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European Aid for Trade: Need, merit or self-interest?

– A dynamic panel data analysis on what
motivates the European donors

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European Aid for Trade: Need, merit or self-interest? – A dynamic panel data analysis on what motivates the European donors

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Abstract

Aid for Trade has been recognized as a tool to integrate developing countries into the world economy, induce economic growth and lift its people out of poverty. EU and its member states are the biggest donors of Aid for Trade in the world, and one of its biggest advocates, but neither Aid for Trade nor the allocation of the European donors, have been subject for much earlier research. What has been heavily investigated is development aid, where studies have found that aid is allocated according to the needs and merit of the recipient countries, but that the self-interest of the donor tend to outweigh the other motives. This might undermine the effectiveness of aid since it has been suggested that aid is more efficiently and effective if given to poor countries with good policies.

This thesis address the gap in research about Aid for Trade, and examine if need, merit or self-interest motivates the European donors. A panel data set is constructed using 142 developing countries and is analysed using OLS regression and fixed effects model. My results indicate that the European donors allocate their Aid for Trade according to individual preferences. Most of the European donors do not seem to be motivated by the need of the recipient but rather by self-interest, such as colonial past. The European donors also seem to be motivated differently by the merits of the recipients.

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1 Introduction

In 2013, 767 million people around the world lived in extreme poverty.¹ Development aid has been used for decades with the aim to lift people out of poverty, but the benefits of aid have been heavily investigated and questioned. Trade could be another factor to lift more people out of poverty, and several trade policy initiatives exist to foster economic growth. One such initiative is Aid for Trade. The European Union (EU) and its member states represents more than one third of the total amount of Aid for Trade, making the union one of the biggest and most important donors in the world. Aid for Trade is expressed as one of the key pillars of the EU development policies and the Joint EU Aid for Trade strategy has the overreaching objective to eradicate poverty. Despite the EU being one of the biggest Aid for Trade donor, its activity has not been thoroughly investigated. The aim of this thesis is to investigate if the European donors respond to factors in recipient countries that make aid more effective in reducing poverty, such as the poverty level and the quality of institutions within a recipient country. Or if the Aid for Trade allocation mainly is motivated by strategic and political motives? Specifically, I will investigate whether the recipients' development needs, merit or self-interest of the donor play a role in the allocation process.

1.1 Problem statement

Aid for Trade has received increased attention among development organizations and policymakers as a tool to promote economic growth, integrate developing countries into the world economy and reduce poverty. It has been widely recognized that market access for developing countries is not enough to induce economic growth and lifting its people out of poverty. Aid directed at lowering trade

¹ Introduction to understanding poverty at the World Bank <http://www.worldbank.org/en/understanding-poverty>

costs, many of them found inside the countries, are needed for the countries to enjoy the economic advantages of trade and to be a part of the global economy. Since the launch of the initiative in 2005, the World Bank and the Organization of Economic Cooperation and Development (OECD) have published Global Reviews of Aid for Trade showing positive results and success stories. Additionally, Aid for Trade has been recognized as an important mean by the Sustainable Development Goals to accomplish inclusive economic growth and reduce poverty within developing countries.²

EU and its member states are the biggest donors of Aid for Trade in the world, and one of its biggest advocates, but neither Aid for Trade nor the allocation of the European donors, have been subject for much earlier research. On the contrary, development aid has been heavily targeted by researchers. Poor institutional quality, poor development, the approach of the western donors and corruption have been cited as common reason to why several observers argue that aid flows are wasted and are not reducing poverty (Sachs, 2005; Easterly, 2006; Collier, 2007; Moyo, 2009). At the same time, there is growing evidence that donors may use their bilateral development aid to pursue national interest (Berthélemy, 2006a; Hoeffler and Outram, 2011; Alesina and Dollar, 2000) and not respond to factors making development aid effective. Donors have been found to behave in an egoistic way and direct their assistance to their most significant trading partners (Berthélemy, 2006a). Political and strategic motives have also been found to outweigh the development needs of a recipient (Alesina and Dollar, 2000).

Different donors also claim to have different strategies with their foreign assistance and development aid. The actual motives of the donors have been heavily discussed and have focused on altruistic behaviors (focusing on need and merit of the recipient) or egoistic behavior (donor self-interest). The European Union and its member states claims the aim of their foreign assistance to be altruistic with the overreaching goal to eradicate poverty (EU, 2006; EU, 2007) and to prioritize least-developed countries. Other donors have their own purpose with rationales for foreign assistance. Japan and the US are among the biggest donor of development aid and Aid for Trade in the world but differs in their motives. The US clearly claims that the objectives of its foreign assistance is national security, commercial interest and humanitarian concerns (Lawson and Tarnoff, 2018). The objectives of Japans foreign assistance claims to be altruistic and like the Europeans the country want to promote universal values and to ensure world peace, stability and prosperity (Ministry of Foreign Affairs Japan, 1992).

² Further reading about Sustainable Development Goal 8 “Decent Work and Economic Growth” <http://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-8-decent-work-and-economic-growth.html>

1.2 Aim of the study

With this thesis, I will address the gap in research regarding Aid for Trade and how the European donors allocate their Aid for Trade. The potential of Aid for Trade to eradicate poverty has been highly praised both among governments and organizations but if the donors allocate their Aid for Trade out of self-interest (and not development needs or institutional quality) it could potentially undermine the efficiency. I will also compare the European donors' allocation with two of the largest Aid for Trade donors: Japan and the U.S. The methodology will build on the paper by Hoeffler and Outram (2011) but applied on Aid for Trade data and on the donors: the EU Institutions, Germany, France, UK, Sweden, Japan and the US. The choice of explanatory variables will also be adjusted to fit Aid for Trade flows and not general aid flows.

The research question is:

- How are the European Aid for Trade flows allocated? Specifically, if the needs of the recipient, merit of the recipient or the self-interest of the donor are motivations in the allocation process?

With the objectives:

- To investigate how Germany, France, UK, Sweden and the EU Institutions allocate their Aid for Trade flows, and if the allocation is motivated by the needs and merit of the recipient or self-interest of the donor.
- To compare how Germany, France, UK, Sweden and the EU Institutions allocate their Aid for Trade flows.
- To investigate how the European donors' allocation compares to the biggest donors outside Europe: The US and Japan

2 Background

2.1 Aid for trade – What is it?

Trade has been identified in various empirical literature to be an engine for long run economic growth and to reduce poverty (e.g., Grossman and Helpman, 1990; Romer, 1990). Developing countries may therefore have much to gain by increased trade and trade openness. Over the last decades the world has seen a substantial increase in international trade with trade agreements, lower tariffs and lower trade barriers. The increasing participation of developing countries in the world economy raised concerns that the developing countries cannot harness the economic opportunities given to them. Increased aid has been argued as vital to do the big investment in infrastructure and product capacity necessary to overcome the supply side constraints and high adjustment cost the developing countries are facing (Stiglitz and Charlton, 2006; Rodrik, 2001). The countries may lack the necessary knowledge and technology to meet the product standard in exports market such as certification and sanitary measures, or lack the exporting infrastructure such as communication, efficient ports and decent roads. The institutions within countries could also be inefficient resulting in high administrative costs, such as custom clearing time, inefficient policies or corruption. (Hoekman and Nicita, 2011)

Against this background, the Aid for Trade initiative was launched in 2005 at the World Trade Organization (WTO) Hong Kong Ministerial Conference. At the meeting the countries agreed to help developing countries build the capacity they needed to take advantage of trade opportunities. The Aid for Trade initiative was taken in consensus among the WTO members and meant a significant change in the importance of trade-related development assistance within development and trade policies (Page, 2007). A new consensus emerged which accepted that trade policies focusing only on trade openness are not enough for developing countries to benefit from market opportunities, achieve economic growth and reduce poverty. In fact,

many developing countries have been unable to use trade as an engine for growth because they are facing difficulties in trading due to supply side constraints and trade-related obstacles. The idea to lower trade costs and trade obstacles for developing countries, so they can enjoy the economic advantages of increased trade, is not new. It has been pursued by aid donors and developing country governments for many years. But for the first time at the Ministerial Conference in Hong Kong in 2005, both the development and international trade communities acknowledged that the matters concerned them both (Hoekman, 2010).

2.1.1 Definition and evolution of Aid for Trade

The Director General of the WTO announced the composition of an Aid for Trade Taskforce in February 2006. The objectives of the taskforce were to investigate the needs of the developing countries and to operationalize the initiative. In July 2006, the Trade Task Force proposed, together with highlighting the importance of trade in poverty reduction, six categories to measure Aid for Trade:

Table 1. The six categories proposed by the Aid for Trade Taskforce.

Category	Definition
Trade-related infrastructure	Physical infrastructure with the aim to connect domestic and foreign markets. For example, roads, communication, ports.
Building productive capacity	Aid to make countries be able to diversify production and exports.
Trade-related adjustment costs	Aid to help the countries with the adjustment cost. For example, tariff reductions or trade policy set out by other countries
Trade development	Aid to support development within trade sectors. For example, investment promotion, market analysis and development.
Trade policy and regulations	Aid to comply with rules and product standard but also to analyse the effect of trade proposals and positions. For example, aid directed towards facilitate implementation of trade agreements and comply with rules and product standards and training of trade officials.
Other trade-related	Other trade related support not captured by the categories above

Source: WTO, 2006

Since the launch of Aid for Trade, the initiative has gained an increased interest both among trade and development policy makers. In 2007, only two years after the launch of the initiative, the first WTO/OECD review showed that Aid for Trade is

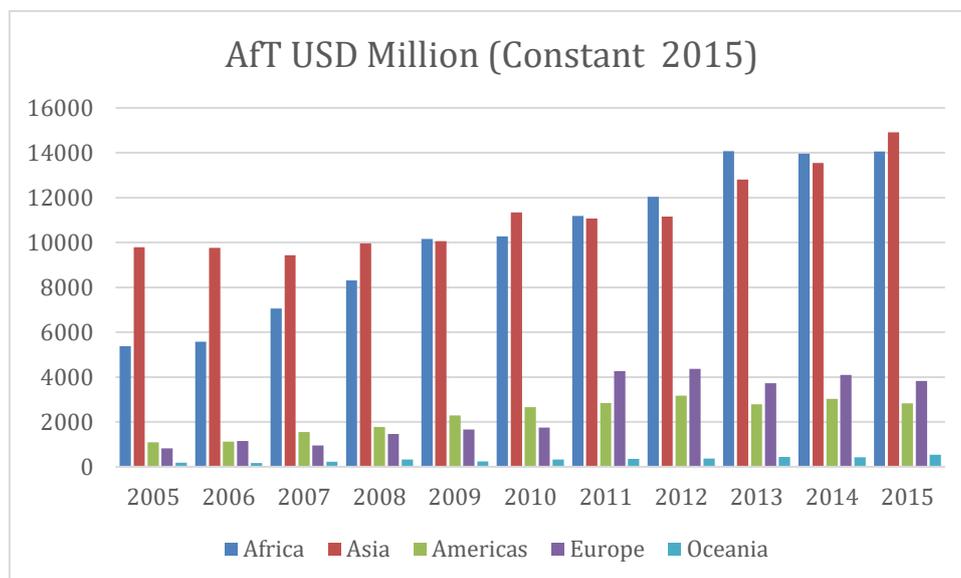
of growing importance in the donors' development programmes (OECD and WTO, 2007). In 2011, the WTO and OECD published its third monitoring reports where focus was to evaluate the initiative since its start in 2006. The report indicated positive tangible results and that the initiative has achieved considerable progress in short time (OECD and WTO, 2011).

Both countries and donor agencies are more and more prioritizing Aid for Trade in their development strategies, which can be seen in the average annual growth rate of commitments by 16% and disbursement by 11-12% between 2006-2011.³ Disbursements are the actual payment each year from the donor to the recipient country, while commitments represent an obligation undertaken by the donor. The commitment consists of monetary assistance to a recipient country and are often disbursement spread over several years. In 2011, the commitments were 57% above the commitment baseline from 2002-2005. The Aid for Trade disbursement flows increased from 18,140 million USD in 2005 to 39,421 million USD dollar in 2015, which is equivalent to an average annual growth rate of around 12%.

