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國際學碩士學位論文

**The Impact of Economic Integration on
Aid for Trade Effectiveness
: Case Study of Colombia**

**경제통합이 무역관련원조의 효과성에 미치는 영향
: 콜롬비아 사례를 중심으로**

2014年8月

서울대학교 國際大學院

國際學科 國際通商專攻

尹秀娟

**The Impact of Economic Integration on
Aid for Trade Effectiveness
: Case Study of Colombia**

A thesis presented

by

Su Yeon YUN

A dissertation submitted in partial fulfillment
of the requirements for the degree of Master
of International Studies in the subject
of International Commerce

**Graduate School of International Studies
Seoul National University**

Seoul, Korea

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경제통합이 무역관련원조의 효과성에 미치는 영향
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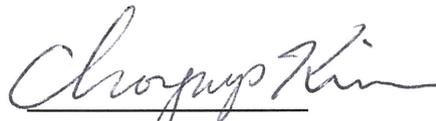
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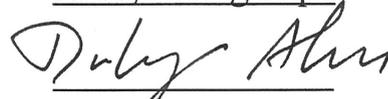
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Abstract

Aid for Trade (AfT) is nothing new for the development community. However, as its importance gained renewed interest in the Sixth WTO Ministerial conference held in Hong Kong in 2005, it attracted attention from the trade community. This trade-related aid growth-oriented and is used for enhancing the supply-side capacity of developing countries in order to assist them benefit from the multilateral trading system. However, the deadlock of Doha Round induced the proliferation of free trade agreement (FTAs). Thus, prior to investigate on the impact of economic integration on aid for trade effectiveness, this paper provides a primary research on determinants of giving AfT from donors' perspective and whether recipients having FTAs with donors receive more AfT. After AfT Initiative was launched in 2005, most scholars investigate on the relationship between AfT and export performance. However, only one scholar (Vijil, 2013) studied about the complementarity of economic integration on AfT effectiveness. Thus, this paper attempts to extend the previous research by including new variables and by updating economic integration index after 2005. Also, this paper narrows down the research into the case study of Colombia. Regardless of the amount of AfT received by different income groups, it is assumed that the degree of AfT effectiveness will vary depending on a different level of economic integration in each developing country. Moreover, the overall regression results show that AfT is statistically highly significant in increasing export regardless of the income level. Specifically, among three sub-sectors of AfT, aid given to trade-related institution has a relatively stronger effect when it takes an interaction term with an economic integration variable. In conclusion, recipients with a higher level of economic integration and receiving more AfT tend to export more than recipients with a lower level of economic integration.

Keywords: aid for trade (AfT), economic integration, aid effectiveness, Colombia

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CHAPTER I. INTRODUCTION

Official Development Assistance (ODA) played an important role to enhance overall development and reduce poverty in developing countries after its inception in Millennium Development Goals (MDGs) in 2000. However, many scholars pointed out that it is difficult to prove the relation between aid and economic growth as growth in trade does not necessarily indicate the actual effectiveness of aid due to the presence of corruptions and inefficiency utilizing ODA in recipient countries. Thus, Aid for Trade (hereafter referred to as AfT) regained its importance as a specific type of trade-related aid during the Sixth WTO Ministerial Conference in Hong Kong in 2005¹. Indeed, AfT is not completely a new concept as it existed for a long time. However, after the installation of WTO AfT Take Force in 2006, OECD DAC donors increased their commitments for AfT and OECD further systemized aid database called CRS² to enhance detailed aid flow information for both donors and recipients.

The presence and role of the World Trade Organization (WTO) have been praised among many scholars as it attempts to reduce discrepancies at international level induced from national policies by binding reciprocal commitments among member countries. However, some have criticized the WTO as countries are asymmetric and it causes the decline of competitiveness in developing countries. In order to mitigate this problem, the developed countries use preferential market access which is regarded as an indirect form of aid. However, many existing literatures point out that the market access itself is not sufficient. Thus, ODA is provided as direct financial transfers to the developing countries. In this regard, the role AfT has been emphasized to fill the gap of such preferences. Besides AfT, the developing countries utilize regionalism as another development tool to enhance their export performance and regional integration.

¹ WTO Members mandated work on Aid for Trade in paragraph 57 of the Hong Kong Ministerial Declaration.

² CRS stands for Credit Reporting System which is aid activity database in OECD statistics.

Even after the Uruguay round, there was a widespread perception of unbalanced trading system. Thus, development arose as an important issue to be incorporated into the next negotiation, so it was to be called as Doha Development Agenda (DDA)³. However, due to the deadlock of Doha Round, both developed and developing countries prefer to form Regional Trade Agreements (RTAs) involving smaller number of players. As of 31 July 2013, there are 159 members in WTO and 575 RTAs are notified to the WTO (not physical RTAs⁴). Of these, 379 were in force.

Indeed, there are vast amount of literatures on overall aid effectiveness. However, the result varies among scholars that broadly there are three types of results including positive, negative, and ambiguous. Interestingly, the amount of aid given to the developing countries does not necessarily guarantee the success as there are both internal and external variables involved in a country. On the contrary, there are scare literatures investigating AfT effectiveness. Additionally, most researches provide findings on the effect of AfT on export performance of recipients. Therefore, this paper attempts to scrutinize a specific relation between two development tools which are economic integration and Aid for Trade (AfT).

This paper is organized as follow. The first part of this paper explains the concept of Aid for Trade and economic integration. Then, the second part provides existing literatures related to this research. The third part of the paper describes the theoretical framework with methodology and data variable. The fourth part analyzes empirical results of regressions. Lastly, there is a case study on Colombia and it concludes with some policy implications.

³ Hoekman (2010) states that there is no formal linkage between aid for trade and the DDA. However, in the final declaration from the Sixth WTO Ministerial Conference in Hong Kong, the mandate in 57 paragraph states that “*Aid for Trade cannot be a substitute for the development benefits that will result from a successful conclusion to the DDA, particularly on market access. However, it can be a valuable complement to the DDA*”.

⁴ *Notification* counts goods, services and accessions separately whereas *physical RTAs* count goods and services together. Thus, there are 436 physical RTAs, of which 249 are currently in force.

CHAPTER II. WHY IS AID FOR TRADE IMPORTANT?

1. Origin and Objectives

Aid for Trade (AfT) is not a new concept as AfT existed for a long time that its data in the past can be found using joint OECD-WTO Trade Capacity Building Database (TCBD) prior to 2000s. However, the AfT Initiative launched in 2005 shed light on the importance of trade in enhancing growth and development in developing countries. In order to do so, additional resources have to be pooled to help developing countries to overcome supply-side constraints and infrastructural bottlenecks. Thus, in the Hong Kong Ministerial Declaration, the mandate suggests WTO to establish AfT Task Force and to collaborate closely with OECD for better monitoring and evaluation.

The definition of Aid for Trade (AfT) is provided by the AfT Task Force established by WTO and it is broadly defined into three aid categories:

- (1) Trade-related infrastructure
- (2) Productive capacity building
- (3) Technical assistance for trade policy and regulation

[Table 1] List of OECD-CRS Purpose Codes: Aid for Trade

Proxy	Code	By Sector
i) Economic Infrastructure	210	Transport and Storage
	220	Communications
	230	Energy
ii) Building Productive Capacity	240	Banking and Financial Services
	250	Business and Other Services
	311	Agriculture
	312	Forestry
	313	Fishing
	321	Industry
	322	Mineral Resources and Mining
	332	Tourism
iii) Trade Policy and Regulations	331	Trade Policies and Regulations
iv) Trade-related adjustment	33150	Trade-related adjustment

Remarks: previously trade-related adjustment was reported under General Budget Support (code 510). However, in OECD-CRS reporting system from 2008, trade-related adjustment is categorized under the code 33150. Thus, trade-related adjustment is not included in this paper that even though the data is available prior to 2008, it was not reported as AFT until 2007.

Source: OECD-CRS Purpose Code

The Credit Reporting System (CRS) aid activity database is an internationally recognized source of authoritative data on ODA and other official flows (OOF) to developing countries dating back to 1967 and it provides disaggregated data by region, by sector and by aid type. Again, Aid for Trade (AFT) is not a totally new concept; thus, one can track more detailed AFT flows collected in the past using joint OECD-WTO Trade Capacity Building Database (TCBD) prior to 2000s. It is important to note that the CRS does not provide information about trade-related technical assistance and trade development that is as detailed as TCBD. Moreover, several modifications have been made to the CRS to adapt it to Aid for Trade needs; a new CRS category “trade-related adjustment” was introduced from the 2008 data collection on 2007 activities. In this paper, trade-related adjustment (iv category of AFT) is not included in the data as it was inexistent before 2008. Indeed, it takes up only small amount in total Aid for Trade received by recipients and it is not equally distributed to all recipients. The CRS does not provide data that exactly match all of the below Aid for Trade (Aft) categories. Thus, in the [Table 2], proxies under the following five headings are provided:

[Table 2] How is Aid for Trade (Aft) Measured?

	Aid for trade comprises the following categories		In the CRS (as a Proxy)
1	Technical assistance for trade policy and regulations	e.g. helping countries to develop trade strategies, negotiate trade agreements, and implement their outcomes. Assistance from this category is delivered almost exclusively through technical assistance.	<p>< Trade Policy and Regulations ></p> <p>It is used as a proxy for trade-related institutions. Five purpose codes are used to cover “trade policy and regulations” activities including projects and programs, in contrast to the 20 TCBD codes.</p> <ul style="list-style-type: none"> (a) Trade policy and administrative management (b) Trade facilitation (c) Regional trade agreements (d) Multilateral trade negotiations (e) Trade education/training

2	Trade-related infrastructure	e.g. range from technical cooperation on policy planning for ministries, to heavy construction of roads, ports, power plants, airports, and telecommunications networks to connect domestic markets to the global economy	<p>< Economic Infrastructure ></p> <p>Aid commitments for trade-related infrastructure are provided as a proxy in the CRS by data under the heading “Economic Infrastructure”. This heading covers data on aid for:</p> <ul style="list-style-type: none"> (a) Transport and Storage (b) Communications (c) Energy
3	Productive capacity building, (including trade development)	e.g. supporting the private sector to exploit their comparative advantages and diversify their exports; e.g. in the agricultural sector, programs can range from technical assistance for policy planning for agriculture ministry to microfinance for small farmers.	<p>< Building Productive Capacity ></p> <p>Data on commitments of aid for productive capacity building exist under the CRS category “Building Productive Capacity”. It identifies <i>trade development</i> activities within the broader aid-for-trade category of building productive capacity.</p>
4	Trade-related adjustment	e.g. helping developing countries with the costs associated with trade liberalization, such as tariff reductions, preference erosion, or declining terms of trade	<p><Trade-related adjustment ></p> <p>This category identifies contributions to developing country budgets to assist the implementation of trade reforms and adjustments to trade policy measures by other countries, and alleviate shortfalls in balance-of-payments due to changes in the world trading environment.</p>
5	Other trade-related needs	If identified as trade-related development priorities in partner countries' national development strategies	<p>< Data not provided in the CRS ></p> <p>The CRS covers all ODA, but only those activities reported under the above four categories will be identified as Aid for Trade (Aft). Data on “Other trade-related needs” cannot be gleaned from the CRS. To estimate the volume of such other commitments, donors would need to examine aid projects in sectors other than those considered so far.</p>

Source: OECD

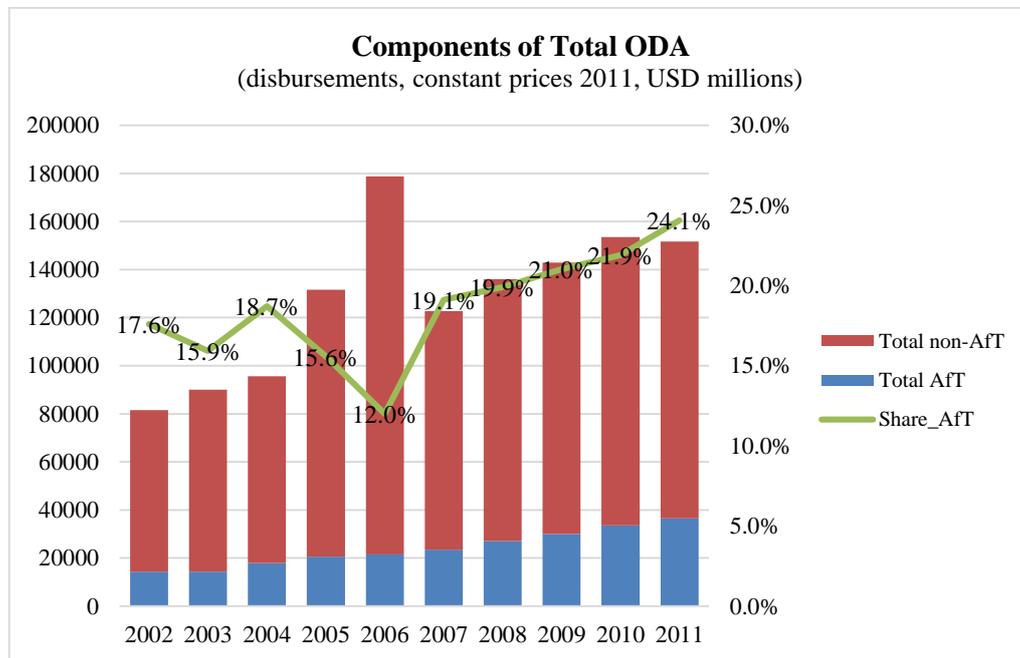
As Aid for Trade Task Force was established in 2006 after Hong Kong Ministerial Conference in 2005, the systemized data on Aid for Trade (Aft) disbursements is available from 2002 whereas Aft commitments data is available prior to 2002. In addition, OOF is not included for baseline regression as it is not qualified as ODA due to lack of concessional grant less than 25%. However, OOF is included in Colombia case study as Aid for Trade OOF is an important source for the upper middle income countries (UMICs). However, the flow and the amount of OOF are unstable and

fluctuating every year and it is distributed unequally into different sectors depending on the interest of official and private donors.

2. Recent Trends (2002-2011)

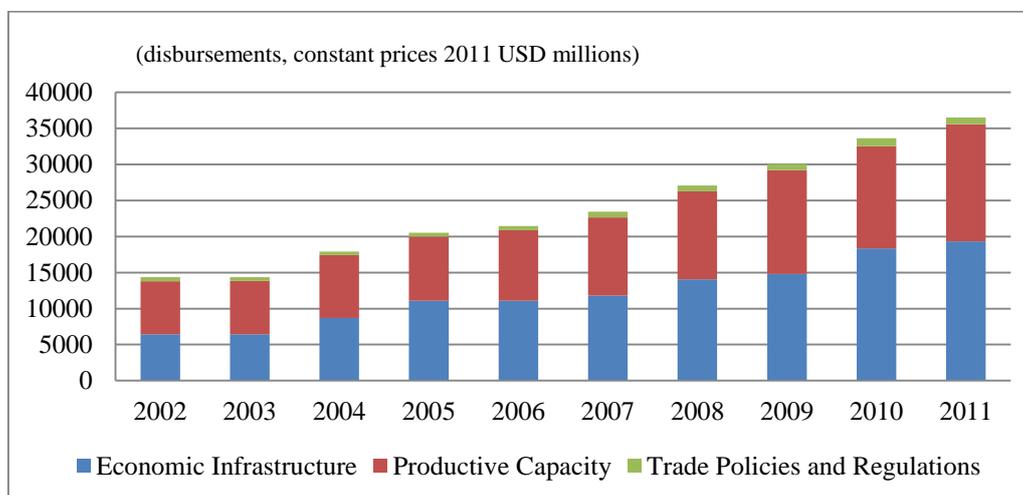
The gross disbursements of Aid for Trade given to all recipients steadily grew from 2002 that the share of AfT out of total ODA was increased from 17.6% to 24.1% in 2011 as shown in the [Figure 1]. Interestingly, despite the largest amount of total ODA disbursed in 2006, the share of AfT ranked the lowest level (12.0%) over the 10 years as the increased amount of ODA was mostly given to non-AfT sectors. Although total aid showed a huge drop in 2007 due to the global financial crisis, the share of aid for trade did not fall instead was on the upward trend. This may suggest that aid for trade is less elastic to external changes and more consistent than aid given to other sectors.

