid data, so we leave them out of our models. The mentioned calculation form of logarithm enables to keep the aid level zero where it was that originally.

Although the gravity models contain other indicators such as common language or colonial past (see for example the studies of Africano and Magelhães (2005), Carey et al (2007) or Wagner (2003)), we do not find it important as the EU as a whole can be imagined as a great economic power having had a lot of colonies. Almost all the countries in our sample had colonial past with some EU-member; therefore it would not denote additional information in our approach. Similarly, the common language is not necessary in this context in our model. All calculations were prepared in MS Excel and SPSS 18.0.
4.2 Results

Descriptive statistics

Before detailing the results of the regression models, some general information is needed in connection with the Aid for Trade and our sample. Table 2 contains the main descriptive statistics of the sample regarding the Aid for Trade and the situation of the ACP countries. The data shows that averagely the non-ACP countries receive higher amount of Aid for Trade and they prefer the assistance on economic infrastructure to any other areas of the Aid for Trade. On the contrary, the ACP countries are granted more assistance on productive capacity in comparison with the economic infrastructure. However, the standard deviation is significant in both groups, so the means have to be handled with caution.

Table 2 Descriptives of Aid for Trade from the EU to the ACP and non-ACP countries (million USD)

<table>
<thead>
<tr>
<th>ACP countries</th>
<th>Economic infrastructure</th>
<th>Building capacity</th>
<th>Trade Policy and Regulations</th>
<th>Total AfT</th>
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<tbody>
<tr>
<td>Non-ACP Mean</td>
<td>44.86</td>
<td>34.94</td>
<td>0.95</td>
<td>80.75</td>
</tr>
<tr>
<td>Non-ACP Std. Dev.</td>
<td>101.33</td>
<td>57.23</td>
<td>5.46</td>
<td>135.64</td>
</tr>
<tr>
<td>ACP Mean</td>
<td>14.85</td>
<td>19.21</td>
<td>0.69</td>
<td>34.75</td>
</tr>
<tr>
<td>ACP Std. Dev.</td>
<td>34.13</td>
<td>27.35</td>
<td>2.38</td>
<td>51.79</td>
</tr>
<tr>
<td>Total Mean</td>
<td>29.68</td>
<td>26.98</td>
<td>0.82</td>
<td>57.48</td>
</tr>
<tr>
<td>Total Std. Dev.</td>
<td>76.65</td>
<td>45.32</td>
<td>4.19</td>
<td>104.65</td>
</tr>
</tbody>
</table>

Source: Author’s calculations

In order to state whether the difference between the ACP and non-ACP countries’ mean is significant, Mann-Whitney U test was run. The results of the test indicate that the difference between the distributions of ACP and non-ACP groups is significant in case of the assistance on economic infrastructure and productive capacity (p value is 0.000 in both cases) where the non-ACP countries are in a more favourable situation, while it is not significant regarding the trade policy (p value is 0.886). This predicts that we have to take into consideration the different basic points of the ACP and non-ACP countries, and investigate the sample split into these two groups.

Results of the gravity model

The main research objective of the paper is to analyse whether the Aid for Trade assistance from the EU contributes to the trade expansion between the recipient developing countries and the EU itself. Analysing the potential impacts, we tested several opportunities. The logic behind it is to go through from the broad approach to the narrower one: at first, we tested the potential impacts of total Aid for Trade, then we split it into the three main areas (economic
infrastructure, productive capacity, trade policy). Finally, we build separate models for ACP and non-ACP countries calculating with the areas of the Aid for Trade.

At first, our focus is on the potential impacts of total Aid for Trade. We calculated three models – gradually extending the variables. Model A is the basic model, Model B is the extended one containing the aid variable, while Model C contains dummy variables. Table 3 contains the results of the three regression models. As for the first model (A), the results of the literature appear: all but the paired GDP per capita variables are significant in the model and distance is negative as expected. The trend variable shows that averagely the trade volume is decreasing in the five-year period we investigated.