Asia and Africa have received the largest share of Aid for Trade followed by the Americas, Europe and last Oceania (see Figure 1). The Aid for Trade flows to Africa experienced a rapid growth and almost three doubled between 2005 and 2015 but stalled during the last years. Aid for Trade to emerging European countries declined between 2011 and 2015, while other regions remained relatively stable. Between 2005-2015, 38% of the Aid for Trade flows was disbursed to Asia and 35% was disbursed to Africa (OECD, 2015). The dominating Aid for Trade flows are aimed at projects in economic infrastructure (47%) and building productive capacity (52%). The four biggest sectors in receiving Aid for Trade financed projects have been transport and storage (29%), energy generation and supply (21%), agriculture (18%) and banking (10%). The four sectors are closely related to cutting trade costs and up to 2015 more than 75% of total Aid for Trade had gone to projects within these sectors. The potential and importance of trade and Aid for Trade to reduce poverty is gaining more attention and flows are increasing. Partner countries and donors are prioritizing trade in their development strategies where the share of Aid for Trade in sector allocable aid rose from 31% to 38 % between 2006-2013 (OECD, 2015). Studies made by OECD predicts that 1% in global trade costs could increase global income by a minimum of 40 USD billion, where 63% would be generated by developing countries.

³ Aid for trade showing results [http://www.oecd.org/dac/Aid for Trade/Policy_brief_Aid for Trade_Showing_Results.pdf](http://www.oecd.org/dac/Aid%20for%20Trade/Policy_brief_Aid_for_Trade_Showing_Results.pdf)

Figure 1. Total Aid for Trade disbursement flows per region between 2005-2015



Source: Authors' calculation based on OECD DAC Database.

2.2 European Aid for Trade

The EU presented in 2007 its own Aid for Trade strategy. The Joint EU Aid for Trade strategy strives to increase the total amount of Aid for Trade and do it in coherence with other development goals, such as the gradual increase in overall development aid, to make sure that an increase in Aid for Trade are not achieved at the expense of other priorities. The EU strategy on Aid for Trade is focused on the needs of the recipients and has the aim to:

“[...] support all developing countries, particularly Least Developed Countries (LDCs), to better integrate into the rules-based world trading system and to more effectively use trade in promoting the overarching objective of eradication of poverty in the context of sustainable development” (EU, 2007)

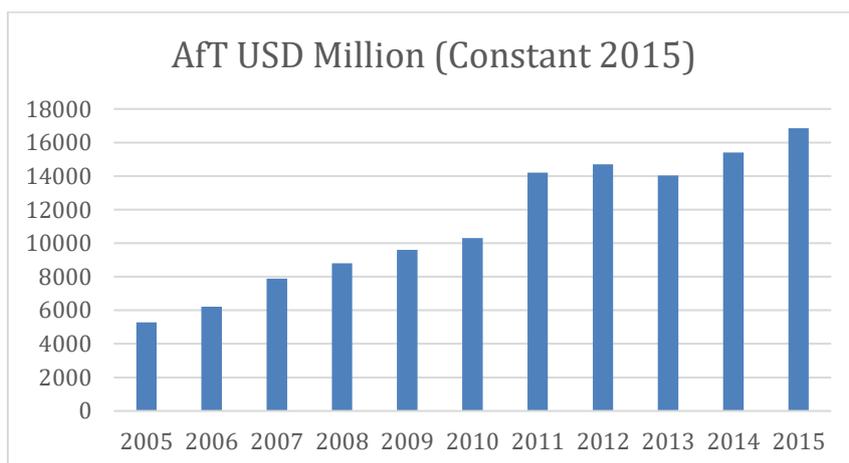
The strategy is based on external documents (Paris Declaration on Aid Effectiveness, WTO-Doha agenda, the Millennium Development Goals) and the EU Code of Conduct on complementarity and division of labour in development policy. In the strategy, the EU states that Aid for Trade is an important complement to trade negotiations and is crucial for developing countries to successfully implement trade agreements and enjoy the economic benefits coming from trade. The strategy is a guide to how the EU and its member states should use their Aid for Trade, based on voluntarily and flexible basis and on the recommendation from the WTO 2006 Task

Force. Although no special commitments were made in 2007, other than EU collectively pledge to strive to increase its expenditure on trade policy and regulations and trade development, OECD numbers shows that EU was also a major donor in the other categories of Aid for Trade. The strategy of 2007 is composed of five pillars:

1. Collectively increasing the volume of European Aid for Trade. EU institution and member states commits to collectively spend €2 billion annually on Trade-Related Assistance.
2. Enhancing the quality and the pro-poor focus of European Aid for Trade;
3. Increase the capacity of European Aid for Trade to be in line with globally agreed effective aid principles;
4. To have an African, Caribbean and the Pacific-specific angle (APEC) of the European Aid for Trade strategy.
5. To monitor and report Aid for Trade effectively. Under this pillar, the EU publishes annual Aid for Trade Monitoring Reports where the EU reports on the Aid for Trade progress.

The EU and its member states have collectively been the largest donor of Aid for Trade since the launch of the initiative, representing 39% of all the Aid for Trade disbursement between 2005-2015, while 61% have been from other countries and agencies. More than 70% of the European Aid for Trade have been provided by the EU institutions, Germany and France. The evolution of the European Aid for Trade is presented in Figure 2. From 2005 to 2015 the Aid for Trade flows increased with an annual of 22%. Africa has been the biggest recipient of European Aid for Trade with almost 36% of the amount committed in 2010 and 55% in 2013. Other important recipients of European Aid for Trade are Asia and the EU.

Figure 2. Total European Aid for Trade disbursement flows between 2005-2015



Source: Authors' calculation based on OECD DAC Database.

3 Literature review and theoretical framework

The motivations behind the allocation of development aid have been thoroughly examined during the last decades. Many studies have been motivated by the question if the main motives have been development or other motives, such as self-interest (e.g., Alesina and Dollar, 2000; Hoeffler and Outram, 2011; Collier and Dollar, 2001a, b). The increased attention to aid effectiveness has resulted in much research regarding development aid flows, but because of Aid for Trade is relatively new it has not been subject for much research. In theory, the linkage between increased trade and development is straightforward: trade facilitation leads to an expansion of trade, investment and production opportunities which in turn leads to income growth, and hence development (Helble et al., 2012). Trade facilitation initiatives, such as Aid for Trade, can be directed at lowering trade costs leading to an expansion of trade flows and an increase in trade competitiveness. In reality, the linkage between trade facilitation and development is more complex and difficult. Initiatives directed at trade facilitation and lowering trade costs meet other challenges such as the national contexts, political and economic structures in the recipient country, private sector priorities, development agendas and national interests.

3.1 Previous research: How does Aid for Trade work?

The Aid for Trade initiative was launched in 2005 and has not been as targeted by research as development aid. The research that exist has found Aid for Trade initiatives, aimed at reducing trade cost, to correlate to an increased trade performance. It has been suggested that 1% in Aid for Trade facilitation correlates to an increase in export worth of USD 290 million for the recipient countries (Helbe

et al., 2012) and that Aid for Trade also has a positive effect on the trade performance of the donor (Hühne et al., 2014).

Other initiatives directed at lowering trade costs have shown evidence to have a positive impact on trade and growth, where different trade facilitation measures work through different channels. The importance of infrastructure and transportation cost in explaining trade and access to markets have been highlighted by various researchers. Clark et al. (2004) investigated the importance of infrastructure and transportation cost to the US market for Latin American countries and found that improving port efficiency from the 25th to the 75th percentile resulted in a reduction in shipping cost by 12%. Sea port efficiency included activities related to custom requirements, cargo handling, port infrastructure etc. The infrastructure was further highlighted by the findings that having bad ports was equivalent to being 60% further away from export markets. Shepherd and Wilson (2006) showed that road quality has a big effect on regional trade flows. They used a gravity model simulation applied on 138 cities in 27 countries across Central Asia and Europe and found that ambitious road update program could boost intra-regional trade up to 50%. Their research also indicated positive intra-regional spill over effects on trade from improving road quality in countries which are important transit corridors. Product standards and technical regulations, set out by developed countries, have also been suggested as important factors driving trade costs, especially for developing countries. Chen et al. (2006) quantified the impact of technical regulations and standards and found that difficulties in accessing information lead to a discouragement among exporters by 18%. Firms affected by testing procedures were shown to have between 9-16% smaller export share. Communication has also been stated as an important determinant of trade costs and trade facilitation aimed reducing communication cost has been shown to have a significant influence on trade patterns (Fink et al., 2005).

3.2 Previous research: Aid allocation theory

3.2.1 Aid – need, merit and effectiveness

Various factors and variables influence aid, and development aid is as much as a matter of knowledge as it is about money. The correlation and effectiveness between aid and poverty reduction is complex and it is difficult to establish causation due to many things coincide and correlates. The World Bank concluded that what really makes a difference is if the development aid is given to a country

that pursue effective policies and have development needs (World Bank, 1998). On the other side of the debate, research is also suggesting that there is little evidence that aid is working at all (Easterly, 2006). But still, researchers have been motivated to investigate the effectiveness and motives of aid, and many researchers have looked at recipients need, merits and the self-interest when investigating them (e.g. Alesina and Dollar, 2000; Hoeffler and Outram, 2011; Collier and Dollar, 2001a, b).

Research suggest that if development aid is efficiently allocated the productivity of the current aid could be greatly improved (Collier and Dollar, 2001b). Collier and Dollar (2001b) argues that aid is allocated inefficiently and targeted to countries which have weak policies and do not have severe poverty problems. They argue that the effectiveness of aid depends on the recipients' poverty level and the quality of its policies, and that effectiveness of aid could be greatly improved if aid is allocated to poor countries with development friendly economic policies. They derived a formula for poverty-efficient allocation of aid and compared it to the actual aid allocation among donors which resulted in the conclusion.

When looking at recipients' merits, aid has been found to be more effective when given to developing countries with sound institutions, good economic policies and good trade policies (Burnside and Dollar, 2000; Collier and Dollar, 2001a). If the recipient country has poor polices (measured by the Freedom House Democracy index), foreign aid has little effect on growth in GDP per capita. Burnside and Dollar (2000) used a database on foreign aid developed by the World Bank, a panel of 56 countries between the years 1970-73 to 1990-93 and introduced an aid-policy interaction term in the growth regression. When they revisited their results in 2004 they found even stronger evidence that institutional quality effects the relationship between aid and growth (Burnside and Dollar, 2004).

There is mixed evidence that the donors are rewarding economic, political and social performance. Nunnenkamp and Thiele (2006) found that few donors preferred recipients that offered promising condition for aid to be effective. Additionally, none of the major donors responded to change in policy quality in the recipient countries. They used aggregated aid data from all the Development Assistance Committee (DAC) countries, nine big donors and applied it on a Tobit model. The variables measurement of the governmental merits where measured by the Worldwide Governance Indicators (WGI). Hoeffler and Outram (2011) also found that the allocation decision of the donor correlates poorly to the merits. They analysed aid flows from 22 donors between 1980-2004, used data from the Polity IV dataset, GDP per capita, UN voting patterns and found similar results. However, economic and social performance have been found in some papers to be rewarded by donors (e.g., Berthélemy and Tichit, 2004; Gates and Hoeffler, 2004).

3.2.2 Donors self-interest

Previous studies have found strong indications that foreign assistance is allocated according to the donors' self-interest. The research up to date has found that the interest of the donor has been outweighing the needs of the recipient, even if the development needs and merits of the recipient has been suggested to be important in terms of efficiency and effectiveness. One of the most influential paper in the aid allocation debate is Alesina and Dollar (2000) and their findings that donors cares more about economic, political and strategical factors than the development need of the recipients. Their findings suggest that colonial past and political alliances are mayor determinants of aid allocation and explain more of the allocation of aid than the political institutions or economic policies of the recipient. They used data on bilateral aid flows from the DAC countries between 1970-1994 and included variables such as trade openness, democracy, colonial status and civil liberties. The findings have been shown to be robust (Berthélemy and Tichit, 2004; Berthélemy, 2006; Hoeffler and Outram, 2011) and there is evidence that donors' self-interest is an important driver of the aid allocation. For example, Berthélemy (2006b) results suggest that donors behave in an egoistic way and target their aid to their most significant trade partners. He also finds difference among donors' behaviour; one example is the Nordic countries being more altruistic in their allocation decision. Berthélemy and Tichit (2004) finds that good economic policies have been rewarded but also that trade partners get favoured. The results suggested by Hoffler and Outram (2011) also shows that donors provide more aid to their trade partners and some donors provided more aid to countries who vote alongside them at the U.N.

4 Methodology and data

The motives of development aid have been heavily targeted by earlier research. GDP per capita has been commonly used as a proxy for the recipient poverty levels and needs (e.g., Hoeffler and Outram 2011; Alesina and Dollar 2000), and the governmental merits have been proxied by both the Freedom House Democracy Index (e.g. Burnside and Dollar, 2000; Collier and Dollar, 2001a,b; Hoeffler and Outram, 2011) and the Worldwide Governance Index (e.g., Nunnenkamp and Thiele, 2006). When looking at the donors' self-interest both colonial past, UN voting pattern and export have been used (e.g., Alesina and Dollar, 2000; Hoeffler and Outram 2011; Berthélemy and Tichit, 2004). This thesis will follow the methodology set out in Hoeffler and Outram (2011) but applied on Aid for Trade data and using the Worldwide Governmental Index as proxies for governmental merits.