[Figure 1.] All Donors' Total ODA and AfT given to All Recipients (2002-2011)



Source: OECD CRS

[Figure 2.] All Donors' AfT given to All Recipients by sub-sectors (2002-2011)



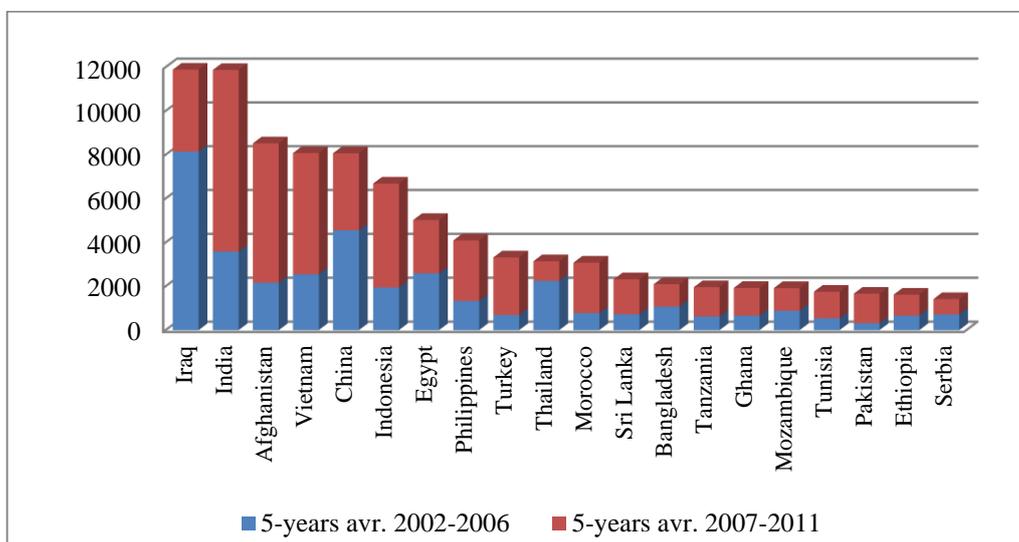
Source: OECD CRS

As shown in the [Figure 2], about 90% of aid for trade (AfT) is directed to economic infrastructure and productive capacity building. Only less than 5% is used for trade policy and regulations. This can be attributed to the nature of infrastructure and capacity building projects which require a larger sum of financial resources. Prior to building an estimation model, it is necessary to understand characteristics of donors and recipients of aid for trade. The following figures and a table below show Top 20 AfT recipients and Top AfT donors.

It can be seen from the [Figure 3] below that Top 20 Aid for Trade (AfT) recipients receive more AfT from 2007 after AfT Initiative in 2005 and the installation of WTO Task Force in 2006 except Iraq, China and Thailand. In addition, as illustrated below in [Table 3], most of Top 20 AfT recipients are listed under the income group of LMICs except a few countries belongs to LDCs and UMICs⁵. Moreover, most of Top 20 recipients are Asian countries and seven countries are African countries, which indicate donors' concentration of giving aid for trade to these particular regions.

⁵ The full names of income groups' abbreviations: Least Developed Countries (LDCs), Low Middle Income Countries (LMICs) and Upper Middle Income Countries (UMICs).

[Figure 3.] Top 20 Aid for Trade Recipients (2002-2011)



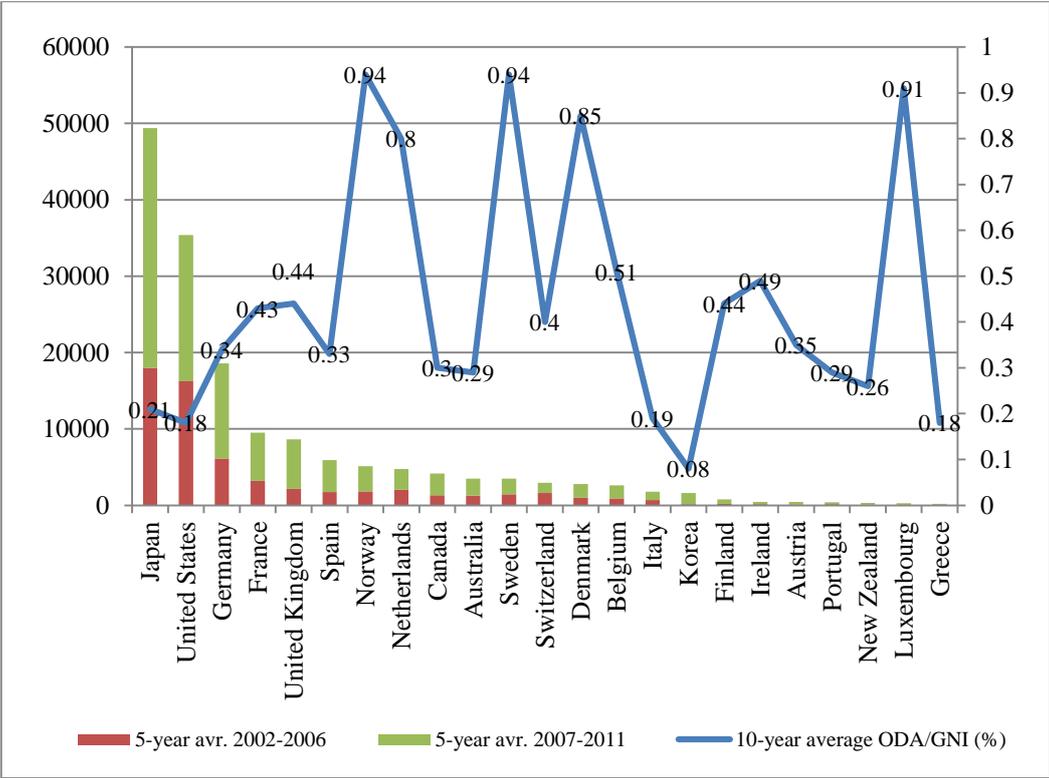
Source: OECD CRS

[Table 3.] Top 20 Aft Recipients by Income Group and Region (2002-2011)

Top 20 Aft Recipients	Income Group	Region		10 years, Total
				2002-2011
Iraq	LMIC	Asia	Middle East	11884.5
India	LMIC	Asia	South & Central Asia	11870.6
Afghanistan	LDC	Asia	South & Central Asia	8519.5
Vietnam	LMIC	Asia	Far East Asia	8074.8
China	UMIC	Asia	Far East Asia	8065.6
Indonesia	LMIC	Asia	Far East Asia	6678.8
Egypt	LMIC	Africa	North of Sahara	5018.9
Philippines	LMIC	Asia	Far East Asia	4088.5
Turkey	UMIC	Europe		3310.7
Thailand	UMIC	Asia	Far East Asia	3139.7
Morocco	LMIC	Africa	North of Sahara	3076.5
Sri Lanka	LMIC	Asia	South & Central Asia	2314.1
Bangladesh	LDC	Asia	South & Central Asia	2092.4
Tanzania	LDC	Africa	South of Sahara	1955.5
Ghana	LMIC	Africa	South of Sahara	1921.8
Mozambique	LDC	Africa	South of Sahara	1915.7
Tunisia	UMIC	Africa	North of Sahara	1749.4
Pakistan	LMIC	Asia	South & Central Asia	1660.4
Ethiopia	LDC	Africa	South of Sahara	1616.5
Serbia	UMIC	Europe		1414.6

Source: OECD-CRS Constant Prices (USD mill), Gross Disbursements, reorganized by author.
Remark: the region classification follows OECD criteria. Other organization may have different region classification. Although Iraq ranks as the Top 1 AfT recipient, the amount of AfT has been reduced after 2007 by more than half whereas India received more than doubled amount of AfT after 2007.

[Figure 4.] Donors' Aid for Trade Disbursements by Ranking (2002-2011)

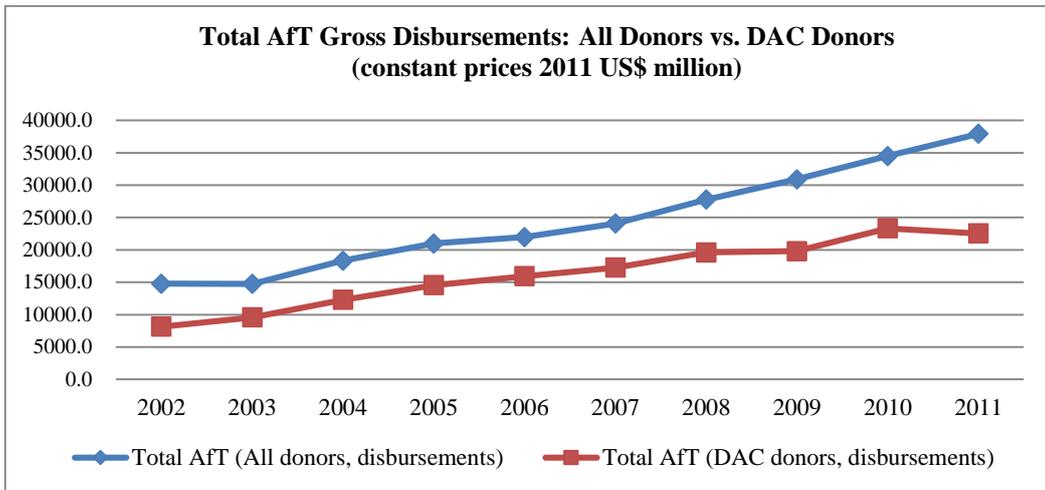


Source: OECD CRS

In the [Figure 4], it is noted that Japan is the top donor giving the most AfT to recipients and it increased its amount of AfT after 2007. What is interesting in the above figure is that the top 3 AfT donors have lower ODA/GNI ratio compared to other donors, notably the Northern European donors exceeding 0.7% UN target. The U.S., Germany, and France are the next top AfT donors after Japan and they also increased the amount of AfT given to recipients after 2007. According to the OECD report (2013), it states

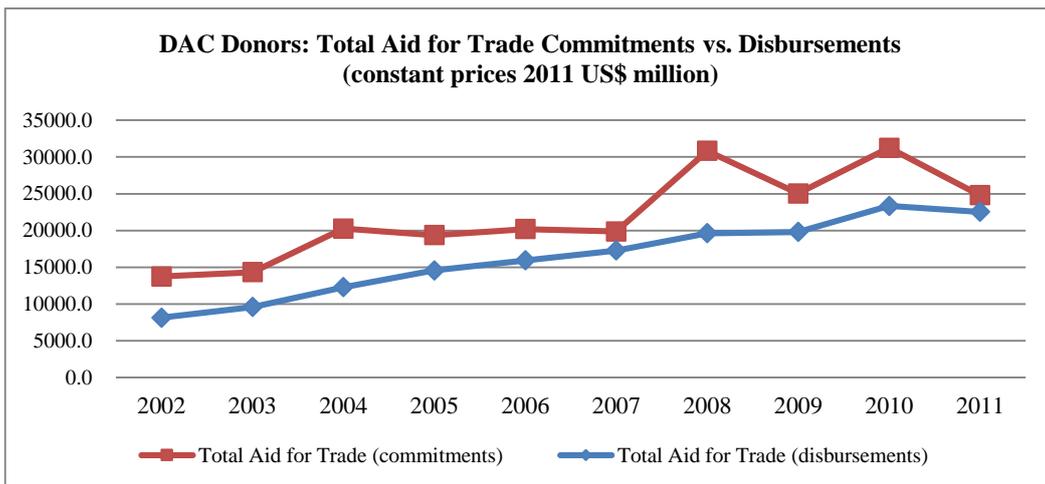
that bilateral aid for trade has declined, but still remains the major source, accounting for 60% of total support in 2011. DAC donors provided USD 28 billion in 2011, a decline of 19% on 2010. In addition, it states that among all donors, Japan is most specialized in aid for trade. Of its total sectoral allocable ODA, 60% was channelled to aid for trade.

[Figure 5.] Total AfT Disbursement to All Recipients (2002-2011)



Source: OECD CRS

[Figure 6.] Total AfT Commitments vs. Disbursement to All Recipients (2002-2011)



Source: OECD CRS

In the [Figure 5] above, it is shown that DAC donors take the large portion of giving AfT to recipients. In the time of economic crisis in 2009, there is a slight decrease of AfT from DAC donors. However, the steady increasing trend from all donors is due to the increasing amount of aid from multilateral donors as they are important source of AfT for recipients. Moreover, in the [Figure 6], one can observe the fluctuation in AfT commitment from DAC donors and disbursement is below the level of commitment, which indicates that it is hard to carry out the promise into action.

3. Aid for Trade and its Critics

While there are supporters of aid for trade, on the other side, there are skeptics about the effectiveness of aid for trade. Those critics point out that the definition and scope of aid for trade is somewhat unclear and it is overlapped with aid given to other sectors. In addition, a convergence between the trade and development agendas brought the new convergence idea that aid can be used as a complement to trade rather than being a substitute for trade. However, there are concerns that the discrepancies between the key motivations for providing aid and increasing trade might impede the effectiveness of AfT (Suwa-Eisenmann, 2007). The key motivation for providing aid is poverty reduction where this plays only a minor role in the trade agenda. Wiig (2009) argues that the legitimacy of AfT depends on whether increasing trade leads either directly or indirectly to poverty reduction. Ironically, although the ultimate objective of AfT is to reduce poverty through economic growth, most of AfT resource is given to LMICs, not LDCs. In addition, Gamberoni & Newfarmer (2009) states that the supply and the demand of AfT is mismatched that those recipients need more AfT received less while other recipients received more AfT. Thus, other scholars criticize the commercial interest of some donors in terms of providing more AfT to particular beneficiary countries. Furthermore, others insist that UMICs still need more aid for trade as they can play a role as a bridge to other income groups as knowledge transfer between the donor and other recipients.

CHAPTER III. ECONOMIC INTEGRATION

1. Its Significance and Scope

Regionalism is described in the Dictionary of Trade Policy Terms in WTO, as “actions by governments to liberalize or facilitate trade on a regional basis, sometimes through free-trade areas or customs unions.”

Baier and Bergstrand EIA database

The index for economic integration is retrieved from NSF-Kellogg Institute Data Base on Economic Integration Agreements (EIA) which is constructed by Baier and Bergstrand and updated in May 2013. The authors constructed a discrete EIA Ranking index ranging from zero to six which represents the increasing level of economic integration. In specific, the range of index is provided on the following table.

[Table 4] Baier and Bergstrand EIA database

EIA Ranking	Abbreviation	Type of Agreement	Definition
0	N/A	No Agreement	No Preferential Trade Agreement
1	NR-PTA	Non-Reciprocal Preferential Trade Agreement	Preferential terms and customs concessions given by developed nations to developing countries
2	PTA	Preferential Trade Agreement	Preferential terms to members vs. non-members
3	FTA	Free Trade Areas	Trade barriers eliminated (or substantially so) among members; treat non-members differently
4	CU	Customs Union	Same as FTA; but treat non-members the same
5	CM	Common Market	Same as CU; but also includes free movement of labor/capital
6	EUN	Economic Union	Same as CM, but also monetary and fiscal policy coordination; further harmonization of taxes/regulation/monetary system

Source: NSF-Kellogg Institute Data Base on Economic Integration Agreements (EIA)

Their database records the economic integration of bilateral country pairings for 195 countries annually from 1950 through 2005⁶. Specifically, 1 denotes a One-Way (non-reciprocal) Preferential Trade Agreement (PTA) which is considered the same as GSP⁷, LDC-specific, and Other PTAs⁸ which grant unilateral trade preferences from developed countries to developing countries. In addition, 2 denotes a Two-Way (reciprocal) PTA such as GSTP⁹, PTN (Protocol on Trade Negotiations), and APTA (Asia Pacific Trade Agreement) which is formed among developing countries in 1970s and 1980s aiming to increase trade between them in the framework of the UNCTAD and GATT, respectively¹⁰. They are reported as Partial Scope Agreements (PSAs) under Enabling Clause in the WTO RTAs database. In this paper, the economic integration criterion is based on the reporting on WTO database¹¹. Moreover, 3 denotes Free Trade Agreement (FTA) including both bilateral and plurilateral types of agreement. 4 denotes Customs Union (CU) which include common external barrier imposed by member countries. 5 denotes Common Market (CM) and 6 denotes Economic Union (EUN) like the European Union.

Thus, in the data structure for the regression, economic integration variable is scaled from 0 to 6 whereas FTA dummy variable used in the bilateral pairings regressions is constructed based on the following criteria below.

⁶ More information on the data is available at Bergstrand webpage:
<http://kellogg.nd.edu/faculty/fellows/bergstrand.shtml>

⁷ Currently, there are 13 national GSP schemes notified to the UNCTAD secretariat. The following countries grant GSP preferences: Australia, Belarus, Bulgaria, Canada, Estonia, the European Union, Japan, New Zealand, Norway, the Russian Federation, Switzerland, Turkey and the United States of America. Of these, there are 8 DAC donors providing GSP to developing countries. However, the list of provider is slightly different in WTO PTAs database. Bulgaria and Estonia are not list in WTO PTAs list; instead, Iceland and Kazakhstan are listed as GSP providers.

⁸ In the WTO PTAs database, there are three types of unilateral trade preferences which are GSP schemes, LDC-specific, and Other PTAs. Source available: <http://ptadb.wto.org/ptaList.aspx>

⁹ GSTP (Global System of Trade Preferences among Developing Countries; reciprocal) is different from GSP (Generalized System of Preferences; non-reciprocal) that it is reciprocal PTA among 44 developing countries out of G77 group. The former members are Yugoslavia and Romania (from 1989 until its EU membership in 2007).

¹⁰ Followings are reported as Partial Scope Agreement (PSA) in the WTO: PTN (1973), APTA (1976), LAIA (1981), SPARTECA (1981), GSTP (1989), ECO (1992), MSG (1994), SAPTA (1995)

¹¹ For instance, APEC, SAARC, Pacific Alliance, UNASUR are not recognized in the WTO.