### Table 3 Results of the regression models – total AfT

<table>
<thead>
<tr>
<th>Variable</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-28.416 (0.000)</td>
<td>-28.073 (0.000)</td>
<td>-29.051 (0.000)</td>
</tr>
<tr>
<td>Paired GDP (ln)</td>
<td>0.937 (0.000)</td>
<td>0.896 (0.000)</td>
<td>0.918 (0.000)</td>
</tr>
<tr>
<td>Paired GDP per capita (ln)</td>
<td>0.045 (0.274)</td>
<td>0.105 (0.022)</td>
<td>0.082 (0.121)</td>
</tr>
<tr>
<td>Distance (ln)</td>
<td>-0.946 (0.000)</td>
<td>-0.907 (0.000)</td>
<td>-0.922 (0.000)</td>
</tr>
<tr>
<td>Time</td>
<td>-0.081 (0.002)</td>
<td>-0.090 (0.000)</td>
<td>-0.092 (0.000)</td>
</tr>
<tr>
<td><strong>Total Aid for Trade (ln)</strong></td>
<td><strong>0.056 (0.004)</strong></td>
<td><strong>0.074 (0.000)</strong></td>
<td></td>
</tr>
<tr>
<td>ACP countries</td>
<td></td>
<td></td>
<td>0.566 (0.000)</td>
</tr>
<tr>
<td>Oil exporting countries</td>
<td></td>
<td></td>
<td>0.143 (0.133)</td>
</tr>
<tr>
<td>Least developed countries</td>
<td></td>
<td></td>
<td>-0.362 (0.001)</td>
</tr>
<tr>
<td><strong>R-squared</strong></td>
<td><strong>0.879</strong></td>
<td><strong>0.881</strong></td>
<td><strong>0.896</strong></td>
</tr>
</tbody>
</table>

*Dependent:* total trade.

*Note:* numbers are the coefficients, while brackets contain the p-values. The models were checked regarding autocorrelation, heteroskedasticity and multicollinearity.

*Source:* own calculations

In Model B where the aid variable appears at first, all the variables – including the paired GDP per capita – are significant. Focusing on the aid impacts, we can say that **10 per cent increase in aid has an impact of 0.56 per cent increase in total trade with the EU.**

Involving dummy variables into our model, this effect is a bit higher: it reaches **0.74 per cent.** The model shows that the EU has more stable trade with the ACP group as being an ACP country the total trade is higher, but the contrary is true for the least developed countries. It suggests two things: on one hand, the LDCs cannot have large trade with the EU as they have underdeveloped export structure (if they have any export) and they are not attractive markets...
for the EU members. On the other hand, the EU does not take care about the LDCs and does not pay attention on their potentials.

These models prove that the Aid for Trade assistance has significant impact on the trade flows between the EU and developing countries. It is worth analysing which areas of the AfT have significant impact in these processes. Consequently, in the following models instead of the total Aid for Trade variable, the different areas of this aid activity are involved. Table 4 contains the results of these regression models. All models contain the combined paired GDP, the distance and the years as a significant variable on total trade. Growing GDP results growing trade between the partners, while growing distance and time result decreasing trade. Regarding the Aid for Trade variables, only the economic infrastructure has significant impact on total trade: 10 per cent increase in aid on economic infrastructure results 0.26 per cent increase in total trade ceteris paribus (one dollar growth in aid results 19.26 dollar growth in total trade). From our point of view, the ACP countries variable has an importance: the model shows that the EU’s trade is larger with the ACP countries – this variable has significant effect on the trade volume. It is interesting, that regarding the oil exporting and the least developed countries, only the latter has significance in the model. Furthermore, the effect is negative meaning that when the country is an LDC: the total trade with the EU is smaller.