4.1 Data

4.1.1 Dependent variable

The Aid for Trade variable is obtained from the online OECD database on Aid for Trade statistics: QWIDS. The database is based on the aid flows reported to the Credit Reporting System (CRS) and covers around 90% of all the Official Development Assistance (ODA) directed towards developing countries. The QWIDS database are extracted from 12 categories in the CRS data system and have proxied the Aid for Trade flows under the following five categories:

- Technical assistance for trade policy and regulations
- Economic infrastructure
- Productive capacity building
- Trade-related adjustment
- Other trade-related needs

The CRS database cannot provide data that exactly match the categories proposed by the WTO Aid for Trade Task Force recommendations in 2005 but have been recognized as being the best existing data source for Aid for Trade flows.⁴ The CRS database consist of comparable data over time and countries, including ODA loans and grants with both commitments and disbursement. In the QWIDS data base the Aid for Trade flows are converted into constant USD 2015.

There is no consensus in the literature on whether to use disbursement or commitment data when looking at the strategic decision of the donor. Berthélemy and Tichit (2004) use commitment data as it would better reflect donors' motives, other studies use disbursement data (Nunnenkamp and Thiele, 2006) motivated by that the decision to implement aid reflects an important process. This thesis will use disbursement data as the dependent variable because it measures the amount of Aid for Trade being transferred from the donor to the recipient a specific year, and hence the actual transfer.

A panel data set is constructed with the five biggest European donors: EU Institutions, Germany, France, UK and Sweden and their Aid for Trade flows between 2005-2015 using yearly disbursement data. Data from the US and Japan will also be extracted from the source and included in the panel data to be able to compare the allocation decision of the European donors to other big Aid for Trade donors. The data reported to the CRS system, and hence showed in the QWIDS database, could be of negative figures and would relate to when repayment from a recipient country on loans were larger than the ODA received that year.

4.1.2 Explanatory variables

The explanatory variables will be categorized into three groups:

- Recipients need. The variable will help to analyse if donors allocate more or less aid to poorer countries. The coefficient should be negative if donors are prioritizing to allocate their Aid for Trade to poorer countries with higher needs.
- Recipients merits. The variables will help to analyse if donors allocate more or less aid to countries with better policies and merits. The coefficients should be positive if donors reward good governance among the recipient countries.
- The donor self-interest. The variable will help to analyse if donor allocates more or less aid to countries where they have national interest.

⁴ At the Review of the Monterrey Consensus on Fincancial and Development in 2008 the CRS database was recognized as being the best data source for tracking Aid for Trade flows. http://www.un.org/esa/ffd/doha/chapter3/OECD_submission.pdf

If donors are prioritizing to allocate their Aid for Trade to countries where they have interest, the coefficient will be positive.

The recipients' income per capita is commonly used in aid allocation literature to demonstrate the recipient needs, but average income does not work well to measure the need of the recipient if the distribution is highly skewed. Therefore, I will use the Poverty headcount ratio at USD 1.90 a day obtained from the World Bank database. The indicator shows the proportion of people below the poverty line USD 1.90 a day (extreme poverty) and is adjusted to 2011 Purchasing Power Parity dollars. The variable measures the percent of people in a country living in poverty and is a better measurement to capture how poor a country is. There are missing observations for some of the recipient countries, which was not surprising due to the availability of poverty data is suffering from large gaps where almost half of the countries are deprived of adequate data on poverty.⁵ Therefore, I adjusted for the missing observation on the Poverty headcount ratio by applying the average growth rate for the individual countries during the years of missing observation. For recipients with no poverty data between 2005-2015 at all, the observation is reported as missing during the whole period.

Good policies have been suggested in earlier research to be an important factor for the success and effectiveness of development aid (Burnside and Dollar, 2000). To represent the donor's merit, I will therefore use the World Bank Worldwide Governance Indicators (WGI) together with the growth of GDP per capita. The variable growth of GDP per capita will be representing good economic policies and is extracted from the World Development Indicators by the World Bank. The variable is based on local currency and converted on an aggregated level to constant USD 2010. The WGI will represent good governance and captures six areas of governance: Voice and accountability, Political Stability and Lack of Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control for Corruption. The variable measuring Voice and Accountability will be proxied as the level of democracy in the recipient country. The WGI indicators captures broad dimensions of governance and are the result of a long going project to develop cross-country variables for Good Governance. The data set is based on around 30 different data sources such as surveys of firms and household, non-governmental organizations, public sector organizations, commercial information providers, and includes 340 different variables. The WGI indicators range from -2.5 to 2.5 and have been used widely for research purposes.

I will also add a variable describing how open a country is for trade: Trade openness. The variable will be obtained from the World Development Indicator

⁵From the World Bank blog: <http://blogs.worldbank.org/developmenttalk/much-world-deprived-poverty-data-let-s-fix>

database and is calculated by dividing the value of the export and import with the recipients GDP. The variable is relevant because the purpose with Aid for Trade is to integrate developing countries into the international economy. I will lag the merit variables with one year to overcome the endogeneity issue because of potential reverse causality.

The variables representing the donors' self-interest will be measured in the donors' export to recipient and the colonial past. Colonial past has been found in earlier research to be a major motive of the allocation of bilateral aid (Alesina and Dollar, 2000) and I create dummy variables describing if the recipient has been a colony of France, UK or Germany during the 20th century. The export data come from the UN Comtrade database which contains only trade in products and will be a proxy for commercial interest. To overcome the reverse causality of aid and trade, I lag the trade variable with one year.

Some of the recipient had to be excluded from the dataset due to insufficient data on the different explanatory variables. For example, this included some countries which during the period were suffering from internal conflicts and war: Libya, Syria and Somalia. Kosovo, Sudan and South Sudan were also excluded due to South Sudan gained their independence in 2011 from Sudan and Kosovo for its independence in 2008. Additionally, Special Administrative Regions such as Macau (China) and Overseas Collectively French Polynesia were excluded, as well as small island states such as Niue, Saint Helena and Wallis and Futuna. The countries received little or no Aid for Trade from the donors and had missing observations in several of the explanatory variables.

4.1.3 Control variables

With the respect to control variables, I follow Hoeffler and Outram (2011) and control for population. Additionally, I add a dummy variable if a recipient is landlocked according to the UNCTAD list of landlocked developing countries due to the higher cost of trading. Landlocked countries could potentially lead to donors trying to compensate for the higher cost and allocate more Aid for Trade (Tadasse and Fayissa, 2009). Belarus and Serbia are added additionally since they we're not on the UN list of landlocked countries. Last, I will also control for if the recipient is a member of the European Generalized Schemes of Preference (GSP) and in the APEC trade agreement by adding dummy variables. The GSP program grants better access to European market for certain developing countries and the APEC region has a special focus in the European Aid for Trade strategy. The dummy variables will take the value of 1 if the recipient countries are landlocked, member of the GSP or in the APEC and zero otherwise.

Table 1. Overview and description of explanatory variables and control variables.

Variable	Description	Mean	Min	Max	Standard deviation
<i>Need</i>					
Poverty at \$1.90 a day	Percentage of population living under \$1.90 a day	18.98	0	78.5	21.89
<i>Merit</i>					
Growth of GDP per capita	Annual GDP growth in %	2.86	-36.83	34.79	4.756
Government Effectiveness	Measures the quality of public services and its independence from political pressure. Between -2.5 to 2.5.	-0.41	-2.04	1.57	0.696
Voice and Accountability	Measures freedom of expression, association and to which extent citizen can select their government. Between -2.5 to 2.5	-0.29	-2.26	1.29	.849
Political Stability and Absence of Violence/Terrorism	Measures political instability and the likelihood of political motivated violence and terrorism. Between -2.5 to 2.5	-0.30	-2.83	1.45	0.903
Regulatory Quality	Measures the ability of the government to formulate and implement policies and regulation that permit and promote private sector development. Between -2.5 to 2.5	-0.403	-2.27	1.54	0.714
Rule of Law	Measures the extent to which agents have confidence in and abide by the rules of society. Between -2.5 to 2.5	-0.415	-2.03	1.43	0.711
Control of Corruption	Measures the perception to which extent power is exercised for private gain. Between -2.5 to 2.5	-0.401	-1.77	1.72	0.68
Trade openness	Trade as a % of GDP. (Value of export + import)/GDP	83.94	0	311.36	37.29
<i>Self-interest</i>					
Export (USD millions)	Export donor to recipient	2085.3	0	240247	10584.39
Former colony France	Dummy variables which takes value 1 if recipient being a colony to France during the 20 th century	0.162	0	1	-
Former colony UK	Dummy variables which takes value 1 if recipient being a colony to UK during the 20 th century	0.317	0	1	-
Former colony Germany	Dummy variables which takes value 1 if recipient being a colony to Germany during the 20 th century	0.148	0	1	-
<i>Control variables</i>					
Population (millions)	Population within the recipient country	39.56	0.01	1371.22	153.785
Landlocked	Dummy variable which takes value 1 if recipient begin on the UNCTAD list of landlocked countries	0.232	0	1	-
GSP Signatory	Dummy variable which takes value 1 if recipient being signatory of GSP	0.549	0	1	-
GSP+ Signatory	Dummy variable which takes value 1 if recipient being signatory of GSP+	0.211	0	1	-
APEC member	Dummy variable which takes value 1 if recipient being member of APEC	0.077	0	1	-

4.2 Econometric Model

I use the most common estimation model in the aid allocation literature (Alesina and Dollar, 2000; Hoeffler and Outram, 2011) and calculate separate equations for each donor using a pooled OLS regression:

$$Aid_{ijt} = \alpha + \beta_i X_{ijt} + u_{ijt}$$

where the t represents time, i represent the donor, j represents the recipient and Aid represent the Aid for Trade disbursement from a donor to a recipient. Furthermore, the X denotes a vector of explanatory variables (recipient needs, recipients merit and donors' self-interest), α is a constant and u_{ijt} is an error term. The equation above may be biased due to the panel data structure. For instance, an error term may correlate within a country or a year. One way to address this issue is to use clustered standard errors in the OLS regression or to use a country fixed effects model or random fixed effect model.

The random effects model can use time-invariant information and provide more efficient estimates. However, these may be biased. The fixed effects model controls for all – observed and unobserved – time-invariant factors. The country fixed effects model addresses the correlations within a country and allows for identification of the causal relationship and exploit the within observations by subtracting the country mean from the variables (first differences). In the random fixed effects model the country-specific effects are treated as uncorrelated with the explanatory variables and treated as random. To decide if random effects or fixed effects should be applied, a Hausman test (1978) can be used. If the Hausman test does not reject the null hypothesis, the more efficient random effects model is preferred. Under the alternate hypothesis, the fixed effects model provides consistent estimates.

The empirical analysis has three stages:

1. Look at the aggregate data and the donors one-by-one to see if need, merit and self-interest motivates the European donors in their Aid for Trade allocation.
2. Compare the European donors with each other to see if they differ in their allocation by only using the recipient-year observations the donors have in common (a method proposed by Hoeffler and Outram (2011) to overcome the comparability issue following comparing donors using different samples).
3. Thirdly, I will compare the European donors to the U.S and Japan. I will restrict the sample to only common observations.

4.3 Summary statistics

Africa is by far the poorest region in the sample with an average of 38% of its population living on less than USD 1.90 a day (see Appendix 1). The region has a high standard deviation due to countries like Burundi, Demo. Rep. of Congo, Madagascar and Malawi having a poverty rate over 70% during the period, and other countries such as Algeria, Mauritius, Morocco and Seychelles having poverty rates under 4%. Oceania, Asia and the Americas all score around the same poverty rates, 7-13%, and have high standard deviation due to the poverty rates within the regions also have big variations ranging from 0%-56% in Asia, 0%-37% in the Americas and 0.6-38% in Oceania. The region with the least poverty rate in our sample are the Middle East and Europe where the poverty rate for both regions is around 2%, which is a result of Georgian and Macedonian poverty rates (as high as 19% for Georgia) which drive up the poverty rates for Europe, while poverty data from the Middle East is missing for Oman and Saudi Arabia.