As Liu (2010) states:

- The limited sector coverage and many exceptions in PTAs are usually signed among developing countries according to the *Enabling Clause*
- The “*substantially all the trade*” requirement of the *GATT Article XXIV* for both FTAs/CUs

For these reasons, Partial Scope Agreements (PSAs) in the WTO RTA database is considered the same as Preferential Trade Agreements (PTAs). As suggested by Heydon and Woolcook (2009), due to its limited sector coverage, PSA was omitted when constructing FTA dummy variable for the regression whereas both fully-fledged FTAs and CUs are uniformly considered as FTAs.

How the database was updated

As these authors' EIA database provides bilateral country-pairing data until 2005, it became necessary and critical to update the database after 2005 as this paper includes period from 2002-2011. Indeed, the proliferation of RTAs grew rapidly after 2005 that it is crucial to update the database to capture the effect of economic integration on Aid for Trade. The way to update this database is exclusively based on the EIA Ranking guideline constructed by Baier & Bergstrand. In this paper, bilateral country-pairings are sorted out only for 88 recipient and 23 DAC donors due to many missing data. Hence, there are 2,024 pairing in total and covering period from 2002 to 2011, which produce 20,240 bilateral country-pairing data for economic integration index in this paper. The period from 2002 to 2005 follows data constructed by Baier and Bergstrand. Thus, the data on the period from 2006 to 2011 is updated by the author based on their criteria.

The bilateral country-pairing will remain as “0” (no agreement) if there is no preferential trade agreement after 2006. EIA Ranking “1” (non-reciprocal preferential

trade arrangement) is subject to change according to the recipients' GSP eligibility status based on each GSP provider criteria. Many recipients remained the same to receive GSP; however, some countries have been withdrawn from GSP eligible countries and the status varies depending on the criteria set by each GSP provider. For example, Belarus and Myanmar were removed from GSP beneficiaries on the grounds of serious violations of labor rights. On the other side, those GSP providers did not provide tariff preferences before 2005 enlarged their number of beneficiaries; thus, newly applied GSP change is reflected from 2006. There are 13 national GSP schemes in total and under UNCTAD, there are 8 DAC donors providing GSP to developing countries, which are Australia, Canada, the European Union (including Austria, Belgium, Germany, Denmark, Spain, Finland, France, UK, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Sweden at the bilateral level), Japan, New Zealand, Norway, Switzerland, and the United States of America. The number of beneficiaries varies among GSP providers. Of all, Canada (173) has the largest number of beneficiaries followed by Australia (165). On the contrary, Norway (85) has the smallest number of beneficiaries followed by the EU (88).

The information is retrieved from WTO PTAs database and the full table is provided in the appendix 3. However, there is slight difference in the number of beneficiaries in the EU's new GSP scheme for developing countries which was announced in October 2012 and took effect from January 2014. The EU officially announced that the number of GSP beneficiaries is being reduced from 176 to 90 in order to better focus on those countries most in need and further promote core principles of sustainable development, good governance, human rights and environment. However, the number is different from 88 beneficiaries as list under the WTO PTAs database¹².

¹² Some countries will graduate from EU's GSP program and others' benefits are being removed from the following reasons: (a) countries and territories that have alternative trade arrangements for accessing the EU market;(b) countries that enjoy another trade arrangement with the EU (such as a free trade agreement) that provides substantially equivalent coverage as GSP;(c) countries and territories listed by the World Bank as upper middle-income countries (UMICs) or high-income countries (HICs) for the past three years.

When updating “2” (preferential trade arrangement), there was an interesting finding which is South Korea is still a member of both GSTP and APTA which is categorized as Partial Scope Agreement (PSA) type of agreement under the WTO. Thus, exceptionally South Korea has level “2” relation with recipient countries that are also member of GSTP and APTA. For the IIA Ranking “3”, as many countries formed new FTAs, there are a lot of changes made after 2005. From EIA Ranking from “4” to “6”, there is no update in the data and is based on Baier & Bergstrand database as there is no newly formed Customs Unions (CU), Common Market (CM), and Economic Union (EUN) between the recipients and donors after 2005. Indeed, CU, CM, and EUN are formed among either developing countries or developed countries, especially within the same region with close proximity.

2. Current Status under the WTO

RTAs definition and scope

As of March 2013, there are 159 members under the WTO. In the WTO, regional trade agreements (RTAs) are defined as reciprocal trade agreements between two or more partners. They include free trade agreements and customs unions¹³. In terms of the portion in total RTAs, free trade agreements (FTAs) and partial scope agreements (PSA) account for 90%, while customs unions (CU) account for 10%. As of 31 July 2013, 575 notifications of RTAs (counting goods, services and accessions separately)¹⁴ had been received by the GATT/WTO. Of these, 379 notifications of RTAs were in force. However, when it is counted as physical number of RTAs counting goods and services

More detail information about EU’s new GSP scheme is available at <http://ec.europa.eu/trade/wider-agenda/development/generalised-system-of-preferences/>

¹³ FTAs are notified under Article XXIV:7 of the GATT 1994, and CUs are notified under paragraph 2 (c) of the Enabling Clause, and Economic Integration Agreements under Article V:7 of the GATS.

Source: http://www.wto.org/english/tratop_e/region_e/scope_rta_e.htm

¹⁴ Notifications may also refer to the accession of new parties to an agreement that already exists, e.g. the notification of the accession of Bulgaria and Romania to the European Union Customs Union.

together, there are 249 RTAs in force¹⁵. Both the tables of both notification requirement and physical number of RTAs are provided below.

The following [Table 5] shows all RTAs in force, sorted **by Notification**:

	Accessions	New RTAs	Grand total
GATT Art. XXIV (FTA)	1	207	208
GATT Art. XXIV (CU)	7	10	17
Enabling Clause	2	34	36
GATS Art. V	4	114	118
Grand total	14	365	379

The following [Table 6] shows all RTAs in force, sorted **by Type of Agreement**:

	Enabling clause	GATS Art. V	GATT Art. XXIV	Grand total
Customs Union (CU)	8		10	18
Customs Union - Accession	1		7	8
Economic Integration Agreement (EIA)		114		114
Economic Integration Agreement - Accession		4		4
Free Trade Agreement (FTA)	12		207	219
Free Trade Agreement - Accession	0		1	1
Partial Scope Agreement (PSA)	14			14
Partial Scope Agreement - Accession	1			1
Grand total	36	118	225	379

The following [Table 7] shows **all Physical RTAs** (counting goods and services together) in force, sorted **by Coverage**:

Goods	135
Services	1
Goods and Services	113
Grand total	249

Source: WTO RTA database

¹⁵ It is worth noting that WTO statistics on RTAs are based on notification requirements rather than on physical number of RTAs. Thus, in 575 notifications count two notifications (one for goods and the other services), even though it is physically one RTA.

Some argue that RTAs can complement the multilateral trading system while others argue that the nature of discriminatory in RTAs, deviating from the MFN principle, may induce inconsistencies between RTAs and the multilateral framework. Moreover, the proliferation of RTAs since 1990s produced the phenomenon of overlapping membership which made the RTAs map looks like a tangled spaghetti bowl. Indeed, each RTA has its own mini-trade regime that a single country has different trade rules with different RTA partners which may deteriorate trade and create regulatory confusion by adapting into multiple sets of trade rules.

Besides RTAs, there are Preferential Trade Arrangements (PTAs) in the WTO which is giving unilateral or non-reciprocal trade preferences in contrast to reciprocal trade preferences in RTAs. Generalized System of Preferences (GSP) schemes under which developed countries grant preferential tariffs to selected product imports from developing countries. GSP is used as a tool to achieve the objectives of increasing their export, promoting industrialization, and boosting economic growth¹⁶. It is important to acknowledge that the GSP is a specific instrument focusing on a single dimension only which is preferences for trade in goods. In addition, the GSP is subject to WTO law, in particular to the GATT, so-called "Enabling Clause" adopted in 1979 which created a permanent waiver to the WTO "most-favored nation" principle (i.e. equal treatment should be accorded to all WTO Members). This allows the developing countries, especially LDCs and low income countries, have better market access to the developed countries even in the absence of bilateral FTAs between them¹⁷. However, it has been pointed out by many scholars that market access itself is not sufficient to increase export and growth in the developing countries. Hence, the role of Aid for Trade (AfT) has been increasingly gained the support to complement the gap of insufficiency.

¹⁶ The idea of granting developing countries preferential tariff rates was originally presented by Raul Prebisch, the first Secretary-General of UNCTAD and the GSP was adopted at UNCTAD II in New Delhi in 1968. Refer to more details in <http://unctad.org/en/pages/ditc/gsp/about-asp.aspx>

¹⁷ Under GSP schemes of preference-giving countries, selected products originating in developing countries are granted reduced or zero tariff rates over the MFN rates. The LDCs receive special and preferential treatment for a wider coverage of products and deeper tariff cuts.

CHAPTER IV. LITERATURE REVIEWS

There are many previous literatures dealing with the linkage between aid and growth and aid effectiveness. The views are divergent among scholars that there is no definitive answer to the issue. As Aid for Trade (AfT) get its spotlight since the sixth Hong Kong Ministerial Conference, the literature related to AfT is scarce compared to aid effectiveness literatures. In addition, as AfT encompasses both spectrum of development and trade, it is critical to review not only AfT effectiveness literatures, but also the ones related to the effect of regional trade agreement (RTAs) and export growth.

Moreover, as the effect of RTAs is pivotal in this paper to assess its impact on AfT effectiveness, it is necessary to see the effect of RTAs itself alone and how it interacts with AfT. In a broad sense, the effectiveness of AfT is often discussed in terms of export performance and reducing trade costs. This literature reviews provide the proper way to conduct the econometric methodology and in search for the theories behind AfT. Thus, respective literatures will be discussed in the following section.

1. Aid and Trade

Prior to research on aid for trade effectiveness, it is important to look at the traditional studies on the relationship between aid and trade. First of all, McGillivary *et al.* (1998) identified three interesting cases as aid causes trade, trade causes aid, or both (bi-directional causality). Their evidence suggests that there is indeed a relationship between aid and trade, but that the specific nature of this relationship can vary between donor-recipient pairs. The empirical evidence reviewed in their study offers some evidence in support of all cases, but further detailed analysis would be required.

In addition, Adam and O'Connell (2004) argue in their research that what recipients should pursue is open trade preferences over aid. They have taken recipient-country trade policy as given and compared aid and trade as alternative approaches to increasing growth and welfare in poor countries. First, if open preferences are more efficient than grants. On the demand side, recipient governments are not indifferent to the fact that aid accrues to the public sector while preferences accrue to the private sector. They have argued that for many African countries, donors may be able to improve the development effectiveness of aid by shifting from aid to trade. They conclude that the answer depends on the precise balance of forces in the aid and trade relationship.

2. Regional Trade Agreements and Trade

Besides from the effectiveness of aid, it is important to look at the relationship between regional trade agreements and its impact on trade as the large numbers of nations party to the GATT/WTO has grown over the past 50 years. To review the term refers to 'economic integration' in this paper, it follows the scope presented by Baier and Bergstrand (2008) that they intentionally used the term 'economic integration agreements' (EIA) initially to be inclusive. The term *economic integration* spans integration of goods, services, capital and labor markets; in even broader views, it encompasses integration in economic activity that goes beyond economists' traditional categorizations of goods and factors. The authors also used 'economic integration'—not 'regional economic integration'—to be inclusive in geographic scope of coverage.

Bergstrand *et al.* (2011) argue that EIAs are formed among countries: (1) that are close in distance and consequently share low bilateral transaction costs, but are also remote from the rest of the world; (2) that are large and similar in economic size and consequently benefit from greater specialization in production and variety in terms of consumption; and (3) that differ in relative factor endowments, benefiting from the

exchange of traditional comparative advantages. They conclude that EIAs actually work and it causes regionalism which entails bilateralism.

3. Aid for Trade Effectiveness and Trade

The measurement of AfT effectiveness is often conducted in two ways which are measuring export performance and reduction in trade costs. Gamberoni and Newfarmer (2009) provide an interesting study by investigating potential demand and supply of aid for trade and how they are mismatched from recipients and donors perspective. Even though the overall trade performance of developing countries has been remarkable, they argue that those recipients that need the most amount of aid for trade lack in resource from the donors. They provide ten indicators to assess the research and one of the reasons why the mismatch problem arose was recipients' performance-related aspect from donors' perspective that donors tend to give more aid for trade to those recipients that will bring better outcomes in a short-term.

Cali and te Velde (2010) argue in their paper that despite the clarity of this objective of aid for trade, the evidence on the effectiveness of AfT in improving trade-related performance is still surprisingly scant. Thus, they tried to fill this evaluation gap by examining the effects of AfT on the costs of trading and on the level and changes in exports. They also extend previous literature on aid effectiveness by matching sub-sets of aid with more specific outcome variables than growth in an attempt to avoid a debate on aid-growth issue. Their findings suggest that aid for trade facilitation reduces the costs of trading that an increase in AfT by US\$ 390,000 is associated with a US\$ 82 reduction in the costs of importing. The costs of exporting and time taken to process imports also have similar results. They state that there should be re-consideration of the AfT allocation across activities and sectors as AfT has a heterogeneous impact on trade-related performance.

In terms of AfT effectiveness, Basnett *et al.* (2012) argue that AfT works best when it is targeted at reducing the cost of trading with addressing the binding constraints to grow that the transnational and regional level. Vijil and Wagner (2010) state that a 10% increase in aid to infrastructure commitments leads to an average increase of the exports over GDP ratio of an aid recipient of 1.22%. Thus, AfT can be a powerful instrument to enhance export performance of developing countries. Moreover, the research from ICTSD (2013) is based on case studies of 8 developing countries and it argues that the additionality and predictability of aid flows are also a critical component of AfT effectiveness. It also points out the importance of establishment of effective institutional mechanisms at the domestic level and private sector participation.

4. Aid for Trade and Economic Integration

In an attempt to study the complementarities between Aid for Trade and economic integration, Vijil (2013) assesses the complementarities between preferential market access (economic integration) and trade-related assistance (AfT), not overall ODA. As PTAs can be reciprocal or non-reciprocal with different degrees of intensity, she runs the regressions on the entire world of 178 countries from 1995-2005 using a non-balanced panel with lagging AfT commitments. Her empirical strategy follows Baier and Bergstrand (2009)'s adaptation of the Anderson and van Wincoop (2003)'s gravity model using Multilateral Resistance Terms (MRT) without using a nonlinear least squares program nor fixed effects. Also, she adopts the methodology proposed by Wagner (2003) to include the case where overall ODA or AfT is zero. She finds that AfT is effective and its impact could be enhanced with further economic integration that 1 US\$ invested in AfT induces 7 US\$ in intra-members trade. Moreover, she finds that both South-South and North-South benefited from trade, especially boosting export from the South to the North. By disaggregating AfT into three categories, she finds that aid to trade-related institutions seems to produce the strongest with economic integration.

CHAPTER V. THEORETICAL FRAMEWORK

1. Hypothesis and Estimation Model

Research Questions

< Aid Effectiveness >

1. Does a higher level of economic integration increase the effectiveness of Aid for Trade in terms of increasing export performance of recipients?
2. Would recipients export more to DAC donors that give more Aid for Trade and have FTAs with them?

<Aid Allocation >

3. Do donors tend to give more Aid for Trade to those recipients that import more and have FTAs with them?

Hypothesis

There are two aspects in the research questions. From aid effectiveness perspective, only the aspect of enhancing export from recipients will be considered in this paper, excluding effects on reducing costs. For aid allocation, it is to see the determining factors for donors to give more AfT to recipients. For the first research question, under the assumption that the same amount of Aid for Trade is given to all recipients, those recipients with a higher level of economic integration will benefit more from Aid for Trade. In other words, its export performance will be greater than those recipients with a lower level of economic integration. In addition, the expected result for the second research question is that recipients would export more to DAC donors that give more Aid for Trade and have FTAs with them. When taking an interaction terms between the two variables, there might be complementarity between the two predictors.

For the last research question, for selfish donors with commercial interests, they will give more Aid for Trade to those recipients that import more and have FTAs with them whereas the hypothesis may not hold true for moderate and altruistic donors as they consider humanitarian needs of recipients (Berthelemy, 2006). However, the amount of AfT given by selfish donors tends to exceed the amount of aid given by other types of donors. Thus, it is expected that those recipients become exporting markets for DAC donors and have bilateral economic relations would receive more Aid for Trade.

Estimation Model

Since the introduction by Tinbergen and Linneman, the gravity model of international trade has been widely used with an excellent empirical robustness to explain effects of various factors on international trade flows at bilateral or regional level that exports and bilateral trade flows are the most common dependent variables in the model. Nowadays, the gravity model is one of the most popular empirical models that have been designed to predict bilateral trade flows between trading partners' economies (mass variables) and their proximity and any other factors promoting or discouraging trade between them (impedance variables).