*Table 4 Results of the regression models, AfT-areas*

<table>
<thead>
<tr>
<th>Variable</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-28.416 (0.000)</td>
<td>-27.806 (0.000)</td>
<td>-28.662 (0.000)</td>
</tr>
<tr>
<td>Paired GDP (ln)</td>
<td>0.937 (0.000)</td>
<td>0.897 (0.000)</td>
<td>0.919 (0.000)</td>
</tr>
<tr>
<td>Paired GDP per capita (ln)</td>
<td>0.045 (0.274)</td>
<td>0.101 (0.032)</td>
<td>0.071 (0.189)</td>
</tr>
<tr>
<td>Distance (ln)</td>
<td>-0.946 (0.000)</td>
<td>-0.918 (0.000)</td>
<td>-0.926 (0.000)</td>
</tr>
<tr>
<td>Time</td>
<td>-0.081 (0.002)</td>
<td>-0.087 (0.001)</td>
<td>-0.089 (0.000)</td>
</tr>
<tr>
<td>Economic infrastructure (ln)</td>
<td>0.026 (0.040)</td>
<td>0.037 (0.003)</td>
<td></td>
</tr>
<tr>
<td>Building productive capacity (ln)</td>
<td>0.013 (0.502)</td>
<td>0.023 (0.219)</td>
<td></td>
</tr>
<tr>
<td>Trade policy and regulations (ln)</td>
<td>0.013 (0.335)</td>
<td>0.006 (0.636)</td>
<td></td>
</tr>
<tr>
<td>ACP countries</td>
<td></td>
<td>0.566 (0.000)</td>
<td></td>
</tr>
<tr>
<td>Oil exporting countries</td>
<td></td>
<td>0.129 (0.177)</td>
<td></td>
</tr>
<tr>
<td>Least developed countries</td>
<td></td>
<td>-0.382 (0.000)</td>
<td></td>
</tr>
<tr>
<td>R-squared</td>
<td>0.879</td>
<td>0.882</td>
<td>0.896</td>
</tr>
</tbody>
</table>


*Note: numbers are the coefficients, while brackets contain the p-values. The models were checked regarding autocorrelation, heteroskedasticity and multicollinearity.*

*Source: Author’s calculations*
These models represent that being an ACP country is favourable for the total trade with the EU, but they do not show whether the Aid for Trade has had any impacts on the trade flows in these country groups independently. Furthermore, because of the significant difference in the Aid for Trade assistance between ACP and non-ACP countries, it is reasonable to divide the sample into ACP and non-ACP groups. Consequently, the gravity model was calculated for these groups separately involving all other indicators (Table 5).

Table 5 Results of the regression model for ACP and non-ACP countries

<table>
<thead>
<tr>
<th>Variable</th>
<th>ACP</th>
<th>non-ACP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-24.522</td>
<td>-29.395</td>
</tr>
<tr>
<td>Paired GDP (ln)</td>
<td>0.862</td>
<td>0.928</td>
</tr>
<tr>
<td>Paired GDP per capita (ln)</td>
<td>0.083</td>
<td>0.063</td>
</tr>
<tr>
<td>Distance (ln)</td>
<td>-1.036</td>
<td>-0.850</td>
</tr>
<tr>
<td>Time</td>
<td>-0.068</td>
<td>-0.101</td>
</tr>
<tr>
<td>Economic infrastructure (ln)</td>
<td>0.035</td>
<td>0.054</td>
</tr>
<tr>
<td>Building productive capacity (ln)</td>
<td>0.032</td>
<td>-0.011</td>
</tr>
<tr>
<td>Trade policy and regulations (ln)</td>
<td>0.017</td>
<td>0.006</td>
</tr>
<tr>
<td>Oil exporting countries</td>
<td>0.356</td>
<td>0.010</td>
</tr>
<tr>
<td>Least developed countries</td>
<td>-0.303</td>
<td>-0.677</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.819</td>
<td>0.916</td>
</tr>
</tbody>
</table>

Note: numbers are the coefficients, while brackets contain the p-values.
The models were checked regarding autocorrelation, heteroskedasticity and multicollinearity.
Source: Author’s calculations