Africa, Asia and the Middle East are the regions where we find recipients with the lowest governmental qualities measured by the WGI (see Appendix 1). The Middle East stand out as the recipient region with the highest rate of political instability, where Iraq and Yemen scores lower than -2, and the lowest scores on the proxy for democracy (Voice and Accountability), where Saudi Arabia has the lowest rate (as low as -1.9). Africa is the recipient region with the lowest governmental qualities regarding rule of law and government effectiveness. Asia is the region with most corruption, and the region has lower scores on democracy and a higher level of political instability than to Africa. Countries such as Afghanistan and Pakistan are countries with high levels of political instability, with scores around -2.5, while Myanmar and Turkmenistan are countries with scores as low as -2.2 on democracy. Asia is also the recipient region with the highest rate of fast growing economies where countries like China, Myanmar and Turkmenistan have high growth rates around 10-12% during the period, while the Middle East has the lowest rate of economic growth. Europe, followed by Oceania, are the regions most open to trade. Based on the indicators, the regions with the most need is Africa, Asia and Oceania, and should be prioritized over Europe and the Americas. Europe and the Americas are the regions with the lowest poverty rates and the best quality of governance

All donor countries, except the US, export most of their goods to recipients in Asia (see Appendix 2). In the case of the US, the country export most of its goods to the Americas region where most of the export between 2005-2015 goes to Mexico and Brazil.

Both Germany and UK allocate most Aid for Trade to countries in the Asia while the EU Institutions and Sweden allocate most Aid for Trade to countries in Europe. France is the only donor country with most of its Aid for Trade allocated to

recipients in Africa. Oceania is the region which receives the least Aid for Trade and export from the donor countries, except Japan. This is probably due to Oceania being mostly made up by small island states, and very close to Japan in comparison to other donors, and hence not being prioritized by other donors. The US Aid for Trade is highly concentrated to the Middle East region, where most of the aid during the period is allocated to Iraq.

The summary statistics gives an indication that the Aid for Trade flows may not be allocated according to the recipient needs since all donors, except France, give most Aid for Trade to other regions than Africa. Germany, UK and Japan also direct more Aid for Trade to the recipients in the region where most of their export are directed. The results of the summary statistics motivate further the aim of the thesis.

5 Empirical results

5.1 European donors

5.1.1 All observations donor-by-donor

Several OLS regressions with clustered standard errors at country level are estimated on the European donors and presented in estimations (1)-(5) in Table 2. The results indicate that the individual European donors are motivated differently by needs, merits and self-interest when allocating their Aid for Trade. The variable “Governmental Effectiveness” was excluded due to high VIF-values⁶ indicating multicollinearity and strong correlations between the variables measuring the rule of law and the government effectiveness.

The poverty level in the recipient country does not seem to be a motivation for most of the European donor, where the EU Institutions and the UK are the only donors giving more Aid for Trade to poorer countries. Two of the five pillars in the European Aid for Trade strategy is to enhance the pro-poor focus and to have an APEC specific angle but not all the European donors seems to allocate more aid to poorer countries, neither to allocate more to APEC-members. In fact, the EU Institutions, Germany and Sweden seem to allocate less to a recipient being a member of APEC.

The results indicate that the European donors are motivated differently by the governmental qualities and merits of the recipients, and generally not motivated by the governmental qualities measured by the WGI. The UK allocates less Aid for Trade to recipients with higher political stability while Sweden allocates more aid to recipients with higher political stability. Regulatory quality is rewarded by the EU Institutions and Germany. France is not motivated at all by the level of the

⁶ VIF-values over 10 for Rule of law and Government Effectiveness (all donors)

governmental qualities or merits in its allocation of Aid for Trade. The coefficients of the level of democracy are statistically not significant for all European donors. The other merit variables, measuring trade openness and economic growth, also differ among the individual donors. How open a country is for trade is statistically significant for the allocation of Sweden and UK, which give more aid to recipients with a high degree of trade openness. Germany and Sweden seem to be the only donors acknowledging the increased trade cost facing recipients that are landlocked and give more Aid for Trade to landlocked recipients. In line with Hoeffler and Outram (2011), there is mixed evidence of the “small country bias” found in the paper by Alesina and Dollar (2000). Recipient countries with smaller population receive more Aid for Trade from the EU institutions, France and Sweden.

All donors seem to be motivated by their self-interest, especially by colonial past. The colonial past is statistically significant for all the donors (as found in Alesina and Dollar, 2000). Both France and UK give more Aid for Trade to their old colonies. The colonial past of other European donors seems also to motivate all the European donors where Germany favours old colonies of UK and UK favours former colony of Germany. Sweden and UK, on the other hand, allocates less to former colonies of France. When looking at the EU Institutions, the only colonial past that seems to be statistically significant is if the recipient is a former colony of France. The EU Institutions and Sweden are also motivated by trade, favour their trading partners and allocate more Aid for Trade to them. The negative statistical significant estimate for UK (column 5) could potentially be explained by the donor allocating to recipient where the country has no ongoing trade relationship, but it might want to have in the future. The results suggest that both the recipient need, merits and the donors’ self-interest are important factors in explaining the Aid for Trade allocation among European donors but differs among the individual countries.

Table 2. How do European donor allocate Aid for Trade? All observations. Dependent variable: ln Aid for Trade per capita

VARIABLES	(1) EU OLS	(2) France OLS	(3) Germany OLS	(4) Sweden OLS	(5) UK OLS	(6) EU FE	(7) France FE	(8) Germany FE	(9) Sweden FE	(10) UK FE
Poverty (t-1)	0.0283*** [0.00563]	0.00242 [0.00886]	-0.0103 [0.00767]	0.0107 [0.0143]	0.0172* [0.00949]	-0.000485 [0.00619]	-0.00926 [0.0134]	0.00267 [0.00881]	-0.0261* [0.0140]	-0.000326 [0.0170]
Voice and Accountability (t-1)	-0.161 [0.225]	-0.142 [0.414]	0.223 [0.248]	0.386 [0.498]	-0.178 [0.313]	-0.158 [0.240]	0.354 [0.335]	-0.161 [0.294]	-1.180** [0.592]	0.111 [0.465]
Rule of Law(t-1)	0.294 [0.391]	0.877 [0.677]	0.202 [0.487]	-0.896 [0.917]	0.796 [0.593]	-0.000661 [0.361]	-0.212 [0.664]	-0.0763 [0.305]	0.257 [0.608]	0.194 [0.667]
Political Stability (t-1)	-0.134 [0.153]	0.102 [0.285]	0.0191 [0.182]	0.635* [0.371]	-0.470** [0.210]	-0.0808 [0.116]	0.0681 [0.251]	0.0332 [0.136]	0.196 [0.171]	-0.0203 [0.252]
Regulatory Quality (t-1)	0.829*** [0.241]	0.532 [0.439]	1.006*** [0.305]	0.759 [0.653]	0.151 [0.398]	0.0429 [0.298]	-0.587 [0.470]	-0.104 [0.201]	-0.828 [0.502]	-1.068* [0.539]
Control of Corruption (t-1)	-0.279 [0.282]	-0.782 [0.534]	-0.211 [0.370]	-0.306 [0.730]	0.000968 [0.535]	1.148*** [0.370]	0.199 [0.583]	0.222 [0.416]	-0.0273 [0.690]	0.274 [0.821]
Ln Growth (t-1)	-0.00305 [0.0130]	-0.0282 [0.0211]	0.0295* [0.0156]	0.0465 [0.0360]	-0.0280 [0.0260]	-0.000144 [0.00893]	-0.0307* [0.0169]	-0.000890 [0.00797]	-0.0225 [0.0190]	-0.0198 [0.0233]
Trade Openness (t-1)	-0.00447 [0.00272]	-0.00371 [0.00561]	0.00441 [0.00408]	0.0198*** [0.00692]	0.00707** [0.00353]	0.00125 [0.00224]	0.00693 [0.00855]	0.00188 [0.00228]	0.00122 [0.00606]	-0.00206 [0.00508]
Ln Export (t-1)	0.180* [0.104]	0.171 [0.182]	-0.0843 [0.0782]	0.344* [0.197]	-0.386*** [0.129]	0.345** [0.151]	0.254 [0.202]	0.0839 [0.0634]	0.102 [0.152]	-0.0346 [0.246]
Ln Population	-0.848*** [0.106]	-0.675*** [0.185]	0.0544 [0.116]	-0.643* [0.335]	0.163 [0.173]	-0.471 [0.468]	-0.699 [0.859]	-1.278** [0.497]	-0.403 [0.980]	-2.210* [1.172]
Landlocked	0.176 [0.267]	-0.885* [0.450]	0.665** [0.308]	1.629** [0.629]	-0.632 [0.386]	-	-	-	-	-
Former colony France	0.458* [0.268]	1.991*** [0.530]	-0.248 [0.421]	-2.732*** [0.731]	-0.767* [0.453]	-	-	-	-	-
Former colony UK	-0.381 [0.319]	0.527 [0.597]	-0.804** [0.329]	-0.266 [0.701]	1.571*** [0.321]	-	-	-	-	-
Former colony Germany	-0.296 [0.355]	-0.344 [0.552]	0.168 [0.385]	0.620 [0.848]	0.797** [0.349]	-	-	-	-	-
GSP Signatory	-0.464 [0.307]	0.169 [0.515]	0.0715 [0.371]	0.873 [0.773]	-0.121 [0.403]	-	-	-	-	-
GSP+ Signatory	-0.453 [0.334]	-0.520 [0.433]	-0.153 [0.393]	-0.838 [0.746]	-0.124 [0.571]	-	-	-	-	-
APEC Member	-1.255*** [0.427]	-0.123 [0.726]	-1.325*** [0.436]	-2.198** [0.860]	-0.391 [0.501]	-	-	-	-	-
Observations	1,092	776	1,015	713	638	1,092	776	1,015	713	638
R-squared	0.448	0.302	0.224	0.345	0.267	0.034	0.017	0.015	0.021	0.020
F-statistics	16.27	8.96	3.99	9.01	9.25	2.00	1.59	1.32	1.43	1.06
Number of pan_id						116	104	113	102	106

Clustered(OLS) and robust(FE) standard errors in brackets *** p<0.01, ** p<0.05, * p<0

Another way to measure the relative importance of our proxies need, merit and self-interest is to add the variables to the regressions and look at the R-squared value, a method used in Hoefler and Outram (2011). The R-squared values range from 0-1 and measures how much explanatory power the explanatory variables has in explaining the variation in the dependent variable. As seen in Table 3, population and the other control variables can alone explain between 6.3% to 37.9% of the variation for the European donors in their Aid for Trade allocations. When adding the recipients need the R-squared increases only for Germany and UK, which could further indicate that most of the European donors are not motivated by the poverty rates in the recipient countries when allocating their Aid for Trade. In comparison, the proxies for the recipient merits and the donors' self-interest increases the explanatory power for all the European donors. The increased R-squared value when adding merit, export and colonies indicates that merit and self-interest could explain more of the variation than the recipient needs. It also further indicates that the European donors differs in what motivates them.

Table 3. How much of the variation is explained by need, merit, and self-interest?

	EU Institutions	France	Germany	Sweden	United Kingdom
Control variables	37.9%	21.2%	6.3%	18.5%	3.4%
Recipients need	35.8%	17.6%	8.7%	18.2%	9.4%
Recipients merit	40.7%	21.7%	20.2%	24.7%	14.2%
Export (Self-interest)	43.3%	25.5%	20.2%	27.0%	15.6%
Colonial past (Self-interest)	44.8%	30.2%	22.4%	34.5%	26.6%

Our OLS regressions in estimation (1)-(5) may be biased due to unobserved country fixed effects that correlate with the error term (such as history, culture, religion etc.). I will control for the time-invariant factors using either a fixed effects or random effects estimator. By running a Hausman test on the different European donors, the p-values indicate that a fixed effects model is preferred over a random effects model for all the donors.⁷ The fixed effect estimates are presented in columns (6)-(10) in Table 2. When running the fixed effect models, most of the estimates changes among the donors, indicating there is fixed effect to account for. Sweden is now the only European donor motivated by the recipients need in its allocation of Aid for Trade. The European donors

⁷ The p-value of the Hausman test: EU Institution 0.0009, France 0, Germany 0, Sweden 0 and UK 0.

also seems to be less merit focused, where Sweden gives less aid to recipient with a higher level of poverty and a higher level of democracy. The EU Institution allocates more to recipients with a higher control of corruption and UK allocates less to recipients with higher level of regulatory quality. France allocates less Aid for Trade to countries with good economic policies. The only European donors allocating their Aid for Trade according to self-interest seems to be the EU Institutions. To see if the fixed effects model is preferred over the pooled OLS model, a F-test is conducted on all the European donors (as in Hoeffler and Outram, 2011). The F-test is run to test if fixed effects are equal to zero. The results of the F-test show that we cannot reject the null hypothesis on 10% significant level for all European donors except the EU Institutions. The conservative fixed effects model is therefore preferred when looking at the EU Institutions but for all others, the pooled OLS model with cluster standard errors is preferred over the fixed effects model.