Common proxies included in most gravity model specifications for demand and supply are measures of a country's economic and market size, income level, population, area size and GDP per capita. This conventional gravity model treats that trade between two countries is dependent on GDP, information and transportation costs and other factors that affect trade barriers. The geographical distance is considered as a main determinant of the amount of trade between countries (Limao and Venables, 2001; Anderson and van Wincoop, 2004) as distance has been used as a proxy for trade costs to explain the relationship between volumes of trade.

In addition, transportation costs are also the main resistance factors that these include actual freight transportation costs, tariffs, quality of infrastructure and so on. Performance and quality of “at-the-border” and “behind the border” services were among those elements affecting transportation costs. Wilson *et al.* (2003) introduced in the gravity model specification appropriate indicators for including port efficiency, customs environment, e-business existence and the countries’ regulatory environments.

Arvis *et al.* (2013) argue that trade costs is important as they can be a determinant of the pattern of bilateral trade and investment, as well as of the geographical distribution of production. They also state that there are two main categories of sources for trade costs which are exogenous bilateral factors between the exporter and the importer (distance, language, history, border, etc.) and endogenous trade costs representing the ‘thickness’ of two countries’ borders (logistics performance, international connectivity, tariffs, and non-tariff measures). Furthermore, a variety of impedance factors have been incorporated in the different gravity model specifications, aiming at examining potential barriers to trade flows such as sharing a common language, border, colonial relationship and being landlocked and these are typically handled as dummy variables, taking either 0 or 1.

However, due to the absence of strong theoretical foundations in the traditional gravity model, many scholars improved the model by advancing econometric approaches with new parameters and theoretical foundations to explain policy implications on trade flows (Anderson 1979; Helpman and Krugman 1985; Bergstrand 1985 & 1990). In particular, the gravity model has considerable explanatory power to predict and explain the effects of Free Trade Agreements (FTAs) on trade flows and examine whether these result in trade creation or trade diversion. Therefore, in this study, the conventional gravity model has been extended with trade facilitation measures and economic integration index to describe the relationship between bilateral trade flow and aid for trade (AFT).

The model was first used by Tinbergen in 1962¹⁸ and the basic model for trade between two countries (i and j) takes the form of:

$$F_{ij} = G \frac{M_i^{\beta_1} M_j^{\beta_2}}{D_{ij}^{\beta_3}}$$

where F is the trade flow, M is the economic mass of each country, D is the distance and G is a constant. The model has also been used to test the effectiveness of trade such as the North American Free Trade Agreement (NAFTA).

If taking logarithm of both sides, the formula takes a log-log model of the form and it can be written as the following:

$$\ln(T_{ij}) = \beta_0 + \beta_1 \ln(Y_i) + \beta_2 \ln(Y_j) - \beta_3 \ln(D_{ij}) + \epsilon_{ij}$$

where

β_0 : constant

$\beta_1, \beta_2, \beta_3$: Coefficient

T_{ij} : Trade volume between county (i) and country (j)

Y_i, Y_j : Economic size of country (i) and country (j)

D_{ij} : Distance between county (i) and country (j)

ϵ_{ij} : an error term

¹⁸ Refers to the detailed from http://en.wikipedia.org/wiki/Gravity_model_of_trade

In this study, to assess the effect of economic integration on aid for trade effectiveness, including all other interesting variables, the equation takes log in both sides of a dependent variable (y) and an independent variable (x) in order to linearize the relationship between y and x. The equation can be written as the following:

$$\ln(\mathbf{EX}_{ijt})$$

$$= \beta_0 + \beta_1 \ln(\text{GDP}_{it}) + \beta_2 \ln(\text{GDP}_{jt}) + \beta_3 \ln(\text{POP}_{it}) + \beta_4 \ln(\text{POP}_{jt}) + \beta_5 \ln(\text{Distance}_{ij}) + \beta_6 \text{Landlocked}_{ij} + \beta_7 \text{Language}_{ijt} + \beta_8 \text{Border}_{ijt} + \beta_9 \text{Colony}_{ijt} + \beta_{10} \ln(\text{Bilateral_AfT}_{ijt}) + \beta_{11} \ln(\text{ODA_minus_AfT}_{ijt}) + \beta_{12} \text{Integration}_{ijt} + \beta_{13} \ln(\text{AfT*Integration}_{ijt}) + \beta_{14} \text{WTO_Member} + \beta_{15} \text{FTA_DAC} \varepsilon_{ijt}$$

where β_0 : Constant

$\beta_1 \dots \beta_{14}$: Coefficient of each variable

$\ln(\text{EX})$: Bilateral exports from recipients to donors at time t

$\ln \text{GDP}_{it}$: GDP per capita in USD of recipient countries

$\ln \text{GDP}_{jt}$: GDP per capita in USD of donor countries

$\ln(\text{POP}_{it})$: Number of population of recipient countries in million

$\ln(\text{POP}_{jt})$: Number of population of donor countries in million

$\ln(\text{Dis}_{ij})$: Distance between each recipient and donor in bilateral pairings

Landlocked: equal to 1 if one of the bilateral pairings is landlocked

Language: equal to 1 if a recipient and a donor use the same language

Border: equal to 1 if a recipient and a donor share the same border

Colony: equal to 1 if a recipient used to be a colony of a donor, otherwise 0

$\ln(\text{Bilateral_AfT}_{ijt})$: Bilateral Aid for Trade given to each recipient from each donor (bilateral pairings)

$\ln(\text{ODA_minus_AfT}_{ijt})$: Bilateral non-AfT given to each recipient

Integration_{ijt} : Level of economic integration ranging from 0 to 6

$\ln(\text{AfT*Integration}_{ijt})$: an interaction term between AfT and Integration

WTO_member: equal to 1 if a recipient is a member of the WTO, otherwise 0

FTA_DAC: equal to 1 if a recipient has FTA with any of donors, otherwise 0

2. Methodology and Data Variables

Methodology

The Ordinary Least Squares (OLS) method has been traditionally the usual technique for estimating the coefficients of the gravity model specification in its log-linear form. However, this study takes log-log form in order to linearize the relationship, except numeric variables (x) and dummy variables (x). Panel data are used in most studies for periods of at least 5 years; only few recent studies draw conclusions based on cross sectional data based on a single year or an average of a period. This study covers period from 2002 to 2011 and it uses pooled regressions as the option for fixed effects was unavailable for bilateral pairings. Thus, additional variables were added as fixed effects. However, the estimated coefficients might be overestimated to a certain extent.

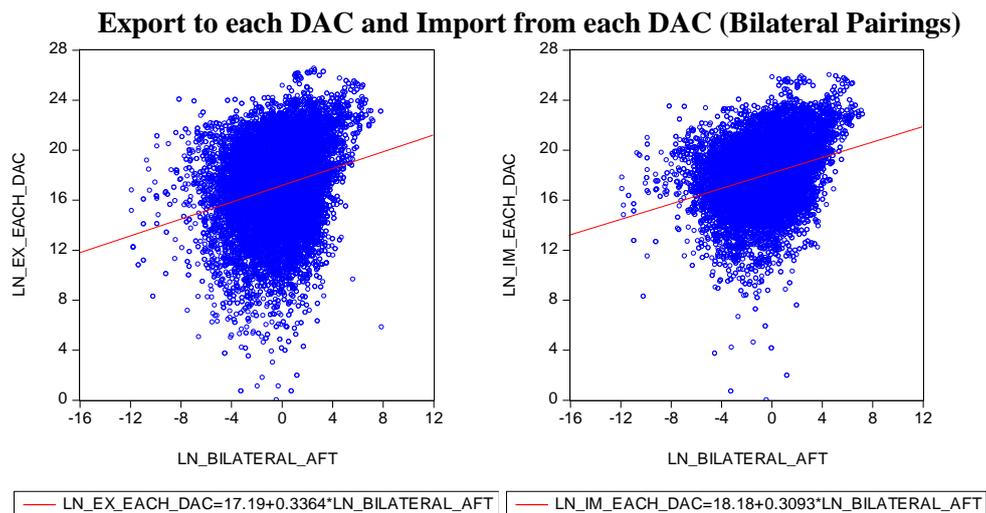
In order to assess the impact of economic integration on AfT effectiveness, an interaction terms was added to the models, which is produced from log of bilateral AfT and economic integration index. From a practical perspective, treatment of interaction effects is a necessity in order to avoid biases and inconsistent estimates. Moreover, adding an interaction term to a regression model helps to expand understanding of the relationship between two variables that the effect of one predictor variable on the response variable is different at different values of the other predictor variable. When two predictor variables are multiplied, the interpretation of all of the coefficients changes drastically. Thus, a positive value for the effect of AfT would imply that the higher the AfT, the greater the effect of economic integration. Similarly, it can be interpreted that the higher the economic integration, the greater the effect of AfT.

Before running regression, it is important to graphically draw scatter plots in order to see the relationship between two variables (y) and (x) visually. As shown in the scatter plots below, when export to each DAC donor and import from each DAC based

on bilateral pairings take the log, they appear to have a positive relationship with aid for trade. However, without taking the log on the both sides, it was unable to see the positive relationship between the dependent and independent variables. Thus, most the variables in this study take the log-log form.

When comparing the clusters in the [Figure 7], it can be observed that the cluster between the log of import from each DAC donor and aid for trade has a stronger cluster than the log of export to DAC where more dots are scattered. Specifically, the falling dots from the cluster may indicate small and vulnerable economies (SVEs) or the Least Developed Countries (LDCs) that even if they receive Aft, they may not export more to DAC donors due to many supply-side constraint reasons. According to OECD and WTO report (2013), as SVEs have small market sizes, they tend to concentrate on producing only a few products, which may reduce the amount of export to donors. However, the report states that if they can effectively participate in the global value chains (GVCs) using their comparative advantages, they can also benefit from the multilateral trading system.

[Figure 7. Scatter Plot for Gravity Model (i- j)]



[Table 8. Granger Causality Tests (x– y)]

Pairwise **Granger Causality Tests**

Date: 03/06/14 Time: 12:27

Sample: 2002 2011

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
LN_BILATERAL_AFT does not Granger Cause LN_EX_TO_EACH_DAC	5968	1.07682	0.3407
LN_EX_TO_EACH_DAC does not Granger Cause LN_BILATERAL_AFT		1.88161	0.1524

It is important to run the granger causality test in order to test whether there is causality between the dependent variable (y) and independent variable (x) in both directions. If the probability is lower than 5%, one should reject the null hypothesis, which means there is causality between the two variables. However, if the probability is higher than 0.05 or 5%, one should accept the null hypothesis. As probability for the both directions is higher than 5%, the null hypothesis is accepted, which means that the bilateral pairings data on both bilateral aid for trade and log of export to each DAC donor has no causality relationship in both directions. Thus, it is secured to run regression without concerning the causality problem.

The empirical strategy is based on a balanced panel of 88 countries over the period 2002-2011 based on the current prices (USD millions)¹⁹. Both Aid for Trade (AFT) and ODA flows were extracted from the OECD Creditor Reporting System (CRS) database, which allows to customize data by donors, recipients, region, type of aid, aid flow type, channels and so on. Empirical estimations in this paper rely exclusively on the data on aid disbursements, which is fully available from 2002; thus, it will not affect the regression results due to data missing problem. Indeed, aid commitments often have

¹⁹ In the aid flow type, nominal (at the exchange rate prevailing in the year of the flow) current prices (USD millions) are usually used in the academic research whereas real constant prices (USD millions) are used in the factual ODA reports to show analyses of general trends in aid over longer period so as to take account of inflation and exchange rate variations.

a higher level than aid disbursements; the gap between the aid commitments and actually given aid disbursements indicates the difficulty of carrying out the promise into action.

Despite a concern over multilateral donors (multilateral development banks and international organizations) do not regularly report data on aid disbursements, as this paper only covers aid disbursements from 23 DAC donors, the result will not be affected due to multilateral donors reporting deficiency. In addition, aid disbursements data is fully available from 2002. Most importantly, by the time the data was collected to run regression, the data on both ODA and Aid for Trade (AFT) for the periods 2012 and 2013 was unavailable in OECD CRS. Thus, this paper covers the period from 2002 to 2011 and there will be no concern over unstable data. Moreover, aid disbursements are used in aid effectiveness literatures whereas aid commitments are usually used in aid allocation literatures.

Bilateral exports and imports and total exports and imports were downloaded from UN Commodity trade database (COMTRADE) with SITC Revision 3. In this paper, both export and import are taken into account because import may indicate how recipients became the exporting market for donors and how donors also benefit from granting AFT to recipients. In addition, trade facilitation measures such as cost, number of documents and time to export/import have been downloaded from the World Bank World Development Index (WDI). In addition, LPI (Logistics Performance Index) is comprised of those six variables mentioned above as a part of improving trade facilitation measures.

Moreover, two indices of trade restrictiveness – the tariff trade restrictiveness index (TTRI) and the overall trade restrictiveness index (OTRI) – are downloaded from UNCTAD database (WITS). As OTRI comprises both tariff and non-tariff barriers such as SPS, TBT, quotas, import and export licenses and anti-dumping, the variable for NTMs was obtained by calculating difference between OTRI and TTRI. In addition, the

world governance index, including corruption, government effectiveness, regulatory quality and political stability, was obtained from the World Bank Trade Indicator database.

In the DAC list of ODA Recipients for 2011-2013 aid flows, there are 148 recipient countries in total. All recipients are sub-categorized by income group of least developed countries (LDCs), low income countries (LICs), Lower middle-income countries (LMICs), and upper middle-income countries (UMICs) as defined by the World Bank based on gross national income (GNI) per capita status. In addition, the list separately included all LDCs as defined by the UN²⁰. For the DAC, the term “developing country” employed without qualification indicates a country eligible for ODA. On the contrary, other organizations have their own definitions. In addition, the DAC revises the ODA Recipients list every three years. For those countries have exceeded the high-income threshold for three consecutive years at the time of the review are removed from the list. The last DAC last revised the list in October 2011 and the next review of the DAC list will take place in the second half of 2014, which will be effective for reporting on 2014-2016 flows.

For countries included in the data set, some recipients were excluded due to either missing or incomplete data and those excluded recipients are mostly small and vulnerable economies (SVEs) and the Caribbean countries. According to OECD report (2013), these countries have not traditionally been major aid-for-trade recipients as most of them belong to UMICs. In addition, although trade is the lifeblood of economic growth for SVEs, they are on a low profile for donors due to their small market size.

²⁰ More explanation is available in the OECD website, *History of DAC List of Aid Recipient Countries*. The DAC has collected data on aid flows since its inception in 1961. Recipients were eligible for ODA after it was adopted as a concept in 1969. Prior to 2005, there was two-part List of Aid Recipients reviewed every three years. Part I: Only aid to “traditional” developing countries counted as ODA. Part II: Aid to “more advanced” developing and eastern European countries were recorded separately as “official aid”. However, the two-part list became increasingly complex. Hence, in 2005, the DAC combined them into a single List of ODA Recipients which was organized on more objective needs-based criteria.

As data on export and Aid for Trade are important in this paper, if recipients do not report its export data more than five consecutive years or no data reported in UN Comtrade, the absence of full dataset from 2002 to 2011 or too many missing data in OECD-CRS are excluded. Therefore, only 88 recipients have been selected for this paper and the list of recipients are provided in a table below.

[Table 9] Countries Included in the Data Set

LDCs (24)&OLICs (3)		LMICs (27)		UMICs (34)	
Benin	Rwanda	Armenia	Indonesia	Albania	Kazakhstan
Burkina	Samoa	Bolivia	Iraq	Algeria	Lebanon
Faso	Sao Tome	Cameroon	Morocco	Argentina	Malaysia
Burundi	&	Cape	Nicaragua	Azerbaijan	Maldives
Cambodia	Principe	Verde	Nigeria	Bosnia-	Mauritius
Central	Senegal	Cote	Pakistan	Herzegovina	Mexico
African	Solomon	d'Ivoire	Paraguay	Botswana	Namibia
Rep.	Islands	Egypt	Philippines	Brazil	Panama
Ethiopia	Sudan	El	Sri Lanka	Chile	Peru
Gambia	Tanzania	Salvador	Syria	China	Serbia
Madagascar	Togo	Fiji	Tonga	Colombia	South
Malawi	Uganda	Georgia	Vietnam	Costa Rica	Africa
Mali	Yemen	Ghana	West Bank &	Dominican	Suriname
Mauritania	Zambia	Guatemala	Gaza Strip	Republic	Thailand
Mozambique		Guyana	(Palestine)	Ecuador	Tunisia
Niger		Honduras		Macedonia,	Turkey
		India		FYR	Uruguay
Kenya				Gabon	Venezuela
Kyrgyz				Jamaica	
Republic				Jordan	
Zimbabwe					

Source: OECD, List of ODA Recipients (effective reporting on 2011-2013 aid flows)

[Table 10] Definition, Sources, Expected Signs and Data Description

Variable Name	Source	Expected Sign	Description
ln_GDPpcR ln_GDPpcD	WB	+	Natural log of GDP per capita (current US\$). GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products.
ln_POPR ln_POPD	WB	+	Natural log of total population for each recipient and donor.
ln_EX_DAC ln_EX_World ln_IM_DAC	UN Comtrade	+	Natural log of trade volume in USD millions
ln_DIST_ij	CEPII	-	Natural log of geodesic distance, following the great circle formula, which uses latitudes and longitudes of the most important cities/agglomeration (dense of population) in kilometers between reporting country and its trading partner: This geographic feature affects physical transport costs, and also captures the opportunity to exchange information. Thus as distance becomes greater, trade cost increases.
Landlocked	CEPII	-	Dummy variable for landlocked countries. It takes 1 if one of either recipient or donor is landlocked in the bilateral pairing. A set of dummy variable: indicating “1” if a country is landlocked and “0” otherwise
Language Border Colony	CEPII	+	Language indicates official language. Border indicates the existence of the same border between a recipient and a donor. Colony indicates if any recipient was a colony of any donor country in the past. Each of them is dummy variable.
ln_Bilateral_AfT	OECD CRS	+	Natural log of sum of all official development aid disbursed in 200 (economic infrastructure and services) and 300 (trade policy and regulation and trade development) in OECD CRS database.