The results show that the division of our sample was necessary as the significant determinants of the trade with the European Union differ between them, so do the impacts of the Aid for Trade. In both cases, the basic determinants (GDP and distance) appear as significant variables meaning that the larger the economy is, the larger the trade is and the larger the distance is, the smaller the trade is. In case of the ACP-group, the time variable does not have significant effect, while in the non-ACP group it has. It seems that the trade should be stable but not growing within the ACP countries. Regarding the Aid for Trade, in both groups, the economic infrastructure is the only significant area: 10 per cent growth of aid on this field results 0.35 per cent and 0.54 per cent growth in ACP and non-ACP
countries’ trade, respectively. (Or one more dollar aid raises the trade by 17.9 and 23.37 dollars in ACP and non-ACP countries, respectively.) In case of the non-ACP group, the LDCs have negative significant impact on total trade, but not any in case of the ACP countries – the reason for it is perhaps the high rate of LDCs in this group. Consequently, regarding the ACP countries, the EU does not differ between them, or the total ACP trade is so small that no significant difference appears between the more developed and less developed countries.

Consequently, only the aid flows on economic infrastructure have significant effect on the trade flows with the EU, what refers to the fact that the economic infrastructure assistance drives the Aid for Trade assistance. The difference between the ACP and non-ACP groups regarding the Aid for Trade can be explained the fact that there are several least developed countries among the ACP countries, while the non-ACP group consists of mainly middle-income countries. The middle income countries having better institutions, governance structures can use the aid more effectively improving the trade facilities in our case, while the least developed countries are in need of large amounts aid but its effectiveness stands at a low level (Glennie 2011).

5 CONCLUSIONS
The primary research objective of this paper was to analyse the features of the European Union’s Aid for Trade activity. The main emphasis was on the determinants of trade flows between the EU and 85 developing countries, containing the ACP-countries. The relevance of this investigation is that the European Union has been giving an important role to the international trade in its development policy for a long time. As a result, to improve the effectiveness of the development policy, the Aid for Trade can have a crucial role in this process.

The paper presented an empirical analysis to find out the main determinants of the total trade (including the Aid for Trade assistance) between the EU and developing countries. The results show that though the European Union has built up a special relationship with the ACP countries, they seem not to be the main beneficiaries of the European Aid for Trade activity. Results show that the total Aid for Trade has significant impact on the trade between the EU and the recipient countries. Furthermore, only the assistance on economic infrastructure plays the greatest role, therefore we can state that the economic infrastructure area is primary driving factor in the Aid for Trade processes and may have larger impacts on trade in the non-ACP countries than in the ACP group. The reason for this is that there are several least developed and low income countries among the ACP countries which do not have the
appropriate institutions and rules to use the aid effectively. But all these investigations strengthen that the Aid for Trade may contribute to the trade expansion between the EU as a donor and the recipients, that is it is worth the EU to grant further assistance. Consequently, the Aid for Trade may contribute to the improvement of the EU’s development policy but the EU should consider the worse results of the ACP countries than of the non-ACP countries.

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Udvari, B. (2011): Az Aid for Trade program és a legkevésbé fejlett országok: ki a fő kedvezményezett? (Aid for Trade and the least-developed countries: who are the main beneficiaries?) Külga
dazság, 7-8, pp. 33-55.


ATTACHMENT

List of countries in the empirical analysis

| Afghanistan, Algeria, Angola, Argentina, Bangladesh, Benin, Bhutan, Bolivia, Botswana, Brazil, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Chile, China, Colombia, Congo, Rep., Costa Rica, Cote d'Ivoire, Dominican Republic, Ecuador, Egypt, El Salvador, Eritrea, Ethiopia, Fiji, Gambia, Ghana, Guatemala, Guinea-Bissau, Guinea, Haiti, Honduras, India, Indonesia, Iran, Iraq, Jamaica, Jordan, Kenya, Laos, Lebanon, Lesotho, Liberia, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mexico, Mongolia, Morocco, Mozambique, Namibia, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Rwanda, Sao Tome & Principe, Senegal, Sierra Leone, South Africa, Sri Lanka, Sudan, Syria, Tanzania, Thailand, Togo, Tonga, Tunisia, Turkey, Uganda, Viet Nam, Yemen, Zambia, Zimbabwe |

Note: countries in italics are ACP countries