5.1.2 Common observations

I restrict the sample to only common observations, according to the method proposed by Hoeffler and Outram (2011), to be able to overcome the issue that the donor equations are estimated using different samples. Many of the observations are dropped and only around 25% remains after restricting the sample to only common observations. This indicates that the European donor differs from its European counterparts in their allocation of Aid for Trade each year and to whom they allocate. The new OLS estimates are presented in columns (1)-(5) in Table 4. The estimates for the recipients' merits have changed and the donors seem to allocate even more according to individual merit preferences, where the EU Institutions are more motivated by the recipients' merits in comparison to its European counterparts. Removing the observations from the sample has no significant impact on the recipient need (except Sweden seems to favour poor countries) and colonial past and trade are still significant motivators for the European donors. Germany is the only country not allocating Aid for Trade based on neither recipients' merits or needs. The estimation also indicates a "small country bias" for EU Institutions and Sweden.

As for the OLS estimates using all the observations, the OLS regressions using only the common observation may be biased due to unobserved fixed effects. Therefore, the fixed effects model is used to control for the recipients-specific fixed effect. As for the sample with all the observations, a F-test is used to determine if fixed effects are equal to zero. The test indicates that we can reject the null-hypothesis on the 5 % level and

Table 4. How do European donor allocate Aid for Trade? Common observations. Dependent variable: Ln Aid for Trade per capita.

VARIABLES	(1) EU OLS	(2) France OLS	(3) Germany OLS	(4) Sweden OLS	(5) UK OLS	(6) EU FE	(7) France FE	(8) Germany FE	(9) Sweden FE	(10) UK FE
Poverty (t-1)	0.0279*** [0.00732]	0.00346 [0.0119]	-0.00271 [0.00707]	0.0281* [0.0164]	0.0203** [0.00920]	0.00333 [0.0143]	-0.0376 [0.0247]	-0.00470 [0.0105]	-0.0438* [0.0233]	0.0130 [0.0205]
Voice and Accountability (t-1)	-0.512* [0.274]	-0.842 [0.510]	-0.152 [0.245]	0.759 [0.501]	-0.747** [0.343]	-0.178 [0.358]	0.0717 [0.879]	-0.817** [0.336]	-3.266*** [0.896]	1.554 [0.989]
Rule of Law (t-1)	0.926* [0.539]	0.324 [0.815]	0.507 [0.456]	-1.137 [1.246]	0.288 [0.630]	-0.133 [0.535]	1.041 [1.122]	0.350 [0.445]	-0.462 [1.172]	0.0266 [0.791]
Political Stability (t-1)	0.193 [0.222]	0.138 [0.341]	0.228 [0.155]	1.192** [0.458]	-0.0682 [0.217]	0.178 [0.166]	-0.876** [0.411]	-0.309* [0.158]	0.562 [0.344]	0.0681 [0.266]
Regulatory Quality (t-1)	0.00268 [0.388]	0.701 [0.716]	0.465 [0.367]	0.649 [0.948]	-0.394 [0.484]	0.0692 [0.495]	-1.295* [0.738]	0.276 [0.259]	-0.717 [1.006]	-0.817 [0.770]
Control of Corruption (t-1)	-0.630* [0.369]	0.122 [0.564]	-0.438 [0.315]	-1.206 [0.970]	0.699 [0.580]	0.154 [0.449]	-0.385 [1.129]	-0.496 [0.464]	-0.791 [1.035]	-0.134 [1.133]
Ln Growth (t-1)	0.0233 [0.0297]	-0.0628* [0.0348]	0.0380 [0.0237]	0.00459 [0.0488]	-0.0348 [0.0297]	0.00161 [0.0273]	-0.0126 [0.0231]	0.0116 [0.00759]	-0.0347 [0.0248]	-0.0253 [0.0236]
Trade Openness (t-1)	-0.00607 [0.00490]	0.00524 [0.00846]	0.00338 [0.00464]	0.0129 [0.00881]	-0.000935 [0.00455]	-0.00129 [0.00334]	0.00484 [0.00832]	0.000150 [0.00305]	0.00120 [0.00619]	-0.0137** [0.00613]
Ln Export (-1)	0.270* [0.157]	0.0121 [0.187]	0.00182 [0.0767]	0.181 [0.303]	-0.263** [0.131]	0.805** [0.319]	0.130 [0.402]	0.186** [0.0768]	0.273 [0.260]	0.334 [0.283]
Ln Population	-1.157*** [0.189]	-0.397 [0.358]	-0.135 [0.125]	-0.662* [0.381]	0.0565 [0.188]	-0.0207 [0.785]	-1.843 [1.622]	-1.488*** [0.455]	-0.806 [1.413]	-3.278*** [1.119]
Landlocked	-0.0916 [0.395]	-1.214* [0.647]	0.434* [0.249]	1.478* [0.848]	-0.498 [0.421]					
GSP Signatory	0.00826 [0.268]	2.882*** [0.679]	-0.101 [0.357]	-3.468*** [0.920]	-1.011*** [0.371]					
GSP+ Signatory	-0.495 [0.342]	0.625 [0.661]	-0.438* [0.250]	0.688 [0.728]	1.345*** [0.361]					
APEC member	0.111 [0.403]	-0.483 [0.751]	0.0318 [0.256]	0.398 [0.899]	0.700* [0.412]					
Former colony France	-0.536 [0.426]	-1.004 [0.623]	-0.760** [0.293]	1.764** [0.845]	-0.482 [0.409]					
Former colony Germany	-0.860 [0.534]	0.0139 [0.646]	0.0642 [0.490]	-1.437 [1.107]	-0.100 [0.548]					
Former colony UK	-0.747 [0.548]	0.310 [0.712]	-0.800** [0.399]	-1.229 [1.063]	-0.320 [0.572]					
Observations	341	341	341	341	341	341	341	341	341	341
R-squared	0.585	0.297	0.282	0.422	0.319	0.060	0.049	0.095	0.072	0.062
F-statistics	17.35	6.58	5.31	10.22	15.03	0.98	2.04	2.83	2.13	2.83
Number of pan_id						76	76	76	76	76

*Robust standard errors in brackets*** p<0.01, ** p<0.05, * p<0.1

that fixed effects are jointly significant for all the European donors (when using the sample with only common observations). The time-invariant factors are controlled for and the results are presented in columns (6)-(10) in Table 4. Taking fixed effects into account changes many coefficients on the explanatory variables. Sweden is the only donor motivated by the recipient need but allocates less Aid for Trade to poorer recipients. When controlling for fixed effects, the European donors seems to be penalizing recipient with higher merits. Sweden and Germany give less Aid for Trade to recipients with a high degree of democracy. Germany and France allocate less Aid for Trade to recipients with a higher political stability. France allocate less Aid for Trade to recipients with higher level of regulatory quality and UK gives less to recipients more open to trade. The negative effect found on Aid for Trade and recipients merits could be due to donors directing their Aid for Trade to recipient which has lower merits (and therefore may be in more need of assistance). The European Union and Germany favour their trading partners. The huge cut in sample size and the different results indicates that the European donors are driven by different motives when allocating its Aid for Trade.

5.2 How does the European donors differ from the US and Japan?

5.2.1 All observations: The US and Japan

In the third stage of the empirical analysis, the allocation of the European donors will be compared to two other donors outside Europe: The US and Japan. The estimates indicate no evidence that Japan or the US are motivated by the recipients need or their trade interest when allocating their Aid for Trade. The OLS regressions (1)-(2) presented in Table 5 indicate that both Japan and the US seems only to be motivated by the recipients' merits. Japan rewards recipients with higher rule of law and economic growth while higher government effectiveness receives significantly less Aid for Trade. The US rewards regulatory quality and the level of democracy. There's indication of the small country bias in both estimates.

What seems to be of statistical significance for both Japan and the US, after controlling of fixed effects, is if the recipient is a trade partner. Both donors reward their trade partners by more Aid for Trade. Columns (3)-(4) in Table 5 control for the country fixed effect potentially biasing the OLS estimates presented in columns (1)-(2). As for the sample with European donors, a F-test is used to determine if fixed effects are equal to zero. The test indicates that we can reject the null-hypothesis on the 5% level and the test indicates that fixed effects are significant

and the OLS estimations are not valid. In addition to favour its trading partners, Japan seems to be responsive to the recipients needs and allocates more Aid for Trade to poorer countries. In the case of the US, trade relations are the only variable motivating the donor in its Aid for Trade allocation.

Table 5. How does the US and Japan allocate their Aid for Trade? Dependent Variable: Ln Aid for Trade per capita.

VARIABLES	(1) Japan OLS	(2) USA OLS	(3) Japan FE	(4) USA FE
Poverty (t-1)	-0.0103 [0.00741]	-0.00614 [0.00786]	-0.0221** [0.00873]	-0.00144 [0.00778]
Voice and Accountability (t-1)	-0.0313 [0.254]	0.498* [0.292]	-0.259 [0.185]	-0.357 [0.300]
Rule of Law(t-1)	1.821*** [0.399]	-0.454 [0.515]	-0.320 [0.273]	0.676 [0.445]
Political Stability (t-1)	0.154 [0.254]	-0.343 [0.218]	0.0972 [0.125]	-0.0374 [0.128]
Regulatory Quality (t-1)	-0.769** [0.309]	1.348*** [0.318]	0.0470 [0.214]	-0.443 [0.465]
Control of Corruption (t-1)	-0.535* [0.320]	-0.406 [0.425]	0.903** [0.355]	-0.344 [0.354]
Ln Growth (t-1)	0.0421*** [0.0147]	-0.00239 [0.0185]	0.00848 [0.0119]	-0.00865 [0.0113]
Trade Openness (t-1)	-0.000280 [0.00338]	0.00501 [0.00436]	-0.00169 [0.00255]	0.00270 [0.00376]
Ln Export (t-1)	0.129 [0.0963]	-0.165 [0.121]	0.334*** [0.0881]	0.445*** [0.134]
Ln Population	-0.452*** [0.132]	-0.300** [0.143]	-0.883 [0.575]	-0.392 [0.695]
Landlocked	0.134 [0.285]	0.471 [0.357]	- -	- -
GSP Signatory	0.828** [0.372]	0.353 [0.432]	- -	- -
GSP+ Signatory	0.555 [0.373]	0.714* [0.391]	- -	- -
APEC member	0.606 [0.629]	-1.167** [0.534]	- -	- -
Observations	1,166	1,027	1,166	1,027
R-squared	0.409	0.292	0.063	0.035
F-statistics	18.86	7.43	3.56	1.94
Number of pan_id			119	125

Clustered (OLS) and robust(FE) standard errors in brackets

*** p<0.01, ** p<0.05, * p<0.1

5.2.2 Common observations: European donors, US and Japan

To be able to compare the European donors with Japan and the US, the sample will be restricted, and all the non-common observation will be dropped (as in Hoeffler and Outram, 2011). As it turns out, no more drops are needed after restricting the sample to the European donors to have a sample size with common observations for all the donors, including the US and Japan. The results are presented in Table 6.

The European donors' allocation of Aid for Trade seems to be more motivated by the recipients' merits in comparison to Japan and the US (except the EU Institutions) and the European donors give less aid to recipient with higher governmental qualities. Economic growth and trade openness are factors that do not seem to motivate any of the donors (except UK which allocates significantly less to recipient more open to trade). Japan is also motivated by the recipients' merits, but not to the same extent as the European donors and gives less Aid for Trade to more democratic recipients. There's mixed indications of motivation according to a recipient need: Sweden and Japan are the only donors motivated by poverty but allocates less Aid for Trade to poorer countries. What seems to be of statistically significance for the EU Institutions and the US is not need, nor merit. In comparison to the other donors, the only significant parameters are self-interest. The more trade the EU Institutions and US has with a recipient, the more Aid for Trade the recipient receives. Self-interest is nothing characteristic only to the US and EU Institutions, Germany and Japan are also giving more Aid for Trade to their trade partners.

Table 6. How do the donors differ? Common observations. Dependent variable: ln Aid for Trade per capita.