In_ODA_minus_AfT	OECD CRS	+	Natural log of sum of all official development aid disbursed in 200 and 300 subtracted from total ODA received by recipients, indicating non-Aid for Trade.
Integration	NSF-Kellogg Institute database	+	Level of economic integration ranging from 0 to 6, which is constructed based on bilateral pairings.
WTO_member	WTO	+	A set of dummy variable: indicating “1” if a country is WTO member and “0” otherwise.
FTA_DAC	WTO RTA database	+	A set of dummy variable: indicating “1” if a recipient has a FTA with any of donors and “0” otherwise.
Cost_EX/IM	WB WDI	-	Cost to export and import (US\$ per container)
Doc_EX/IM		-	Documents to export and import (number)
Time EX/IM		-	Time to export and import (days)
World Governance Index (Institution)	WB TI		As the index increases, export to donors increases as a country’s government quality enhances.
corruption	WB TI database	-	This indicator reflects a country’s governance quality in control of corruption (-2.5 ~ +2.5, best)
govt_effectiveness		+	This indicator reflects a country’s governance quality in government effectiveness (-2.5 ~ +2.5, best)
regul_quality		+	This indicator reflects a country’s governance quality in regulatory quality (-2.5 ~ +2.5, best)
polit_stability		+	This indicator reflects a country’s governance quality in political stability/absence of terrorism, (-2.5 ~ +2.5, best)

United Nations Statistics Division (UN Comtrade), available at: <http://comtrade.un.org/db/default.aspx>

CEPII International Economics Database, available at: http://www.cepii.fr/welcome_en.asp

World Bank Trade Indicator Database, available at: <http://info.worldbank.org/etools/wti/1a.asp>

World Trade Organization RTA database, available at:

http://www.wto.org/english/tratop_e/region_e/rta_participation_map_e.htm

More details are available at Bergstrand webpage: <http://kellogg.nd.edu/faculty/fellows/bergstrand.shtml>

Considering Non-WTO members

Indeed, all the 88 recipients considered in this paper are not the members of the WTO²¹. Out of total 88 recipient countries included in this paper, there are 14 non-WTO members until 2011 and they are all listed as observer governments in the WTO, except Palestine. Moreover, as this paper include the period from 2002-2011, Samoa (joined WTO in 2012) is considered as non-WTO member in addition to those 13 non-WTO members mentioned above. Furthermore, Palestine (West Bank & Gaza) is neither the WTO member nor an observer government due to its status in international community.

This paper only considers Goods-FTAs in the analysis as the effect of Service-EIAs is trivial compared to Goods-FTAs and as UN Comtrade provides commodity database. For instance, Serbia has FTA (Goods) and EIA (Services) with EU in 2010 and 2013 respectively; although RTAs formed after 2011 is excluded in this paper, as it counts only Goods-FTAs until 2011, Serbia-EU FTA came into entry into force in 2010 is counted in data. Moreover, the date of RTAs is based on entry into force status in WTO RTAs database, not based on the date of signing RTAs. Thus, the data is organized based on the number of bilateral Goods-FTAs with 23 DAC donors and total RTAs from 2002-2011.

As this paper deals with the period from 2002-2011, the data is reorganized to count RTAs formed until 2011 that new RTAs entered into force after 2011 are excluded. For example, there are 10 RTAs entered into force in Colombia, counting recently formed RTAs until 2013. However, when the RTAs formed after 2011 are excluded, there are only 6 RTAs in total, which indicates that Colombia is an active trade agreement negotiator even after 2011.

²¹ Following recipients which are included in this paper are observer governments in the WTO: Algeria, Azerbaijan, Bosnia and Herzegovina, Ethiopia, Iraq, Kazakhstan, Lebanese Republic, Sao Tome and Principe, Serbia, Sudan, Syrian Arab Republic, Yemen.

CHAPTER VI. EMPIRICAL ANALYSIS

Prior to investigate the impact of economic integration on Aid for Trade effectiveness based on bilateral pairings (i-j), the analysis on the determinants of giving aid for trade is provided below in [Table11] as a primary research analysis on aid allocation decision made by donors. In addition, to check the general effectiveness of Aid for Trade on export performance, regression analysis of the impact of Aft on export to the world is provided in [Table 12]. Both tables [7-8] are based on non-bilateral pairings, in which the regression was run only from recipients' perspective. However, as economic integration index is constructed based on bilateral pairings, from [Table 13] the following regression analysis will be presented based on bilateral pairings between DAC donors and recipients.

[Table 11] Regression Results on Determinants of Giving Aid for Trade

Ln(AfT)	(1)	(2)	(3)	(4)
	AfT, Total	AfT, Total	AfT, Total	AfT, Total
ln_GDPpcR	-0.3300*** (-3.0448)	-0.5702*** (-5.2046)	-0.3707*** (-2.8780)	-0.2766*** (-2.2363)
ln_POPR	0.3967*** (4.4798)	0.2425*** (2.7751)	0.2314*** (2.6739)	0.3128*** (3.7524)
ln_EX_All_DAC	0.0193 (0.3808)	0.0176 (0.3540)	0.0364 (0.7220)	-0.0272 (-0.6280)
ln_IM_All_DAC	0.2382*** (2.9480)	0.2005*** (2.6690)	0.2024*** (2.7137)	0.2513*** (3.5803)
FTA_Dummy	0.3286** (2.4892)	0.3090** (2.5169)	0.2679** (2.1965)	0.2209* (1.9010)
Non_WTO	-0.3902*** (-2.7330)	-0.3840*** (-2.7944)	-0.2777** (-2.0027)	
LPI	0.0647** (2.2376)	0.0388 (1.4316)	0.0230 (0.8443)	
Landlocked	0.2591** (1.9745)	0.2337* (1.8881)	0.2974** (2.3984)	0.2683** (2.2334)
ln_FDI		0.2147*** (6.0365)	0.2057*** (5.8080)	0.1701*** (5.1139)
Gov't_effectiveness				-0.4265** (-2.0455)
Regul_quality				0.3684** (2.0602)

Polit_stability				0.2732*** (3.0982)
LDC			0.5478** (2.2644)	0.5894*** (2.6133)
OLIC			0.5124* (1.6555)	0.7936*** (2.6874)
LMIC			0.6133*** (4.1191)	0.8137*** (5.7886)
Constant	-6.3703 (-8.3737)	-5.4352 (-7.4252)	-7.2877 (-6.8341)	-8.2166 (-7.6631)
R-squared	0.4627	0.5160	0.5310	0.5421
Adjusted R ²	0.4553	0.5083	0.5210	0.5321
Observations	592	577	577	609
Note: T-statistics is shown in parenthesis. * p<0.1: significant at 10% level, **p<0.05: significant at 5% level, *** p<0.01: significant at 1% level				

As shown in the [Table 11], the model is estimated for four different sets of independent variables. All presented models in the table above show the results of the regressions about the factors affecting donors' decision to give aid for trade (AfT) to recipient countries. Most factors included in the regression have a statistically significant effect in all models, explaining 46% for model (1) and 54% for model (4) where the fitted value is the highest. Interestingly, the log of export to all DAC donors from recipients turns out to be insignificant whereas the results of taking the log of import from recipients to all DAC donors are highly significant at 1% level across all four sets of models. This indicates commercial interests of donors that they tend to give more AfT to recipients that import more from them. In other words, recipients became the exporting market for the donors.

In model (1), the independent variables have expected results. *Non-WTO* dummy variable is highly significant at 1% level and it explains that if recipients are non-WTO members, they will receive less AfT by 39% compared to recipients that are WTO members. In addition, *LPI* (Logistics Performance Index²²) is significant at 5% level and an increase in score of LPI by one discrete level leads to an increase in receiving AfT by 6.5%, which indicates that if recipients have better LPI, they would

²² LPI index is consisted of six factors: documents to export/import, cost to export/import, and time to export/import.

receive more AfT. This is somewhat contrary to the expectation that recipients with a lower LPI would receive more AfT as a part of assisting trade facilitation. However, LPI loses its insignificance in model (2) and (3) when more variables are included in other models.

As a rule of thumb, the model (4) will be explained in detail as it has the highest R-squared (54% of explanatory power) with a higher adjusted R-squared. In overall, all variables are found to be highly significant except *FTA_dummy* variable with a 10% significance level, which partly explains the commercial relationship between donors and recipients that recipients having FTAs with any of DAC donors will tend to receive more AfT. As expected, if recipients' GDP per capita grows, they would receive less AfT as their economic size becomes similar to the upper middle income countries (UMICs)²³. In addition, *landlocked* countries will receive more AfT by 26.8% compared to coastal recipient countries as they are faced with the higher at-the-border costs.

Furthermore, the log of *FDI* is found to be an important variable for donors to give more AfT, which shows its significance at 1% level with higher t-value ($t=5.1139$). The result shows that a 10% increase in FDI may increase the amount of AfT given to recipients by 1.7%. This may be partly due to the fact that strengthening investors' confidence in a recipient will likely to boost confidence in donors as well and in fact FDI is another important resource for development. To assess the effect institutional environment on the decision for giving more AfT, following three variables from world governance indices are included in the model (4). *Govt_effectiveness* variable is significant at 5% with a negative sign which indicates that if recipient countries' government effectiveness index increase by one discrete level, they will receive less AfT by 43%. This results is somewhat contrary to the expectation that the

²³ When recipients' GDP per capita exceeds the threshold of World Bank criteria, they will graduate from the list of ODA recipients and will no longer receive ODA.

relationship between receiving more AfT and government effectiveness needs more investigation.

On the contrary, if recipients have better *regulatory quality* (significant at 5% level, $t=2.0602$) and *political stability* (significant at 1% level, $t=3.0982$), they will receive more AfT by 37% and 27%, respectively. When income groups are included in the model, it shows that those recipients belong to LDCs, OLCs, and LMICs will receive more AfT compared to UMICs and all of them are significant at 1% level. Specifically, three income group dummies are compared to UMICs that recipients belong to LMICs (the highest t-value, $t=5.7886$) will receive more AfT by 81% compared to UMICs. The result is consistent with expectation that as LMICs receive the largest amount of AfT, this affects decision-making by donors. This indicates that each donor has its own preference to give AfT, particularly to LMICs, as it is relatively easier to see the tangible outcomes in the short-run compared to other income groups.

According to OECD report (2013), it explains how donors respond to new patterns of trade. It states that some donors have implemented new AfT strategies and only 40 % of bilateral agencies have changed their strategies, whereas 60% of multilaterals have revised their approaches. The new priority areas are: regional economic integration; trade facilitation; quality infrastructure; and integrating into regional and international value chains. The shift in AfT strategy from donors may have significant effect on recipients. Tadasse and Fayissa (2009) investigate on the determinants of the allocation of US Aid for Trade, covering 54 developing countries during 1999-2005. Their study identifies donor and recipient specific factors that affect the propensity and intensity of AfT allocation. They found that the share of AfT given to a country is greater when the donor's exports to the recipient country is larger; when the recipient country is more vulnerable to external economic shocks; when it is more politically globalized; when it is landlocked; and when it has a lower level of economic freedom; and when there is the higher amount of traditional non-AfT inflows.

1. Relationship between Aid for Trade and Overall Export Performance

[Table 12] Impact of Aid for Trade on Export to the World

Ln(EX_World)	(1)	(2)	(3)	(4)
	AfT, Total	AfT, Total	AfT, Total	AfT, Total
ln_GDPPCR	1.2317*** (19.9847)	1.7437*** (5.9250)	0.7565*** (9.8433)	0.1729* (1.7234)
ln_AfT	0.3655*** (7.4832)		0.2955*** (6.5500)	0.7697*** (22.3764)
SHARE_AfT		3.5100*** (2.8995)		
ln_ODA_minus_AfT	0.4968*** (7.3964)	0.8903*** (3.8734)		
ln_FDI			0.4629*** (12.0771)	
TTRI	-0.0431*** (-3.4672)		-0.0322** (-2.5048)	
NTM		-0.0283 (-1.4939)		
Cost_EX		-0.0007 (-1.4432)	-0.0002** (-2.4342)	
Doc_EX		0.2129** (1.9965)		
Time_EX		0.1599* (1.8657)		
Corruption		-1.8814** (-2.4004)		
Govt_effectiveness		1.9517** (2.2248)		
Regul_quality			-0.4979*** (-3.0216)	
Political_stability			-0.2687*** (-2.8925)	
Non_WTO			-0.6475*** (-3.2120)	
Landlocked	-0.3380** (-2.4904)			-0.2809* (-1.9338)
OLIC				1.1676*** (3.6636)
LMIC				1.1955*** (6.4809)
UMIC				2.6912*** (10.5590)
Constant	9.7206 (14.2812)	2.2893 (0.6942)	6.5527 (9.1546)	16.5214 (24.7117)
R-squared	0.6869	0.8162	0.7985	0.5664
Adjusted R ²	0.6838	0.7572	0.7932	0.5632
Observations	504	389	313	827

Note: T-statistics is shown in parenthesis. * p<0.1: significant at 10% level, **p<0.05: significant at 5% level, *** p<0.01: significant at 1% level

This regression analysis in the [Table 12] is added in order to complement the shortcomings of the rest of the analysis that are only based bilateral pairings between recipients and DAC donors. Thus, the results are provided to assess the overall impact of AfT in increasing export to the world. The *ln_AfT* variable is found to be highly significant across all models and specifically, in the model (1), a 1% increase in AfT will increase export to the world by 0.37% ($t=7.4832$) whereas in model (4), a 1% increase in AfT will increase export to the world by 0.77% ($t=22.3764$) depending on different sets of independent variables. Referring to the model (1), non-AfT variable (*ln_ODA_minus_AfT*) is included to see its effect on increasing export to the world without overlapping with the effect of AfT. Interestingly, non-AfT is found to be highly significant with a slightly higher coefficient than log of AfT, which indicates that enhancing other non-trade related sectors also contribute to promote recipients' export. On the other hand, referring to some scholars' arguments, the result may imply that there are still shortcomings of AfT as there is overlapping and unclear distinction between AfT and non-AfT. In addition, *TTRI* variable, denoting tariffs, is found to be highly significant at 1% level with a negative sign that one unit increase in tariffs would lead to a 4.3% decrease in the export to the world. For *landlocked* dummy variable in the model (1), it is significant at 5% level and it can be interpreted as landlocked recipients would export approximately 33% less than those recipients having access to the coast.

In the model (2) with the highest fittest value ($R^2=0.8162$), the *share of AfT* is included instead of log of AfT to see the different effect on increasing export to the world. Surprisingly, the coefficient of *share of AfT* is increased approximately tenfold (coeff=3.5100) compared to log of AfT (coeff=0.3655) in the model (1) that a 1% increase in the *share of AfT* promotes export to the world by 3.5%. This gives an important implication that increasing the share of AfT out of total ODA is more important than only increasing the absolute amount of AfT without enlarging its share. The *NTM* variable, denoting non-tariff barriers, has an expected negative sign, which means that if

one unit increase in NTM would decrease export to the world; however, it is found to be statistically insignificant.

LPI (Logistic Performance Index) is comprised of data on cost to export, number of document to export, and time to export that they are used to measure how recipients' trade facilitation has been improved. The *cost_ex* variable has an expected negative sign; however, it is found to be insignificant. On the other hand, *doc_ex* and *time_ex* are statistically significant; but they have positive sign which is unexpected results that both variables were expected to have negative signs. As part of the world governance index, *corruption* and *govt_effectiveness* variables are significant at 5% level that if a recipient has a worse corruption index, it would export less to the world whereas a recipient with a higher government effectiveness index would export more to the world.

Referring to the model (3), all variables are consistent with expectation. The log of FDI is highly significant at 1% with the highest t-value ($t=12.0771$) that a 10% increase in *ln_FDI* would increase export to the world by 4.6%. What is interesting in the model (3) is that the result of *cost to export* is different from the model (2) that it is found to be highly significant at 5% level, indicating one unit increase in *cost_ex* would lead to a 0.02% decrease in the export to the world.

On the contrary, it was unexpected to see *regul_quality* variable with a negative sign. It is supposed to have a positive sign which may indicate that a recipient with a better regulatory quality would export more to the world. For *polit_stability* variable, a recipient with a worse political stability index will export less to the world roughly by 27%. Moreover, if a recipient is a non-member in the WTO (*Non_WTO dummy*), it will export less approximately by 65% than other recipients that are WTO members. In the model (4), when the level of export to the world was compared based on income groups, as expected, the recipients belong to a higher income group will export more to the world although they receive less AfT. However, this issue requires more investigation that how

the small amount of AfT can contribute to enhance the export performance of UMICs compared to other income groups.

2. Relationship between Aid for Trade and Economic Integration

[Table 13] Regression Results of Relationship between AfT and Economic Integration (1)

Ln(Export _{ijt})	(1)	(2)	(3)	(4)
	AfT, Total	AfT, Total	AfT, Total	AfT, Total
ln_GDPpcR	1.3669*** (59.6474)	1.2725*** (66.2196)	1.3528*** (59.1717)	1.3910*** (56.7228)
ln_GDPpcD	-0.2303*** (-3.0669)	0.3495*** (6.8772)	-0.1519** (-2.0453)	-0.3767*** (-4.7536)
ln_POPR	1.2467*** (86.699)	1.3424*** (117.9118)	1.2609*** (88.4647)	1.2184*** (81.7409)
ln_POPD	0.8631*** (43.4018)	1.1351*** (76.3854)	0.8935*** (46.2133)	0.8084*** (37.8379)
ln_Distance	-0.7598*** (-20.5737)	-0.9023*** (-27.0377)	-0.7803*** (-21.0121)	-0.6591*** (-16.2860)
Landlocked	-0.4357*** (-8.1038)	-0.4122*** (-9.3345)	-0.4510*** (-8.3773)	-0.4098*** (-7.5621)
Language	0.5837*** (8.8160)	0.7965*** (13.2744)	0.5803*** (8.7418)	0.5297*** (7.9787)
Border	1.0287*** (2.7289)	1.1993*** (2.9629)	1.0315*** (2.7287)	0.8942** (2.3782)
Colony	0.9697*** (9.8539)	1.1379*** (11.6563)	1.0294*** (10.4827)	0.8620*** (8.6555)
ln_Bilateral_AfT	0.0984*** (10.0036)			0.0595*** (5.1571)
ln_ODA_minus_AfT				0.1003*** (6.4966)
Integration_ij		0.0388 (1.6087)		0.1071*** (3.5687)
ln_AfT*Integration			0.0482*** (7.8988)	
Constant	-19.4084 (-19.3228)	-30.1805 (-41.5424)	-20.7231 (-21.0250)	-17.8171 (-16.7515)
R-squared	0.6177	0.5925	0.6156	0.6189
Adjusted R ²	0.6173	0.5922	0.6152	0.6185
Observations	9588	16781	9575	9406
Note: T-statistics is shown in parenthesis. * p<0.1: significant at 10% level, **p<0.05: significant at 5% level, *** p<0.01: significant at 1% level				

From [Table 13], all the following regression results will be based on the bilateral pairings between donors and recipients (i-j). The table above illustrates the relationship between aid for trade (AfT) and economic integration (index ranging from 0 to 6) and each set of model illustrates different implications. All the traditional gravity model variables – *GDP per capita*, *population*, *distance*, *landlocked*, *border* and *colony* – are found to be highly significant at 1% level across all models. As expected, if the distance between the recipient and the donor gets farther, the recipient will export less to the donor by 0.7% on average and if one of the pair is landlocked, the recipients will export less by 40% on average. On the other hand, if the recipient and the donor share a common *language*, *border*, and have historical *colonial relationship*, recipients will export more to those donors. However, it was unexpected results that if GDP per capita of donors increases, recipients would export less, with an exception in model (2) which shows a positive sign when it was run with economic integration variable. This may indicate that the decrease in recipients' export to DAC donors is directed to an increase in export to non-DAC donors, including the trading partners from the South. Referring to other studies, Hühne *et al.* (2014) argue that AfT contributed to promote export to the South more than to the North.

In the model (1), the log of *bilateral AfT* is highly significant at 1% level, which indicates that a 10% increase in bilateral AfT will increase export to DAC donor by 0.98%. What is interesting in the model (2) is that increasing level of economic integration itself is found to be insignificant. To remind, the most interesting variables in this study are aid for trade (AfT) and economic integration and this research is done in order to assess how these two variables interact with each other for the purpose of increasing export from recipients. As shown in the model (3), when the amount of bilateral AfT is multiplied by the level of economic integration (*ln_AfT*Integration*) to have an interaction effect, it is found to be highly significant at 1% level with a high t-value (t=7.8988). This result indicates that when a recipient receives more AfT and have a higher level of economic integration, such as having better market access with lower

tariffs granted from GSP or forming FTAs with DAC donors, it will export more to donors compared to those recipients receiving less AfT and have a lower level of economic integration. In the model (4) with the highest R-squared ($R^2=0.6189$), when the economic *integration* variable is run together with *ln_bilateral_AfT* and non-AfT (*ln_ODA_minus_AfT*), it becomes significant at 1% level with a high coefficient (coeff=0.1071, t=3.5687) whereas the log of AfT has the highest t-value (t=5.1571), which implies the importance of both AfT and economic integration in enhancing export from recipients to donors.

[Table 14] Regression Results of Relationship between AfT and Economic Integration (2)

Ln(Export_ijt)	(5)	(6)	(7)	(8)	(9)
	AfT, Total				
ln_GDPpcR	1.2539*** (63.6382)	1.3130*** (54.5985)	1.3412*** (58.7590)	0.8881*** (18.9274)	0.8814*** (19.0304)
ln_GDPpcD	0.3467*** (6.8119)	-0.1987*** (-2.6482)	-0.0764 (-1.0419)	-0.0296 (-0.3901)	0.0368 (0.4917)
ln_POPR	1.3405*** (117.9419)	1.2361*** (85.7523)	1.2689*** (89.2575)	1.1606*** (67.1966)	1.1615*** (67.3194)
ln_POPD	1.1415*** (76.6481)	0.8670*** (43.6954)	0.9236*** (49.2350)	0.9038*** (45.8432)	0.9310*** (48.7735)
ln_Distance	-0.8472*** (-24.1209)	-0.6029*** (-14.0939)	-0.7931*** (-21.5006)	-0.7951*** (-18.6744)	-0.7129*** (-15.8346)
Landlocked	-0.3963*** (-8.9018)	-0.3973*** (-7.3725)	-0.4687*** (-8.7010)	-0.4289*** (-7.8671)	-0.3978*** (-7.2548)
Language	0.7795*** (12.9934)	0.5844*** (8.8496)	0.5880*** (8.8427)	0.5670*** (8.7060)	0.5735*** (8.8124)
Border	1.2348*** (3.0483)	1.0268*** (2.7310)	1.0510*** (2.7765)	1.0036*** (2.6867)	1.0771*** (2.8871)
Colony	1.1465*** (11.7294)	0.9695*** (9.8783)	1.0837*** (11.0538)	1.0106*** (10.4233)	1.0546*** (10.9363)
ln_Bilateral_AfT		0.0965*** (9.8320)		0.0890*** (9.0990)	
Integration_ij				0.1064*** (3.5967)	
ln_AfT*Integration					0.0452*** (7.4805)
FTA_DAC	0.2106*** (3.8571)	0.4889*** (7.2118)			0.4741*** (7.0532)
ln_AfT*FTA			0.0840*** (4.6189)		
WTO_Membership				0.6505*** (8.7430)	0.6614*** (8.9076)
Period_Dummy (1 = 2007-2011)				2.0869*** (8.9420)	2.1695*** (9.3246)

Top20_AfT				0.1574** (2.4014)	0.2042*** (3.1221)
OLIC				0.7193*** (6.1648)	0.7048*** (6.0527)
LMIC				0.9490*** (11.5279)	0.8980*** (10.9114)
UMIC				1.4608*** (12.4021)	1.3564*** (11.4834)
Constant	-30.5771 (-41.6113)	-20.7264 (-20.3540)	-21.9812 (-22.7653)	-20.6553 (-20.4931)	-22.5557 (-22.6939)
R-squared	0.5922	0.6198	0.6146	0.6311	0.6313
Adjusted R ²	0.5920	0.6194	0.6142	0.6305	0.6307
Observations	16813	9588	9588	9575	9575
Note: T-statistics is shown in parenthesis. * p<0.1: significant at 10% level, **p<0.05: significant at 5% level, *** p<0.01: significant at 1% level					

As a part of assessing the impact of economic integration, the [Table 14] is provided to see the effect of free trade agreements (FTAs) on export and when it is combined with the effect of aid for trade (AfT). In Bergstrand's EIA index, FTAs is denoted as level "3" and it is important to its specific effect as many FTAs were newly formed after 2005. As mentioned earlier, all data was updated after 2005 and this study covers the period from 2002 to 2011. As shown in the [Table 14], all the variables are found to be highly significant at 1% with exception of the log of GDP per capita of donors in the model (7-9). The traditional gravity variables show the consistent and expected results across all models that if the *distance* between recipients and donors get farther and if one of the pair is *landlocked*, recipients would export less to donors. On the other side, if recipients and donors share the common *language*, *border*, and have *colonial relationship*, recipients would export more to donors.

In the model (5), *FTA_DAC* dummy variable is based on bilateral pairings between each recipient and donor that if a recipient has a FTA with any of the donors, it would export more by 21% (t=3.8571, coeff=0.2106). Referring to the model (6), when *FTA_DAC* variable was run together with *ln_bilateral_AfT*, both the magnitude and amount of t-value and coefficient have been doubled (t=7.2118, coeff=0.4889), which indicate that bilateral AfT given by each donor to each recipient promotes the effect of FTA existing between them. When the effect of bilateral AfT and FTA with DAC takes

an interaction term in the model (7), it is found to be highly significant at 1%; however, the coefficient is smaller than when two variables were run separately in the same model. Thus, when there is a 1% increase in AfT and if a recipient has FTA with DAC, the amount of export would be increased by 8.4%.

As presented in the model (8), when *ln_bilateral_aft* and *economic integration* variables were run together, both variables are found to be highly significant at 1% level and the former variable has a larger t-value whereas the latter has a slightly larger coefficient. In the model (9), *ln_AfT*Integration* and *FTA_DAC* dummy variables were run together to compare each effect on increasing export to donors. They are all highly significant, but the coefficient of *FTA_DAC* (coeff=0.4741) is 10% larger than *ln_AfT*Integration* (coeff=0.0452), which indicates that the effect of forming FTA with any of the donors is much stronger than only having the market access through non-reciprocal or reciprocal preferential trade agreements (PTAs).

Moreover, the model (8) and (9) are provided to see the effect of additional independent variables. Both models give similar results and are consistent with expectation and as the model (9) has the best fit value with an explanatory power of 63%, the model (9) would be discussed. If a recipient is a member of the WTO (*WTO_member dummy*), it would export more to donors approximately by 66%. As the absolute amount of AfT given to recipients was increased substantially after the AfT Initiative in 2005, the *period_dummy* was included to see if the increased amount of AfT contributed to promote export to donors. As expected, it is found to be highly significant that during 2007-2011, the export from recipients to donors was increased roughly by 217%.

In addition, as top 20 AfT recipients receive more AfT in terms of the absolute amount, they would export more to donors by 20%. The income group dummies are included to compare each group's export performance when receiving AfT and out of

four income groups, LDCs dummy was excluded to avoid multicollinearity and it is used as a comparing reference to other income groups. As expected, the income group with a higher per capita GNI has better export performance that UMICs would export more to donors approximately by 136% than the recipients belong to LDCs.

[Table 15] Regression Results of Relationship between three sub-sectors in Aft and Economic Integration (1)

Ln(Export_ijt)	(1)	(2)	(3)	(4)
	Aft Total	Aft Institutions	Aft Infrastructure	Aft Production
ln_GDPpcR	1.3669*** (59.6474)	1.2639*** (28.9854)	1.2615*** (43.9361)	1.3793*** (57.6815)
ln_GDPpcD	-0.2303*** (-3.0669)	0.05815 (0.3807)	-0.0091 (-0.1012)	-0.3121*** (-3.8784)
ln_POPR	1.2467*** (86.6991)	1.2370*** (50.4605)	1.2598*** (72.9088)	1.2272*** (83.0815)
ln_POPD	0.8631*** (43.4018)	0.6935*** (19.3585)	0.9153*** (38.3656)	0.8281*** (40.7383)
ln_Distance	-0.7598*** (-20.5737)	-1.1490*** (-15.7514)	-0.9078*** (-20.1294)	-0.7585*** (-19.9056)
Landlocked	-0.4357*** (-8.10381)	-0.4931*** (-4.5486)	-0.6215*** (-8.8181)	-0.4518*** (-8.0903)
Language	0.5837*** (8.8160)	0.2602** (2.1017)	0.6113*** (7.1827)	0.5382*** (7.9091)
Border	1.02870*** (2.7289)	0.7804 (1.5391)	1.0836*** (2.8634)	0.9681** (2.5162)
Colony	0.9697*** (9.8539)	0.9061*** (5.0957)	0.9920*** (8.6352)	0.9126*** (9.0522)
ln_Bilateral_Aft	0.0984*** (10.0036)			
ln_Aft_institution		0.1508*** (6.7564)		
ln_Aft_infra			0.0222* (1.9435)	
ln_Aft_production				0.1203*** (11.1045)
Constant	-19.4084 (-19.3228)	-14.3779 (-7.5796)	-20.7414 (-17.6550)	-17.6325 (-16.6260)
R-squared	0.6177	0.6574	0.6476	0.6224
Adjusted R ²	0.6173	0.6559	0.6470	0.6219
Observations	9588	2298	5569	8741
Note: T-statistics is shown in parenthesis. * p<0.1: significant at 10% level, **p<0.05: significant at 5% level, *** p<0.01: significant at 1% level				

In the [Table 15], the total amount of AfT is disaggregated into three AfT sub-sectors based on proxy: trade policy and regulations, economic infrastructure, and building productive capacity. Referring to model (1), the log of total *bilateral_aft* is found to be highly significant at 1% level ($t=10.0036$, $coeff=0.098403$) with the largest number of observation. Despite the smallest number of observation, the model (2) has the best fit value explaining 66% of the model and it presents an unexpected result that it was expected to be insignificant due to the small absolute amount given to trade-related institution sector.

What is intriguing in this model is that despite the small amount AfT given to this sector (*ln_AfT_institution*), it is found to be highly significant at 1% level ($t=6.7564$) with the highest coefficient ($coeff=0.1508$), which means that a 10% increase in trade-related institution may increase export from recipients to donors by 1.5%. As this sub-sector of AfT assists the process of RTAs, trade facilitation, multilateral trade negotiations and so on, it can be assumed that it has the strong effect to a certain extent on increasing export.

Interestingly, the traditional variable *border* loses its significance and *language* dummy variable's significance level is decreased from 1% to 5% when it is run with trade-related institution, which may indicate that increasing number of RTAs formed between the donors and recipients made the border and language meaningless. In addition, it was unexpected that log of GDP per capita of donors loses its significance and has an opposite sign compared to other models presented above.

Contrary to the expectation, *ln_AfT_infra* variable is found to be only significant at 10% level with the lowest coefficient compared to other models that a 10% increase in economic infrastructure implies an increase of export to donors only by 0.2%. What makes this result interesting is that as over the half of absolute amount of total AfT is given to this sector, it was expected to be highly significant at 1%, which is supposed to

contribute the most to increase export from recipients. Moreover, like the model (2), the log of GDP per capita of donor in model (3) loses its significance with a negative sign. In the model (4), *ln_AfT_production* variable has the highest t-value (t=11.1045) across all models; however, its coefficient is slightly smaller than *ln_AfT_Institution*. Thus, a 10% increase in *ln_AfT_production* may increase recipients' export to donors by 1.2%. Indeed, a larger magnitude for *AfT_production* was expected before running the regression.