VARIABLES	(1) EU FE	(2) France FE	(3) Germany FE	(4) Japan FE	(5) Sweden FE	(6) UK FE	(7) USA FE
Poverty (t-1)	0.00333 [0.0143]	-0.0376 [0.0247]	-0.00470 [0.0105]	-0.0345* [0.0186]	-0.0438* [0.0233]	0.0130 [0.0205]	0.00663 [0.00975]
Voice and Accountability (t-1)	-0.178 [0.358]	0.0717 [0.879]	-0.817** [0.336]	-0.842* [0.447]	-3.266*** [0.896]	1.554 [0.989]	0.352 [0.524]
Rule of Law (t-1)	-0.133 [0.535]	1.041 [1.122]	0.350 [0.445]	-0.0325 [0.469]	-0.462 [1.172]	0.0266 [0.791]	-0.358 [0.451]
Political Stability (t-1)	0.178 [0.166]	-0.876** [0.411]	-0.309* [0.158]	-0.124 [0.187]	0.562 [0.344]	0.0681 [0.266]	0.183 [0.159]
Government Effectiveness (t-1)	0.0692 [0.495]	-1.295* [0.738]	0.276 [0.259]	-0.539 [0.403]	-0.717 [1.006]	-0.817 [0.770]	0.0763 [0.365]
Regulatory Quality (t-1)	0.154 [0.449]	-0.385 [1.129]	-0.496 [0.464]	0.0164 [0.511]	-0.791 [1.035]	-0.134 [1.133]	0.649 [0.734]
Ln Growth (t-1)	0.00161 [0.0273]	-0.0126 [0.0231]	0.0116 [0.00759]	0.0320 [0.0256]	-0.0347 [0.0248]	-0.0253 [0.0236]	-0.00768 [0.0240]
Trade Openness (t-1)	-0.00129 [0.00334]	0.00484 [0.00832]	0.000150 [0.00305]	-0.000779 [0.00334]	0.00120 [0.00619]	-0.0137** [0.00613]	0.00423 [0.00415]
Ln Export (t-1)	0.805** [0.319]	0.130 [0.402]	0.186** [0.0768]	0.594*** [0.178]	0.273 [0.260]	0.334 [0.283]	0.353* [0.187]
Ln Population	-0.0207 [0.785]	-1.843 [1.622]	-1.488*** [0.455]	-1.390* [0.759]	-0.806 [1.413]	-3.278*** [1.119]	-1.676** [0.641]
Observations	341	341	341	341	341	341	341
R-squared	0.060	0.049	0.095	0.141	0.072	0.062	0.060
F-statistics	0.98	2.04	2.83	1.86	2.13	2.83	1.76
Number of pan_id	76	76	76	76	76	76	76

Robust standard errors in brackets *** p<0.01, ** p<0.05, * p<0.

5.3 Robustness tests and discussion

5.3.1 Robustness tests on the European donors

To see if my results are robust, I conduct several sensitivity tests using the sample with all observations and OLS-regressions (since they are preferred over the fixed effect model).

The results are robust to various specification of governmental merits, except the poverty level for UK loses significance when removing either Rule of Law or Political Stability. The results are also robust when running the regressions without the variable proxying good economic policies, GDP per capita growth. Additionally, the results are robust when running the regression using the unmanipulated poverty data (see Appendix 3). The estimated results on poverty (not all European donors are motivated by poverty) contrast with the results in Hoeffler and Outram (2011). Their results indicated that all the major donors are allocating development aid to poorer countries, when measuring poverty as GDP per capita. Instead of using the poverty headcount ratio, I therefore run the regressions using GDP per capita, which normally is used as proxy for a recipient need (e.g., Alesina and Dollar, 2000; Hoeffler and Outram, 2011). The new estimates indicate that the European donors are more poverty focused where all the donors, except France, allocate more Aid for Trade to poorer recipients (see Appendix 4). This could mean that using national income as a proxy for development need yields different results than actual poverty data or that Aid for Trade is treated differently than development aid but could also mean that GDP per capita is a bad measurement to use when looking at trade related assistance. Countries may want to give more Aid for Trade to recipients with higher GDP per capita because of potential future trade gains, and therefore the variable might be misleading as proxy for need and affects the estimates in the regressions (since more Aid for Trade might lead to higher GDP per capita, which leads to more Aid for Trade etc.). However, the positive aspect of using GDP per capita as a proxy for need is that the data contains less missing observations than actual poverty data.

The donors also seem to be motivated differently by needs and merits when allocating Aid for Trade to countries outside Africa. Since Africa has been argued to be special in terms of donor-recipients relationship (Moyo, 2009; Bourguignon and Sundberg, 2007; Goldsmith, 2001), I drop the African countries from the sample. Restricting the sample changes the results (see Appendix 5). For countries outside Africa, the poverty level of the recipient country seems only to matter for

Germany and both the EU Institutions and UK are no longer allocating more Aid for Trade to poorer countries. The European donors are also less motivated by the governmental merits and only higher regulatory quality is rewarded by the EU Institutions, Germany and the UK. The European donors are still motivated by their self-interest. Colonial past is still significant for all the donors and Sweden and UK are still rewarding their trade partners. The result indicates that countries in Africa are treated differently regarding needs and merits.

5.3.2 Discussion

The results are not clear or straightforward and the European donors does not seem to be motivated by the same factors. One reason could be that many factors that plays a role cannot be easily measured. The relationship between aid and poverty reduction is complex and it is difficult to establish causation due to many things coincide and correlates. Even if donors are European they are still individual countries driven by their own motives, the majority not captured by the estimations. However, what seems to be a motivation for all the countries is colonial past. In Table 2, column (1)-(5), former colony owners France and UK allocates more to their former colonies, but the EU Institutions is also motivated by the colonial past of France. These results could be due to the internal politics within the EU Institutions and could indicate that France may have an influential role in the Aid for Trade allocation process. Germany, on the other hand, does not give more aid to its former colonies. This may reflect how close the colonial past is, Germany lost all its colonies in 1918 and France and UK had their colonies up until 1997. The last colony of France in the dataset is Vanatau, which gained its independence in 1980, and for UK Brunei, which gained its independence in 1984. Other than colonial past, the European donors seems to be motivated differently by need, merit and self-interest. These results are not surprising due to the European Union being a highly cultural diverse region and the countries are probably driven by different motives even if sharing a common Aid for Trade strategy. The limits to my approach are therefore many.

The methodology poses significant challenges to determine the allocation of the donors, especially due to a potential sample selection problem because not all donors give aid to all countries (for a further discussion see McGillivray, 2002). To account for the problem, either a two stage Heckman model or the Tobit estimator is normally used. Very few studies using a Tobit estimator or Heckman model have

resulted in findings that differ significantly from the estimation made by OLS.⁸ Therefore, I have decided not to use a Heckman model or a Tobit estimator, but the estimates could still be biased. Additionally, I follow the method set out in Hoeffler and Outram (2011) and restrict the sample to only common observations in Table 4 and 6, but the approach of having only common observation has a major drawback. By restricting the observations the coefficients lose information about the true allocation behaviour of the European donors, Japan and the US. The huge cut in sample size and the different results indicates that the European donors are driven by different motives and allocate their Aid for Trade differently each year. Therefore, there might be a problem with a sample selection bias from a non-random subsample in the estimates presented in Table 4 and 6. Because of the big sample drop (deleting 75% of the sample size), and due to the potential bias, the samples using all the observations will be preferred (Table 2 and 5). The time and lags (one year) decided in the methodology might not also be correct for many of the variables since it can take a few years before the donors react. Longer lags on the lagged variables could then have resulted in different estimates.

Another limitation to my approach is the fact that donors' decisions might not be independent from each other. Donors' may seek to complement or coordinate each other's actions, or they could be otherwise influenced by others (e.g., Sweden and UK could be giving less to former colonies of France because France is giving their colonies more). There are many aspects adding to the complexity of the problem, making it difficult to establish causality and unbiased estimates.

Another limitation to my study is the availability and nature of the data. The complexity of the problem makes it challenging to find data to proxy need, merit and self-interest. Data on poverty and governmental merits is sometime limited due to developing countries being exposed to political instability and conflicts, and there is no accepted objective measurement of governmental qualities. The WGI are criticised for being too complex and not easy to replicate (Kaufmann et al., 2007). Additionally, I only use trade and colonial past to proxy a donors' self-interest, a concept probably much broader. There is also exclusion of trade in services in the export data, but due to the sample containing developing countries, the potential bias resulting from the exclusion should be modest.

The measurement of the dependent variable also imposes challenges. The CRS data base is recognized as being the best existing data source for Aid for Trade flows, but it also has its limitations. The database is made up by aid flows from members of the Development Assistance Committee (DAC) and excludes some of the multilateral agencies and major donors such as China and non-European DAC

⁸ See McGillivray and White (1993), Alesina and Dollar (2000), Hoeffler and Outram (2011), McGillivray (2002), Thiele et al. (2007), Berthélemy (2006a, b) and Fleck and Kilby (2010)

members. Second, it could be likely that the QWIDS data set is overestimating the Aid for Trade volumes since they include projects that potentially could have no impact on the recipients' capacity to trade or no objectives related to trade at all. The CSR data can tell how much aid that went to a specific sector but cannot show the impact of the project on trade performance.

6 Conclusions and further research

The potential of Aid for Trade to eradicate poverty has been highly recognized and the popularity among policy makers and development organization has grown since the initiative started. Earlier studies regarding development aid has found that aid is motivated by the needs and merit of the recipient countries, but that self-interest tend to outweigh other motives of the donor. I revisit this question using Aid for Trade data between 2005-2015 and investigate how the largest donor in the world, the European donors, allocate their Aid for Trade. The results are not straight forward and clear, indicating that the complexity of the problem makes it difficult to establish causation. Additionally, the European donors seem to be motivated differently by need, merit and self-interest even if sharing a common strategy. However, my results indicate that most of the European donors are not motivated by the recipient need but rather by self-interest, even if the European donors claims to be driven by altruistic motives. I find indications that the colonial past is statistically significant among all the European donors, where UK and France allocate more Aid for Trade to its former colonies. These results correspond to earlier studies of development aid, where especially France favouring its old colonies (Alesina and Dollar, 2000). Most of the European donors also seem to be motivated by trade and all the European donors are motivated differently by the governmental qualities.

I also find indications that the recipients are treated differently depending on their geographical location. If a recipient is in Africa, the donors are motivated differently by need and merit and there is probably other heterogenous effects in other geographical locations. As in Hoeffler and Outram (2011), I found unobserved country fixed effects to be significant for some of the donors when using a restricted sample. All these results indicate that there is still a poor understanding of donors' behaviour and what motivates them in the allocation of aid.

However, there are indication that the European donors are somewhat motivated differently than Japan and US. The European Aid for Trade allocation seems to be more altruistic in comparison to the US (except the EU Institutions). The US seem

to be placing no importance on either the recipient merit or need, and only be focusing on trade. However, Japan seem to be more motivated by the need of the recipient than the European donor and allocates more Aid for Trade to poorer countries. On the other hand, Japan also favour its trading partners. All these results indicate that there is still a poor understanding of donors' behaviour and what motivates them in the allocation of aid. Further research is needed both to investigate what motivates donors in aid allocation but also how (and if) the aid allocation process differs between development aid and Aid for Trade.

7 References

- Alesina, Alberto and David Dollar (2000). Who Gives Foreign Aid to Whom and Why? *Journal of Economic Growth*, 5:33–63.
- Burnside, C. and Dollar, D (2004). Aid, Policies, and Growth: Revisiting the Evidence. World Bank Policy Research Working Paper 3251, March 2004.
- Berthélemy, J.-C. and Tichit, A. (2004). Bilateral donors' aid allocation decisions - a three-dimensional panel analysis. *International Review of Economics and Finance*, 13 (3), 253-274.
- Berthélemy, J.-C. (2006a) Bilateral Donors' Interest vs. Recipients' Development Motives in Aid Allocation: Do All Donors Behave the Same? *Review of Development Economics* 10, 179–94.
- Berthélemy, J.-C. (2006b) Aid Allocation: Comparing Donors Behaviour. *Swedish Economic Policy Review*: 75–10.
- Burnside, C. and Dollar, D. (2000). Aid, policies, and growth. *American Economic Review*, 90(4), 847–868.
- Burnside, C. and Dollar, D (2004). Aid, Policies, and Growth: Revisiting the Evidence. World Bank Policy Research Working Paper 3251, March 2004.
- Bourguignon, F. and Sundberg, M. (2007). Aid Effectiveness: Opening the Black Box. *The American Economic Review*, 97, 316-321
- Chen, M. X. Otsuki, T. and Wilson, J. S. (2006). Do standards matter for export success? World Bank Working Paper 3809. Washington, DC: The World Bank
- Clark, X., Dollar, D. and Micco, A. (2004). Port efficiency, maritime transport costs, and bilateral trade. *Journal of Development Economics*, 75(2), 417–45.
- Collier, P. and D. Dollar (2001a), 'Can the World Cut Poverty in Half? How Policy Reform and Effective Aid Can Meet International Development Goals', *World Development*, 29, 11, 1787–802.
- Collier, P. and D. Dollar (2001b). 'Aid Allocation and Poverty Reduction', *European Economic Review*, 46, 8, 1475–500.
- Collier, P. (2007). *The bottom billion: Why the poorest countries are failing and what can be done about it*. Oxford: Oxford University Press.
- Easterly, William (2006). *The White Man's Burden: Why the West's efforts to aid the rest have done so much ill and so little good*, William Easterly, Oxford University Press.
- EU (2006). The European Consensus on Development. Accessed 20 February 2018 from: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ%3AC%3A2006%3A046%3A0001%3A0019%3AEN%3APDF>