[Table 16] Regression Results of Relationship between three sub-sectors in AfT and Economic Integration (2)

Ln(Export _{ijt})	(5)	(6)	(7)	(8)
	AfT Total	AfT Institutions	AfT Infrastructure	AfT Production
ln_GDPpcR	1.3528*** (59.1717)	1.2768*** (28.7774)	1.2597*** (43.7900)	1.3654*** (57.0786)
ln_GDPpcD	-0.1519** (-2.0453)	0.2355 (1.5344)	0.0088 (0.0980)	-0.2154*** (-2.7047)
ln_POPR	1.2609*** (88.4647)	1.2612*** (51.5888)	1.2628*** (73.4940)	1.2429*** (84.6619)
ln_POPD	0.8935*** (46.2133)	0.7268*** (20.1728)	0.9218*** (39.0732)	0.8612*** (43.3191)
ln_Distance	-0.7803*** (-21.0121)	-1.2566*** (-17.0516)	-0.9141*** (-20.1406)	-0.7941*** (-20.6980)
Landlocked	-0.4510*** (-8.3773)	-0.4549*** (-4.1684)	-0.6301*** (-8.9607)	-0.4635*** (-8.2768)
Language	0.5803*** (8.7418)	0.2415* (1.9338)	0.5992*** (7.0659)	0.5432*** (7.9568)
Border	1.0315*** (2.7287)	0.7386 (1.4374)	1.0905*** (2.8768)	1.0051*** (2.6028)
Colony	1.0294*** (10.4827)	0.9536*** (5.3188)	1.0088*** (8.8145)	0.9831*** (9.7652)
ln_AfT*Integration	0.0482*** (7.8988)			
ln_insti*Integration		0.0386*** (2.8160)		
ln_infra*Integration			0.0090 (1.2893)	
ln_produc*Integration				0.0583*** (8.5775)
Constant	-20.7231 (-21.0250)	-16.6575 (-8.6915)	-21.0339 (-18.0210)	-19.0998 (-18.2705)
R-squared	0.6156	0.6520	0.6467	0.6196
Adjusted R ²	0.6152	0.6505	0.6460	0.6192
Observations	9575	2293	5557	8727

Note: t-statistics is shown in parenthesis.
* p<0.1: significant at 10% level, **p<0.05: significant at 5% level, *** p<0.01: significant at 1% level

In brief, the regression results shown in the [Table 16] have similar results as provided in the [Table 15]. However, there are some different implications in the table above. In the [Table 16], each sub-sector of aid for trade (AfT) takes an interaction term with economic integration, which is the most important variable in this study. This regression results are provided to assess how the effect of economic integration interacts with each sub-category of AfT, contributing to enhance export performance of recipients.

Referring to the model (5), all the variables are consistent with expectation that they are all highly significant at 1% level. As the interaction term is a product of the two variables, it gives an additional effect by multiplying two predictors. When AfT given to a recipient increases by 1% and when a recipient has a higher level of economic integration by one discrete level, it would increase export to donors additionally by 4.8%.

When AfT is disaggregated into three sub-sectors, *ln_produc*Integration* has the highest t-value (t=8.5775) with the largest coefficient that a 1% increase in AfT for building productive capacity sector with an increase in economic integration by one level may increase export to donors additionally by 5.8%. Surprisingly, when the log of infrastructure takes an interaction effect with economic integration variable (*ln_infra*Integration*), it becomes statistically insignificant, which implies that a 1% increase in AfT for economic infrastructure sector with one level improvement in economic integration index do not contribute to promote export from recipients to donors.

Despite the smallest number of observation across all models, *ln_insti*Integration* has the highest fittest value that it has explanatory power of 65% in the model (6). It is found to be highly significant at 1% level and when it takes an interaction term with economic integration, it contributes to increase export to donors additionally by 3.9%. However, compared to [Table 15], its coefficient (=0.0386) is smaller than *ln_produc*Integration* coefficient (=0.0583) in the [Table 16].

According to OECD report (2013), it states that imports are becoming a more important factor for future growth. Based on OECD/WTO questionnaire responses, imports are perceived as an important factor for future growth, especially in manufacturing, services, and fuels and mining products. However, Hallaert *et al.* (2011) argue that the crucial contribution of imports to economic growth is “*not well understood beyond the circle of trade economists*”. With growing prioritization of participating in global value chains (GVCs), partner countries are putting greater emphasis on imports in their trade strategies.

[Table 17] Regression Results of Relationship between AfT and Import Performance

Ln(Import_ijt)	(1)	(2)	(3)	(4)	(5)	(6)
	AfT, Total	AfT, Institution	AfT, Infrastructure	AfT, Production	AfT, Total	AfT, Total
ln_GDPpcR	1.0936*** (85.3231)	0.9800*** (41.5434)	1.0213*** (66.3752)	1.0793*** (79.2477)	1.0911*** (94.4489)	1.0780*** (83.5675)
ln_GDPpcD	-0.3605*** (-8.7795)	-0.2922*** (-3.6321)	-0.3462*** (-7.3208)	-0.3921*** (-8.7944)	0.6511*** (21.6595)	-0.2675*** (-6.5315)
ln_POPR	0.9145*** (115.0350)	0.9380*** (71.6494)	0.9120*** (99.4248)	0.9100*** (108.8351)	1.0607*** (162.2804)	0.9335*** (117.7974)
ln_POPD	0.7730*** (69.8563)	0.8131*** (42.3869)	0.7969*** (63.2040)	0.7883*** (68.4536)	1.0475*** (117.0418)	0.8132*** (75.1281)
ln_Distance	-0.7912*** (-37.9670)	-0.9789*** (-24.6439)	-0.8075*** (-33.3059)	-0.8206*** (-37.4457)	-0.9637*** (-47.5946)	-0.8239*** (-39.0400)
Landlocked	-0.2336*** (-7.7439)	-0.1960*** (-3.3298)	-0.2721*** (-7.2036)	-0.2777*** (-8.7126)	-0.2530*** (-9.4780)	-0.2517*** (-8.2672)
Language	0.4884*** (13.0577)	0.2143*** (3.1873)	0.4879*** (10.5821)	0.4973*** (12.7497)	0.6620*** (18.0493)	0.4896*** (12.9552)
Border	0.5829*** (2.7386)	0.5726** (2.1236)	0.6847*** (3.3242)	0.5229** (2.3669)	0.5698** (2.2812)	0.5832*** (2.7110)
Colony	0.4258*** (7.5647)	0.2528*** (2.6201)	0.4379*** (7.0124)	0.3971*** (6.7950)	0.6871*** (11.1801)	0.4978*** (8.7939)
ln_Bilateral_AfT	0.1042*** (18.7779)					
ln_AfT_institution		0.0489*** (3.4000)				
ln_AfT_infra			0.0726*** (11.7975)			
ln_AfT_production				0.0938*** (15.0869)		
Integration_ij					0.1078*** (7.2864)	
ln_AfT*Integration						0.0430*** (12.5265)
Constant	-7.5894 (-13.6750)	-6.4544 (-6.4647)	-7.2700 (-11.7502)	-7.0176 (-11.8062)	-24.3042 (-55.7471)	-9.1911 (-16.7482)
R-squared	0.7650	0.8060	0.7974	0.7626	0.7422	0.7600
Adjusted R-squared	0.7648	0.8051	0.7971	0.7623	0.7420	0.7598
Observations	9899	2318	5687	9030	18307	9886

Note: T-statistics is shown in parenthesis.
* p<0.1: significant at 10% level, **p<0.05: significant at 5% level, *** p<0.01: significant at 1% level

In the [Table 17], the dependent variable is the log of import from recipients to donors from 2002 to 2011 whereas other tables presented above have a dependent variable as the log of export. This regression was run in order to see how aid for trade (AfT) and its three sub-sectors contribute to increase import from donors. Most studies investigating AfT focus on its effectiveness on increasing export. However, it is important to assess AfT's effectiveness not only from the export side, but also from the import side to effectively evaluate how trade facilitation made improvement in recipient countries such as number of documents, costs, time to import.

In addition, due to lack of skills in exporting high technology products and difference in comparative advantage, recipients tend to import more of capital-intensive and manufactured goods produced with medium or high technology. Thus, the results presented above indicate that recipients become important importing market for donors and giving AfT not only enhances the trading environment for recipients, but also it is beneficial for donor countries.

All the independent variables are highly significant with positive signs that all of them promote import from donors to recipients. The most important variable in this study, *ln_bilateral_AfT*, is found to be highly significant at 1% level with the highest t-value ($t=18.7779$) across all models that it implies its importance in not only enhancing export but also increasing import. The model (3) and (5) give the most interesting results as the same results were found to be insignificant when the log of export was taken as a dependent variable.

Contrary to [Table 15] where *ln_AfT_Infra* was only significant at 10% level, in the model (3) in the above table, the same variable is highly significant at 1% level ($t=11.7975$) with a high coefficient, which implies that a 10% increase in infrastructure sector promotes import from donors by 0.7%. This result may indicate that AfT given to

infrastructure sector contributes to enhance the import side more than the export side for recipients.

Referring to the model (5), the result is different from [Table 13] that economic *integration* itself was found to be insignificant to increase export to donors. However, in the [Table 17], economic *integration* variable is found to be highly significant at 1% level ($t=7.2864$) to increase import from donors that one discrete level increase in economic integration level may promote import from donors by 10.8%. Furthermore, a 10% increase in $\ln_AfT_institution$ promotes import from donors by 0.49% whereas a 10% increase in $\ln_AfT_production$ increases import from donors by 0.94%. In the [Table 15], $\ln_AfT_institution$ has the largest coefficient whereas in the [Table 17], it has the smallest coefficient, which gives a different implication that AfT given to the institution sector contributes more to the export side than the import side.

CHAPTER VII. CASE STUDY: COLOMBIA

As a part of Latin America, Colombia is geographically located in South America. In terms of promoting regional integration, it is a member of Andean Community (CAN) since 1988 and currently it is a member of the Pacific Alliance²⁴(PA) since 2012. Although its export performance and GDP have been increased substantially in recent years, still it receives ODA in order to complement its shortcomings in the level of development. As shown in the [Table 18], most of Latin American and the Caribbean countries (LACs) belong to either LMICs or UMICs in the list of ODA recipients. For Colombia, it is an upper middle income country and it is expected to graduate from the list in the near future. Thus, they receive less ODA compared to other income groups. Even among LMICs, recipients from Asia tend to receive more ODA compared to Latin America or the Eastern Europe. This is partly due to the fact that LACs have a higher income level. However, it is important to acknowledge that the level of economic growth does not necessarily guarantee the level of equivalent development. The income inequality within the region and the country gets worse and people living under the poverty line are still prevalent throughout the region.

As most case studies on AfT focus on LMICs or recipients from Asia or Africa, this case study is intended to investigate the importance and role of UMICs and Latin America as a part of ODA recipients. Most importantly, how the increasing level of economic integration has the impact on AfT effectiveness at the country level will be discussed in the regression analysis. By conducting in depth case study of Colombia, it is expected to draw important implications for donors that why UMICs and Latin America need more ODA, precisely Aid for Trade (AfT).

²⁴ The Pacific Alliance (PA) is a mechanism for the economic and commercial integration of Chile, Colombia, Mexico and Peru, formally established via the Framework Agreement of 6 June 2012. Currently, Costa Rica is on the process of joining PA as the fifth member. The Gross Domestic Product (GDP) of the Pacific Alliance member countries accounts for 35% of the total Latin American and Caribbean (LAC) and the four members of the Pacific Alliance account for 50% of trade in the region. However, PA is not formally included in the WTO RTA database yet.

[Table 18] DAC List of ODA Recipients (only Latin America)

LEAST DEVELOPED COUNTRIES (LDCs) **as defined by the UN	OTHER LOW-INCOME COUNTRIES (per capita GNI <= USD 1,005 in 2010)	LOWER MIDDLE-INCOME COUNTRIES AND TERRITORIES (per capita GNI USD 1,006-3,975 in 2010)	UPPER MIDDLE-INCOME COUNTRIES AND TERRITORIES (per capita GNI USD 3,976–12,275 in 2010)
Haiti (1/1)	N/A	Belize (2/2)	Antigua and Barbuda (2/2)
		Bolivia (1/3)	Argentina (1/4)
		El Salvador (8/10)	Brazil (1/5)
		Guatemala (8/9)	Chile (18/24)
		Guyana (2/3)	Colombia(6/10)
		Honduras (8/9)	Costa Rica (8/11)
		Nicaragua (6/9)	Cuba (0/3)
		Paraguay (1/4)	Dominica (2/2)
			Dominican Republic (3/3)
			Ecuador (1/3)
			Grenada (2/2)
			Jamaica (2/2)
			Mexico (13/17)
			Panama (8/12)
			Peru (8/16)
			St. Kitts-Nevis (2/2)
			St. Lucia (2/2)
			St. Vincent and Grenadines (2/2)
			Suriname (2/2)
			Uruguay (2/5)
			Venezuela (1/3)

*ODA Recipients List, Valid for 2011, 2012, 2013:

** () # of FTAs/total RTAs (physical), excluding PSA and FTA formed after 2011.

Source: OECD, WTO/RTA database

Prior to discuss about Colombia's Aid for Trade (Aft) in detail, it is important to discuss the overall economic performance of the country in order to assess how Aft can contribute to promote its economy from the trade-related aspect. For the four-year period from 2010 to 2014, the Colombian Government announced its national development plan (NDP) called "Prosperity for All". It is intended to boost growth with creating more jobs and reducing poverty, bolster security, social cohesion and investor confidence, and to make significant progress in its democratic prosperity policy.

In an effort to achieve these objectives, the Colombian government has singled out five so-called "locomotive" sectors: (i) agriculture and rural development; (ii) housing and friendly cities; (iii) development and expansion of mining and energy; (iv) transport infrastructure; and (v) new innovation-based sectors. The promotion of the "locomotive" sectors is one of the fundamental strategies for strengthening its national competitiveness.

For the last decade, the following areas were on Colombia's priority in order to internationalize its economy by: (i) adjusting its tariff policy to promote the transformation of production; (ii) negotiating, implementing and administrating international trade agreements; (iii) promoting investment; and (iv) facilitating trade. Moreover, in an attempt to support the competitiveness of local producers, the Colombian government has adopted a three-pronged strategy: (i) access to financial services; (ii) improvement of the business environment; (iii) private sector participation in the supply of public goods²⁵.

Most of the priorities set by the Colombian government are consistent with objectives set by Aid for Trade Initiative, which are trade facilitation, export diversification, maximization of the link with local economy, and building adjustment capacity. This may indicate that there is a better chance for Colombia to mainstreaming Aid for Trade (AfT) strategy into its national trade policy and national development plan to maximize the effectiveness of aid for trade.

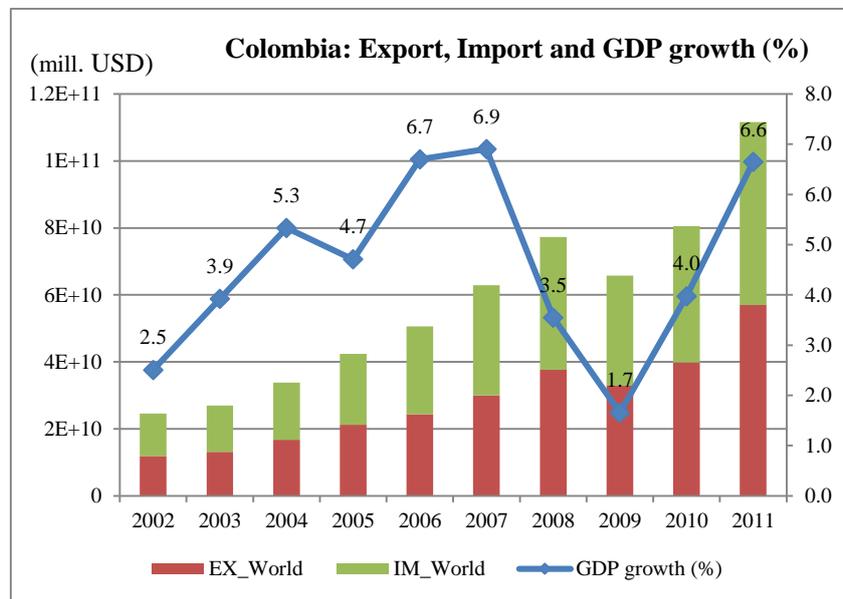
Indeed, when Juan Manuel Santos became the president of Colombia in 2010, Colombia was able to shift from once almost a failed state to the upper middle income country, improving not only economic growth, but also security and investment climate. In particular, Colombia has focused on promotion of the export sector and Colombia

²⁵ WTO Trade Policy Review, reported by Colombia on May 22, 2012 (WT/TPR/G/265), p.5-7

actively forms free trade agreements within America and with the EU and EFTA. However, it has not yet formed FTAs with any of country from Asia-Pacific.

In terms of its economic performance, Colombia's GDP grew at an annual average rate of 4.8 per cent from 2005 to 2011, exceeding the average rate for Latin America and the Caribbean and the main driving force behind this growth was investment. However, as shown in the [Figure 8], after the global financial crisis in 2007, Colombia's economy was dramatically affected that the level of GDP growth was dropped to 3.5% in 2007 and further decrease to the lowest level at 1.7% in 2009. However, Colombia was successful in recovering from the recession and its GDP growth regained resilience to reach the average level in 2010 and further increase to 6.6% in 2011, which is close to 6.9% in 2007 before the crisis hit. The volumes of export and import of Colombia's trade in goods are almost equivalent in the absolute term and the total volume of trade increased substantially in 2011.

[Figure 8] Colombia's Total Trade and GDP Growth (%)



Source: UN Comtrade, WB WDI

According to the trade policy review reported by Colombia to the WTO, the sectors that contributed most to the growth were: mining (14.3%), transport, storage and communications (6.9%), trade and hotels (5.9%), finance (5.8%), construction (5.7%), the manufacturing industry (3.9%), and agriculture (2.2%). In addition, the "locomotive" sectors mentioned above performed well and in particular, petroleum production has grown steadily over the past period that Colombia is beginning to gain its competitiveness in energy from the regional dimension.