- EU (2007). EU Strategy on Aid for Trade: Enhancing EU support for trade-related needs in developing countries. Accessed 20 February 2018 from: http://trade.ec.europa.eu/doclib/docs/2008/november/tradoc_141470.pdf
- Fink, C. Mattoo, A. and Neagu, I. C. (2005). Assessing the impact of communication costs on international trade. *Journal of International Economics*, 67(2), 428–445.
- Fleck, Robert and Christopher Kilby. Changing Aid Regimes? US Foreign Aid from the Cold War to the War on Terror. *Journal of Development Economics* 91 (2010), 185–97.
- Gates, S. and Hoeffler, A. (2004). Global aid allocation: Are Nordic donors different? Centre for the Study of African Economies, University of Oxford.
- Goldsmith, A. (2001). Foreign Aid and Statehood in Africa. *International Organization*, 55(1), 123–148.
- Grossman, G. M., and Helpman, E. (1990). Comparative advantage and long-run growth. *American Economic Review*, 80, 796–815.
- Hausman, J. (1978) Specification Tests in Econometrics. *Econometrica*, 46, 1251-1271.
- Helble, M., Mann, C. L., and Wilson, J. S. (2012). Aid-for-trade facilitation. *Review of World Economics*, 148, 357–376.
- Hoeffler, A., and Outram, V. (2011). Need, merit, or self-interest – what determines the allocation of aid? *Review of Development Economics*, 15, 237–250.
- Hoekman, B. (2010). *Aid for Trade: Why, What, and Where Are We?* Washington, D.C.: World Bank.
- Hoekman, B and Nicita, A. (2011). Trade Policy, Trade Costs, and Developing Country Trade. *World Development*, 12, 2069-2079.
- Hühne, P., Meyer, B. and Nunnenkamp, P. (2014) Who Benefits from Aid for Trade? Comparing the Effects on Recipient versus Donor Exports, *The Journal of Development Studies*, 50:9, 1275-1288.
- Kaufmann, D., et al. (2007). The World-Wide Governance Indicator Project: Answering the Critics. World Bank Policy Research Working Paper 4149.
- Lawson, L., M, Tarnoff, C. (2018). *Foreign Aid: An Introduction to U.S. Programs and Policy*. Congressional Research Service.
- McGillivray, M. and White, H. (1993). Explanatory Studies of Aid Allocation among Developing Countries: A Critical Survey. Working Paper 148, Institute of Social Studies, The Hague.
- McGillivray, M. (2002). *Modelling Foreign Aid Allocation*, Helsinki: UNU/WIDER.
- Ministry of Foreign Affairs Japan (1992). Retrieved 15 May 2018: <http://www.mofa.go.jp/policy/other/bluebook/1992/1992-1-2.htm>
- Moyo, Dambisa. (2009) *Dead aid: why aid is not working and how there is a better way for Africa*. Vancouver: Douglas and McIntyre.
- Nunnenkamp, P. and Thiele, R. (2006). Targeting aid to the needy and deserving: nothing but promises? *The World Economy*, 29 (9): 1177-1201.
- OECD and WTO. (2007). *Aid for trade at a Glance 2007*. Policy Brief. Accessed 25 February from: https://www.wto.org/english/tratop_e/devel_e/a4t_e/a4t_at_a_glance07_e.pdf (2018-02-28)
- OECD and WTO. (2011). *Aid for trade: Showing results*. Policy Brief. Accessed 25 February from: [http://www.oecd.org/dac/Aid for Trade/Policy_brief_Aid for Trade_Showing_Results.pdf](http://www.oecd.org/dac/Aid%20for%20Trade/Policy_brief_Aid%20for%20Trade_Showing_Results.pdf) (2018-02-01).
- OECD and WTO. (2015) *Aid for trade at a glance: Reducing trade costs for inclusive sustainable growth*. Policy Brief. Accessed 25 February from: <https://www.oecd.org/aidfortrade/AIDFORTRADE%20pocket%20June%202015%20FINAL.pdf>
- Page, S. (2007). *The Potential Impact of the Aid-for-Trade Initiative*. G-24 Discussion Paper 45. Geneva: UNCTAD.

- Rodrik, Dani. (2001). *The Global Governance of Trade -- As If Development Really Mattered*. United Nations Development Programme Background Paper.
- Romer, P. M. (1990). Endogenous technological change. *Journal of Political Economy*, 98, 71–102.
- Sachs, Jeffrey D. (2005). *The End of Poverty: Economic Possibilities for Our Time*. New York: Penguin Books.
- Shepherd, B. and Wilson, J. S. (2006). Road infrastructure in Europe and Central Asia: Does network quality affect trade? (Policy Research Working Paper 4104). Washington, DC: World Bank.
- Stiglitz, J. and Charlton, A. (2006). Aid for trade. *International Journal of Development Issues*, 5(2), 1-41.
- Tadasse, B. and Fayissa, B. (2009). Determinants of the Allocation of US Aid for Trade Unpublished manuscript.
- Thiele, R., Nunnenkamp, P., Dreher, A. (2007). Do Donors Target Aid in Line with the MDGs: A Sector Perspective of Aid Allocation, *Review of World Economics*, 143, 596– 630.
- United Nations (2015), Addis Ababa Action Agenda of the Third International Conference on Financing for Development, 41-42. Accessed 25 February from: http://www.un.org/esa/ffd/wp-content/uploads/2015/08/AAAA_Outcome.pdf.
- White, H. (1992). The Macroeconomic Impact of Development Aid: A Critical Survey. *Journal of Development Studies*, 28, 163–240.
- WTO (2006). *Recommendations of the Task Force on Aid-for-Trade*. Geneva: WTO
- World Bank (1998). *Assessing Aid: What Works, What Doesn't, and Why*. Oxford: Oxford University Press.

8 Appendix

Appendix 1. Summary Statistics. Recipients need and merits between 2005-2015.

VARIABLES	Africa	Asia	Americas	Europe	Middle East	Oceania	All
Voice and Accountability							
Observations	550	308	341	132	99	132	1562
Min. value	-2.226	-2.259	-1.887	-1.767	-1.907	-1.106	-2.259
Max. value	0.970	0.746	1.293	1.092	0.774	1.217	1.293
Mean Value	-0.581	-0.763	0.281	0.101	-0.897	0.543	-0.296
Standard deviation	0.706	0.757	0.676	0.656	0.695	0.563	.849
Political Stability							
Observations	550	308	341	132	99	132	1562
Min. value	-2.699	-2.810	-2.056	2.021	-2.827	-0.926	-2.827
Max. value	1.200	1.283	1.285	1.148	0.946	1.454	1.454
Mean Value	-0.465	-0.628	-0.022	-0.005	-1.178	0.783	-0.301
Standard deviation	0.814	0.878	0.702	0.599	0.970	0.610	0.903
Regulatory Quality							
Observations	550	308	341	132	99	132	1562
Min. value	-2.243	-2.268	-1.885	-1.623	-1.720	-1.405	-2.268
Max. value	1.127	1.113	1.539	1.423	1.317	0.29	1.539
Mean Value	-0.643	-0.534	-0.003	0.079	-0.225	-0.746	-0.403
Standard deviation	0.580	0.708	0.725	0.636	0.832	0.357	0.714
Government Effectiveness							
Observations	550	308	341	132	99	132	1562
Min. value	-1.848	-1.6179	-2.041	-1.13	-1.719	-1.60	-2.041
Max. value	1.049	1.267	1.572	1.564	1.392	0.509	1.572
Mean Value	-0.710	-0.402	-0.059	-0.003	-0.269	-0.591	-0.410
Standard deviation	0.596	0.675	0.684	0.702	0.767	0.392	0.696
Rule of Law							
Observations	550	308	341	132	99	132	1562
Min. value	-1.852	-1.897	-2.032	-1.334	-1.838	-1.086	-2.032
Max. value	1.029	1.029	1.433	1.216	1.162	1.272	1.433
Mean Value	-0.644	-0.603	-0.211	-0.141	-0.330	0.115	-0.415
Standard Deviations	0.595	0.629	0.782	0.629	0.802	0.612	0.711

Continuation of Appendix 1.

VARIABLES	Africa	Asia	Americas	Europe	Middle East	Oceania	All
Control of Corruption							
Observations	550	308	341	132	99	132	1562
Min. value	-1.773	-1.673	-1.40	-1.13	-1.56	-1.34	-1.773
Max. value	1.16	1.28	1.72	1.25	1.01	0.77	1.72
Mean value	-0.586	-0.69	-0.02	-0.14	-0.33	-0.25	-0.401
Standard Deviations	0.588	0.583	0.79	0.61	0.70	0.40	0.68
GDP per capita growth (annual %)							
Observations	550	308	341	132	99	132	1562
Min. value	-36.83	-15.421	-13.143	-14.421	-29.886	-9.655	-36.83
Max. value	18.30	33.03	12.950	13.830	10.288	34.794	34.794
Mean Value	2.309	5.166	2.317	2.827	0.787	2.834	2.866
Standard deviation	4.216	4.609	3.524	4.452	5.068	7.493	4.756
Trade (% of GDP)							
Observations	550	308	341	132	99	132	1562
Min. value	0	.167	22.106	69.591	32.727	0	0
Max. value	2.31	203.85	203.829	157.974	147.539	165.110	311.4
Mean Value	80.25	85.11	79.53	103.3	81.55	90.39	83.94
Standard deviation	40.23	41.25	30.55	20.60	22.51	45.18	37.29
Poverty at 1.90\$ a day							
Observations	517	297	220	132	77	110	1353
Min. value	0.4	0	0	0	0	0.6	0
Max. value	78.5	43	27.8	19.6	19.8	45.6	78.5
Mean Value	37.51	9.67	7.05	2.41	2.71	12.12	18.98
Standard deviation	23.57	10.41	6.33	4.82	5.17	13.03	21.89

Appendix 2. Summary Statistics. Donors export and Aid for Trade between 2005-2015

VARIABLES	Africa	Asia	Americas	Europe	Middle East	Oceania
European Union						
Aid for Trade (2015 USD millions)						
Observations	550	308	341	132	99	132
Min. value	0	0	0	0	0	0
Max. value	607.6	2317	299.7	680.63	75.08	16.36
Mean Value	27.63	41.13	9.108	50.07	6.659	1.272
Standard deviation	49.73	261.2	23.30	102.1	13.15	2.635
Export to recipient (USD millions)						
Observations	550	308	341	132	99	132
Min. value	0	7.953	20.59	0	48.83	0.1
Max. value	36,496	217,443	53,177	14,892.7	4,5479.5	2,067.4
Mean Value	3,132	13,847	3,809	3,177	9,572	104.6
Standard deviation	6,438	32,673	8,797	3,894	10,846	285.1
France						
Aid for Trade (2015 USD millions)						
Observations	550	308	341	132	99	132
Min. value	0	-0.697	0	0	0	0
Max. value	312.9	179	366.42	17.43	113.29	5.9
Mean Value	11.16	8.132	5.451	0.521	3.367	0.124
Standard deviation	30.86	23.47	26.96	2.066	13.40	0.729
Export to recipient (USD millions)						
Observation	550	308	341	132	99	132
Min. value	0.036	0.033	0.79	0	4.85	0
Max. value	8,175	21,469	6,297	1,741.23	5,190.5	401.4
Mean Value	649.7	1,474	429.6	360.5	1,108	8.504
Standard deviation	1,367	3,312	998.1	435.0	1,139	37.86
Germany						
Aid for Trade (2015 USD millions)						
Observations	550	308	341	132	99	132
Min. value	0	0	0	0	-0.25	0
Max. value	358.65	963.78	286.96	103.61	7.65	2.59
Mean Value	9.022	32.16	6.9	11.00	0.939	0.0575
Standard deviation	26.05	88.04	24.41	17.75	1.565	0.249
Export to recipient (USD millions)						
Observations	550	308	341	132	99	132
Min. value	0.423	0.033	0.89	0	4.85	0
Max. value	12,172	99,196	15,631	7,768.6	12,338.6	756.47
Mean Value	568.5	3,636	830.4	1,175	1,885	19.70
Standard deviation	1,507	12,058	2,343	1,659	2,576	90.18
United Kingdom						
Aid for Trade (2015 USD millions)						
Observations	550	308	341	132	99	132
Min. value	-0.782	0	-1.79	0	0	0
Max. value	158.06	203.73	76.14	3.33	43.45	1.27
Mean value	6.027	12.54	1.296	0.178	1.605	0.0296
Standard deviation	15.52	30.25	6.510	0.508	5.738	0.154

Appendix 2. Continuation.

VARIABLES	Africa	Asia	Americas	Europe	Middle East	Oceania
Export to recipient (USD millions)						
Observations	550	308	341	132	99	132
Min. value	0.127	0.2	3.68	0	1.67	0
Max. value	6,846	27,625	5,902	1,927.9	8,300.4	84.57
Mean value	281.1	1,392	294.8	263.2	1,082	5.392
Standard deviation	738.3	3,251	714.1	322.2	1,610	13.12
Sweden						
Aid for Trade (2015 USD millions)						
Observations	550	308	341	132	99	132
Min. value	-1.19773	-18.25	-0.07	-0.007	-0.0003	-0.0004
Max. value	43.88607	12.96	10.22	17.45	7.48	.0006
Mean value	1.944	0.776	0.397	2.385	0.669	1.79e-06
Standard deviation	5.515	2.366	1.485	3.498	1.554	6.36e-05
Export to recipient (USD millions)						
Observations	550	308	341	132	99	132
Min. value	0	0	0.09	0	0	0
Max. value	1573	6,061	2,015	708.99	1,931.1	23.84
Mean value	83.62	413.3	114.5	100.4	317.2	1.550
Standard deviation	206.6	951.7	265.4	134.1	449.6	4.201
Japan						
Aid for Trade (2015 USD millions)						
Observations	550	308	341	132	99	132
Min. value	0	0	0	0	0	0.14
Max. value	218.27	1,321	53.44	73.39	542.82	17.7
Mean value	10.37	120.9	4.360	3.091	16.03	4.493
Standard deviation	22.44	225.0	7.631	10.01	66.31	4.174
Export to recipient (USD millions)						
Observations	550	308	341	132	99	132
Min. value	.03	0.54	2.76	0	0.16	0.09
Max. value	4,627.72	162,035	15,524.9	2,026.1	8,228.3	1,984.5
Mean value	212.0	9,563	1,061	121.1	1,464	126.2
Standard deviation	607.4	24,989	2,596	248.9	2,049	343.7
United States						
Aid for Trade (2015 USD millions)						
Observations	550	308	341	132	99	132
Min. value	0	0	0	0	0	0
Max. value	367.77	1,392	130.35	138.61	3,148.9	26.56
Mean value	15.62	45.49	10.34	17.52	108.5	0.662
Standard deviation	40.03	169.1	22.21	26.49	475.5	3.357
Export to recipient (USD millions)						
Observations	550	308	341	132	99	132
Min. value	0.11	123,675	59,0923	0	0.351	.04246
Max. value	367.76	7,105	240247.1	2,136.8	19,738.9	391.38
Mean value	541.9	7,105	9,940	246.5	3,629	35.60
Standard deviation	1,272	18,353	32,357	395.3	5,392	56.84

Appendix 3. OLS regression using unmanipulated poverty data

VARIABLES	(1) EU OLS	(2) France OLS	(3) Germany OLS	(4) Sweden OLS	(5) UK OLS
Poverty(t-1)	0.0316*** [0.00819]	0.0135 [0.0146]	-0.00591 [0.0138]	0.0386 [0.0260]	0.0234* [0.0140]
Voice and Accountability (t-1)	-0.124 [0.347]	-0.746 [0.549]	-0.0905 [0.371]	0.00335 [0.748]	-0.858** [0.338]
Rule of Law(t-1)	0.195 [0.511]	0.758 [1.144]	0.466 [0.592]	-0.927 [1.119]	2.168*** [0.809]
Political Stability (t-1)	-0.264 [0.265]	0.0394 [0.366]	-0.247 [0.241]	0.413 [0.489]	0.0678 [0.255]
Government Effectiveness (t-1)	-0.487 [0.534]	-0.757 [1.102]	-0.158 [0.693]	-1.027 [1.322]	-0.665 [0.639]
Regulatory Quality (t-1)	0.573 [0.366]	0.806 [0.900]	0.731 [0.536]	1.216 [0.903]	-0.0124 [0.565]
Control of Corruption (t-1)	0.0202 [0.544]	-0.0348 [0.726]	0.186 [0.508]	0.144 [1.004]	-0.403 [0.653]
Ln Growth (t-1)	-0.00408 [0.0239]	-0.0346 [0.0480]	0.0208 [0.0231]	0.0352 [0.0587]	-0.0344 [0.0461]
Trade Openess (t-1)	-0.00822 [0.00550]	-0.00888 [0.00780]	-0.00415 [0.00660]	0.0234** [0.0113]	0.000649 [0.00498]
Ln Export (t-1)	0.443*** [0.158]	0.115 [0.242]	-0.0113 [0.108]	0.178 [0.275]	-0.475*** [0.149]
Ln Population	-1.180*** [0.156]	-0.563* [0.322]	-0.334* [0.201]	-0.648 [0.407]	0.271 [0.186]
Landlocked	0.550* [0.328]	-1.450** [0.674]	0.924** [0.454]	1.267 [0.788]	-0.884* [0.445]
Former colony France	0.0813 [0.342]	1.690* [0.874]	-0.868 [0.659]	-3.808*** [1.122]	-1.723** [0.762]
Former colony UK	-0.294 [0.384]	-0.104 [0.711]	-0.589 [0.380]	0.399 [0.831]	1.574*** [0.520]
Former colony Germany	-0.0576 [0.422]	-1.139 [0.840]	-0.212 [0.573]	-0.184 [1.001]	0.531 [0.582]
GSP Signatory	-0.298 [0.453]	0.154 [0.535]	0.0181 [0.512]	0.236 [1.187]	-0.134 [0.554]
GSP+ Signatory	-0.255 [0.444]	0.0725 [0.623]	-0.0291 [0.606]	-1.113 [1.142]	0.400 [0.666]
APEC member	-0.412 [0.437]	0.0836 [0.636]	-0.0657 [0.449]	-1.337 [1.055]	-0.0151 [0.529]
Observations	390	297	402	283	252
R-squared	0.443	0.202	0.234	0.381	0.276

Robust standard errors in brackets

*** p<0.01, ** p<0.05, * p<0.1

Appendix 4. OLS regression using GDP per capita as proxy for recipient need.

VARIABLES	(1) EU OLS	(2) France OLS	(3) Germany OLS	(4) Sweden OLS	(5) UK OLS
GDP per capita constant 2010 USD (t-1)	-1.125*** [0.161]	-0.405 [0.362]	-0.804*** [0.204]	-1.198*** [0.420]	-0.588** [0.254]
Voice and Accountability (t-1)	0.0324 [0.191]	0.0592 [0.399]	0.131 [0.235]	0.459 [0.439]	0.0744 [0.302]
Rule of Law(t-1)	-0.0151 [0.321]	0.660 [0.749]	0.138 [0.486]	-1.772* [1.065]	0.402 [0.620]
Political Stability (t-1)	0.0527 [0.136]	0.0105 [0.282]	0.144 [0.186]	0.609 [0.372]	-0.468** [0.223]
Government Effectiveness (t-1)	-0.200 [0.380]	0.215 [0.722]	-0.450 [0.520]	0.473 [1.041]	-0.646 [0.576]
Regulatory Quality (t-1)	0.878*** [0.242]	0.425 [0.515]	1.178*** [0.326]	0.949 [0.618]	0.394 [0.433]
Control of Corruption (t-1)	0.0392 [0.264]	-0.760 [0.511]	0.0456 [0.342]	0.210 [0.683]	0.525 [0.520]
Ln Growth (t-1)	0.00582 [0.0156]	-0.00827 [0.0219]	0.0401** [0.0170]	0.0534 [0.0344]	-0.0130 [0.0255]
Trade Openess (t-1)	-0.00530** [0.00231]	-0.00495 [0.00542]	0.00196 [0.00381]	0.0162** [0.00649]	0.00666 [0.00403]
Ln Export (t-1)	0.359*** [0.0963]	0.298 [0.234]	0.191** [0.0882]	0.651*** [0.187]	-0.166 [0.146]
Ln Population	-1.006*** [0.102]	-0.884*** [0.224]	-0.208 [0.129]	-0.986*** [0.307]	0.0969 [0.206]
Landlocked	0.141 [0.222]	-0.844* [0.435]	0.586* [0.300]	1.593*** [0.574]	-0.153 [0.354]
Former colony France	0.323 [0.244]	1.689** [0.674]	-0.872** [0.439]	-2.821*** [0.716]	-0.691 [0.486]
Former colony UK	-0.221 [0.253]	0.592 [0.535]	-1.024*** [0.326]	-0.237 [0.684]	1.474*** [0.307]
Former colony Germany	-0.242 [0.295]	-0.544 [0.506]	-0.259 [0.377]	0.230 [0.780]	0.873** [0.352]
GSP Signatory	-1.062*** [0.262]	-0.139 [0.587]	-0.812** [0.351]	0.324 [0.772]	-0.320 [0.371]
GSP+ Signatory	-0.220 [0.276]	-0.442 [0.460]	0.514 [0.335]	-0.629 [0.646]	-0.0132 [0.527]
APEC member	-0.768** [0.387]	0.149 [0.721]	-0.788* [0.399]	-1.859** [0.793]	-0.0675 [0.532]
Observations	1,217	809	1,060	736	673
R-squared	0.511	0.324	0.241	0.377	0.270

Robust standard errors in brackets*** p<0.01, ** p<0.05, * p<0.1

Appendix 5. OLS regression excluding African recipient in the sample.

VARIABLES	(1) Ln AfT per capita	(2) Ln AfT per capita	(3) Ln AfT per capita	(4) Ln AfT per capita	(5) Ln AfT per capita
Poverty(t-1)	0.0188 [0.0168]	0.0279 [0.0273]	0.0425*** [0.0148]	0.0585 [0.0374]	0.0288 [0.0216]
Voice and Accountability (t-1)	-0.0345 [0.318]	-0.538 [0.496]	0.266 [0.269]	-0.522 [0.760]	-0.136 [0.339]
Rule of Law(t-1)	-0.00236 [0.480]	1.025 [0.917]	0.524 [0.531]	0.422 [1.169]	1.102 [0.767]
Political Stability (t-1)	-0.116 [0.191]	-0.0218 [0.371]	-0.0604 [0.244]	0.298 [0.442]	-0.206 [0.266]
Control of Corruption (t-1)	-0.133 [0.376]	-0.853 [0.812]	-0.365 [0.443]	-1.729 [1.055]	-0.637 [0.677]
Regulatory Quality (t-1)	0.874*** [0.329]	0.935 [0.627]	0.978** [0.382]	0.0497 [0.796]	0.984* [0.497]
Ln Growth (t-1)	0.0110 [0.0181]	-0.0322 [0.0345]	0.0381** [0.0156]	0.0647 [0.0430]	0.00821 [0.0339]
Trade Openess (t-1)	-0.00491 [0.00460]	-0.00441 [0.00832]	-0.00293 [0.00484]	0.0145 [0.0103]	0.00554 [0.00481]
Ln Export (t-1)	0.211 [0.135]	0.0132 [0.215]	-0.0411 [0.0995]	0.483* [0.287]	-0.753*** [0.144]
Ln Population	-1.000*** [0.130]	-0.579** [0.269]	-0.327* [0.176]	-1.385*** [0.378]	0.591*** [0.202]
Landlocked	0.0705 [0.454]	-1.494* [0.803]	1.371*** [0.483]	0.347 [0.911]	-0.352 [0.550]
Former colony France	0.926* [0.547]	1.467* [0.872]	-0.625 [0.870]	-2.490* [1.251]	-2.672*** [0.826]
Former colony UK	-0.490 [0.486]	-0.795 [0.756]	-0.575 [0.470]	-0.745 [1.149]	1.302** [0.493]
Former colony Germany	-0.641 [0.635]	-4.412*** [1.431]	-2.631*** [0.714]	-5.700*** [1.543]	0.607 [1.018]
GSP Signatory	-0.429 [0.474]	0.929 [0.586]	0.737 [0.506]	-0.866 [1.156]	0.423 [0.450]
GSP+ Signatory	-0.257 [0.407]	-0.908 [0.683]	-0.642 [0.456]	0.375 [0.985]	-0.496 [0.642]
APEC member	-0.762* [0.450]	-0.134 [0.649]	-0.406 [0.472]	-0.947 [0.827]	-0.583 [0.610]
Observations	632	413	615	410	365
F-statistics	19.44	.	8.11	9.53	11.01
R-squared	0.493	0.251	0.380	0.411	0.279

Robust standard errors in brackets *** p<0.01, ** p<0.05, * p<0.1