As shown in the [Table 19] below, fuel and mining products take the largest share of Colombia's export (66.7%) whereas the least share of export is agricultural products (11%). From the importing side, it mostly imports manufactured goods (76.1%) as it lacks comparative advantage in that sector. Interestingly, it also imports agricultural products the least, which may indicate that agricultural goods produced in Colombia is mostly consumed by Colombians. Moreover, the average share of total export and import in the world is about 0.3%, which is still marginal compared to other emerging economies.

[Table 19] Decomposition of Colombia's Export and Import

Share in world total exports	0.33%	Share in world total imports	0.32%
Breakdown in economy's total exports		Breakdown in economy's total imports	
By main commodity group (ITS)			
Agricultural products	11.0%	Agricultural products	10.8%
Fuels and mining products	66.7%	Fuels and mining products	11.2%
Manufactures	17.3%	Manufactures	76.1%

Source: WTO Secretariat, 2011

[Table 20] Top 5 Export and Import Products

Top 5 Export Products (% of merchandise exports)

2005	%	2011	%
Petroleum oils, crude	19	Petroleum oils, crude	40
Coal, not agglomerated	12	Coal, not agglomerated	14
Coffee, coffee substitute	8	Petroleum products	8
Petroleum products	7	Coffee, coffee substitute	5
Crude veg. materials, nes	4	Gold, nonmontry excl ores	5

Top 5 Import Products (% of merchandise imports)

2005	%	2011	%
Telecomn, equip. parts	8	Petroleum products	7
Pass, motor vehcls. ex. bus	4	Aircraft, assocted. equipnt	5
Aircraft, assocted. equipnt	3	Pass, motor vehcls. ex. bus	5
Hydrocarbons, nes, derivts	3	Telecomn, equip. parts	4
Flat-rolled iron etc.	3	Goods, spcl transport veh	3

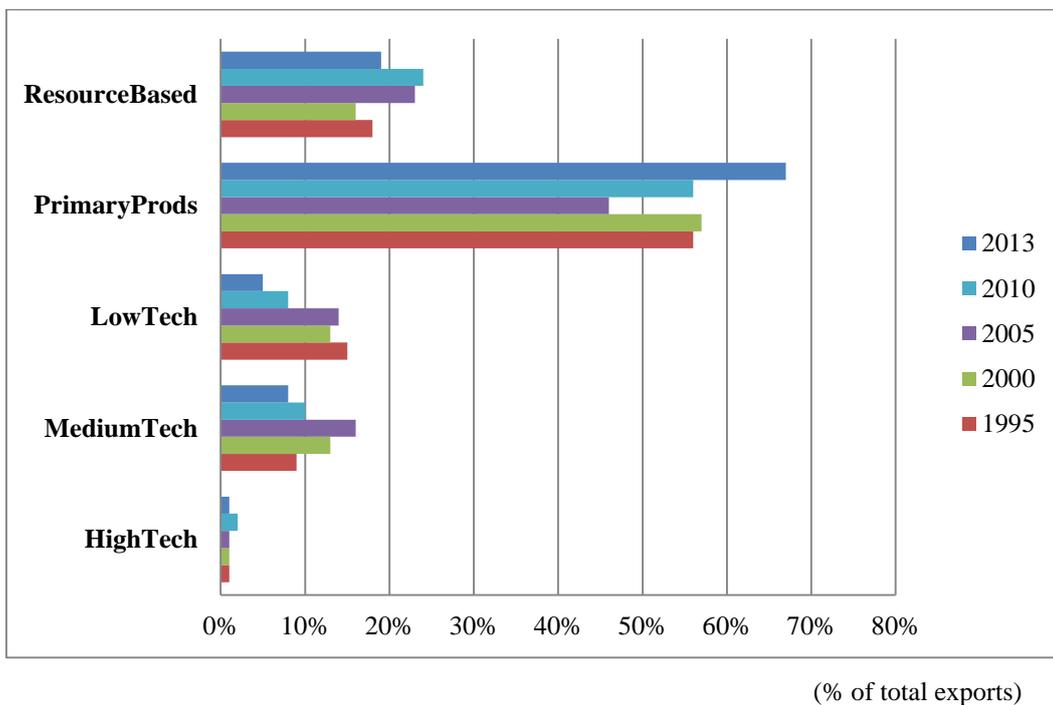
Source: WTO Secretariat

The [Table 20] above shows the top five export and import products in 2005 and 2011, respectively. It is easily noticeable that the share of Colombia's petroleum oils export was almost doubled from 19% to 40% in 2011, which indicates it's the level of product concentration gets higher, which implies worsened product diversification in the economy. For top five import products, it mostly imports manufactured goods except petroleum products in 2011; however, the portion of each product is equally divided in terms of share.

In consistent with [Table 20], it is clear to see in the [Figure 9] below that primary products take the largest share in total export from 1995 to 2013. Instead of product diversification, it is observed that the share of primary products has been increased even further in 2013, which indicates higher level of product concentration. On the contrary, there is a decreasing trend in low, medium and high-technology products. Interestingly, the share of primary products was decreased substantially and

the share of low and medium technology and resource-based products has been increased in 2005. In particular, the overall share of low-technology products has been decreased in 1995 whereas the overall share of high-technology remains low in Colombia over the last two decades. Thus, the role of AfT is more critical in Colombia, which aims at export diversification, trade facilitation, and trade expansion.

[Figure 9] Colombia's Export Sophistication



Source: WITS, export sophistication by technological classification

[Table 21] Top 5 Markets for Export and Import

Top 5 Markets for Exports (%)

2005	%	2011	%
United States	42	United States	39
EU (27)	13	EU (27)	16
Venezuela	10	Chile	4
Ecuador	6	China	3
Peru	3	Panama	3

Top 5 Markets for Imports (%)

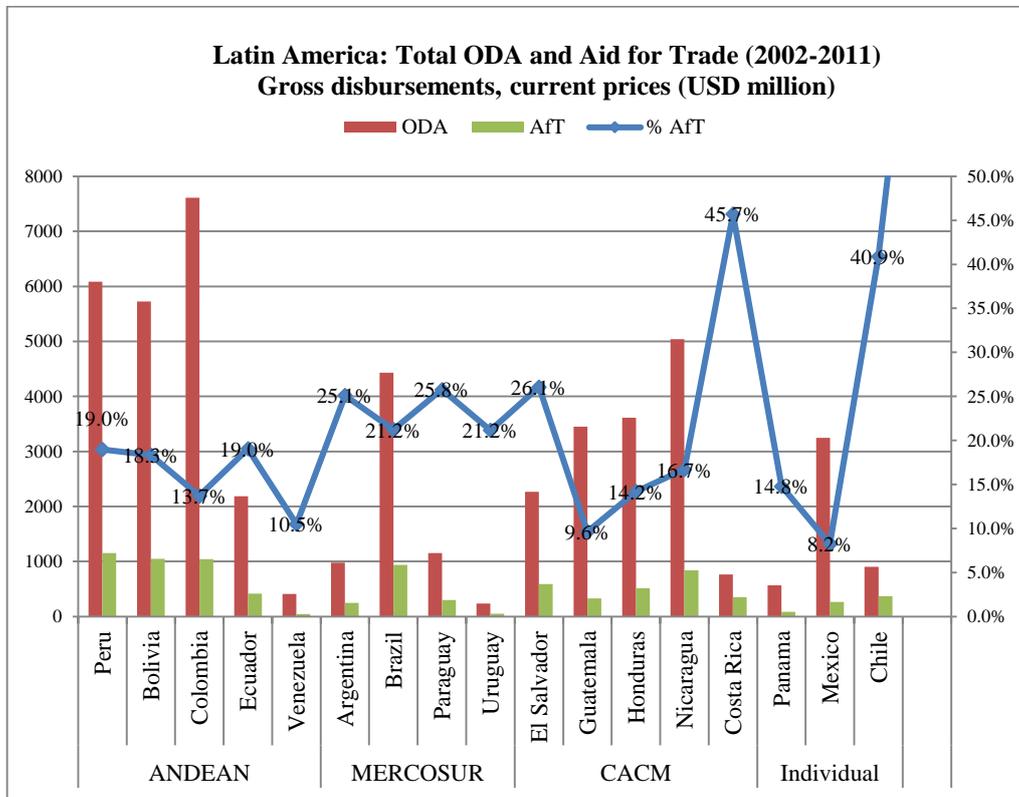
2005	%	2011	%
United States	28	United States	25
EU (27)	14	China	15
Mexico	8	EU (27)	14
China	8	Mexico	11
Brazil	7	Brazil	5

Source: WTO Secretariat

In the [Table 21], it shows top five markets for export and import that the U.S. ranked in the first place as Colombian's main trading partner from 2005 to 2011. However, the proportion was decreased from 42% to 39%. Conversely, the export to the EU was increased from 13% to 16% over the same period. It is worth noting that other top three trading partners had been displaced from Venezuela, Ecuador and Peru to Chile, China, and Panama. The former group is from Andean Community (CAN) whereas the latter group is from the Pacific Alliance (PA), except China; however, it is consistent with the objective of PA that it attempts to extend its trade toward Asia-Pacific region. For importing markets, the U.S. still takes the first place in terms of share; however, the portion for China had been almost doubled in 2011. The table above implies that Colombia tends to trade more with countries in a close distance, except for EU and China. Moreover, there is a downward trend in the intra-regional trade for the Andean community whereas there is an upward trend for the Pacific Alliance.

Prior to discuss in depth about aid for trade (Aft) received by Colombia, the [Figure 10] provides the volume of total ODA and Aft in Latin America. It can be clearly seen that Colombia receive the most amount of ODA in the absolute term. However, when the share of Aft is calculated out of total ODA, its share is only 13.7%, which is slightly lower than the average. This gives an implication that the increasing volume of Aft should be accompanied with increasing share in order to achieve tangible results for better Aft effectiveness.

[Figure 10] Total ODA and AfT in Latin America



Source: OECD CRS

As shown in the [Table 22] below, Colombia receives the largest amount of total ODA (7611 USD millions) among all Latin American countries. In addition, it ranks in the third place for receiving AfT (1043 USD millions) after Peru and Bolivia. However, as mentioned earlier, its share of AfT out of total ODA is only 13.7% in Colombia compared to 45.7% in Costa Rica and 40.9% in Chile. Interestingly, Costa Rica and Chile receive the least amount of total ODA, which indicate that their total ODA is mostly composed of trade-related aid instead of receiving aid related to social sector. As mentioned in the regression result [Table 12], increasing the share of AfT out of total ODA is more important than only increasing the absolute amount of AfT in order to promote exports of recipients.

[Table 22] Colombia: Total ODA & Aid for Trade (2002-2011)

Recipients	ODA	Recipients	AfT	Recipients	ODA-AfT	Recipients	% AfT
Colombia	7611.4	Peru	1155.5	Colombia	6567.8	Costa Rica	45.7%
Peru	6086.7	Bolivia	1049.0	Peru	4931.1	Chile	40.9%
Bolivia	5724.2	Colombia	1043.7	Bolivia	4675.2	Domin.Rep.	26.8%
Nicaragua	5037.9	Brazil	940.2	Nicaragua	4196.2	El Salvador	26.1%
Brazil	4430.2	Nicaragua	841.7	Brazil	3490.1	Paraguay	25.8%
Honduras	3611.3	El Salvador	591.9	Guatemala	3118.8	Argentina	25.1%
Guatemala	3451.1	Honduras	512.7	Honduras	3098.7	Brazil	21.2%
Mexico	3249.7	Ecuador	416.6	Mexico	2981.8	Uruguay	21.2%
El Salvador	2269.7	Chile	370.1	Ecuador	1770.4	Ecuador	19.0%
Ecuador	2187.0	Domin.Rep.	357.7	El Salvador	1677.8	Peru	19.0%
Domin.Rep.	1334.7	Costa Rica	350.7	Domin.Rep.	977.0	Bolivia	18.3%
Paraguay	1154.7	Guatemala	332.3	Paraguay	856.9	Nicaragua	16.7%
Argentina	977.7	Paraguay	297.8	Argentina	732.3	Panama	14.8%
Chile	905.0	Mexico	267.9	Suriname	589.4	Honduras	14.2%
Costa Rica	767.2	Argentina	245.5	Chile	534.9	Colombia	13.7%
Suriname	660.3	Panama	84.1	Panama	484.4	Guyana	13.7%
Panama	568.6	Suriname	70.9	Guyana	447.4	Suriname	10.7%
Guyana	518.2	Guyana	70.8	Costa Rica	416.6	Venezuela	10.5%
Venezuela	412.5	Uruguay	50.6	Venezuela	369.2	Guatemala	9.6%
Uruguay	239.1	Venezuela	43.3	Uruguay	188.5	Mexico	8.2%

Source: OECD CRS

Despite its tremendous economic growth in the past decade, there are trade-related binding constraints in Colombia. In general, Colombia has open trade regime with reducing tariff rates. However, non-tariff barriers (NTMs) and policy reforms are considered as impediment in a number of significant sectors. According to the National Competitive Report, infrastructure, transportation and logistics sectors are found to be Colombia's most significant bottlenecks. Colombia maintained a relatively less volatile but low export share of GDP with an average of 17% between 2004 and 2012 that it falls behind 40% export share in Chile, 28% in Mexico and 26% in Peru.

In addition, according to *World Bank Gini Index* in 2012, it has a Gini coefficient of 55.9 in 2010 and it ranked in the third place as the most unequal county in recent years. Moreover, according to the *Global Competitive Report 2011-2012* released by the World Economic Forum (2011), it identified negative factors for doing business in Colombia. In terms of rank, corruption is found to be the worse factor, following supply of infrastructure, government bureaucracy, having access to financing and so on. Thus, in an attempt to tackle these shortcomings, President Santos' *National Development Plan 2010-2014 (NDP)* prioritizes these problematic factors with emphasizing trade-related priority. Furthermore, the 2011-2012 Competitive Report points out that Colombia has to expand its exports of innovation-intensive goods and services in order to meet the goal of its Vision 2032²⁶ “to become one of the three most competitive economies in Latin America and reach middle to high per capita income”.

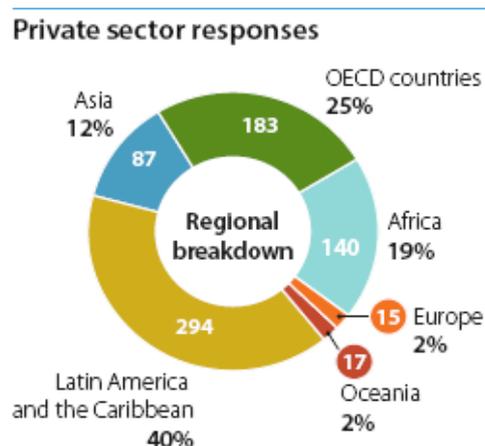
In addition, the report argues that the mining and energy boom prevents the improvement of export diversification. In terms of income level, Colombia was a lower middle income country (LMIC) for almost 20 years and it dramatically joined as a upper middle income country (UMIC). In order to achieve sustainable growth, regional development and social integration, Colombia's NDP emphasizes the importance of international co-operation to strengthen Colombia's capabilities. Thus, *the Presidential Agency for International Co-operation* sets International Co-operation Strategy as a tool to enhance alignment with national priorities. In addition, the importance of the ODA Information System (SIAOD) was highlighted as it helps to better manage international co-operation in Colombia. In terms of the AfT strategy in Colombia, the concept of ‘Aid for Trade’ is not widely understood at the country level; however, there is a wide acceptance that AfT is related to the country's Competitiveness and Productivity Strategy. Moreover, there are government monitoring system and results indicators in AfT in Colombia, namely SISMEG and SISDEVAL²⁷.

²⁶ Details in the report released by Colombia, Adónde queremos llegar: Visión 2032 y principales estrategias

²⁷ SISMEG (Sistema de Seguimiento Gerencial a Metas de Gobierno) is the Government Targets Monitoring System in order to meet NDP objectives whereas SISDEVAL (Sistema Nacional de Evaluaciones) measures government interventions, input process in project design and policy adjustments.

At the regional level, the Inter-American Development Bank’s (IADB or IDB) Aft Fund is aligned with Colombia’s Aft strategy for regional sector development. IADB Aft Fund assists trade-related projects to increase market access, international market integration and global competitiveness for Colombia. One of the prime examples may be the Mesoamerica Project (MP), which was created in 2008 as the successor to the Plan Puebla Panama (PPP) and it currently includes 10 countries²⁸. MP is supported by IDB to enhance regional integration through enhancing regional soft and hard infrastructure and by reducing transport and trade costs. Currently, there are two regional projects with an objective of strengthening Colombia’s trade policy, assisting FTAs negotiations and supporting trade policy reforms. To complement and reap more benefits from Aft, the private sector can play a critical role under the context of public-private partnerships (PPP). As shown in the [Figure 11] below, the largest portion in the private sector responses was submitted by Latin American and the Caribbean (40%), which indicates that the importance of the private sector is increasingly recognized in the region as a provider of capacity-building support.

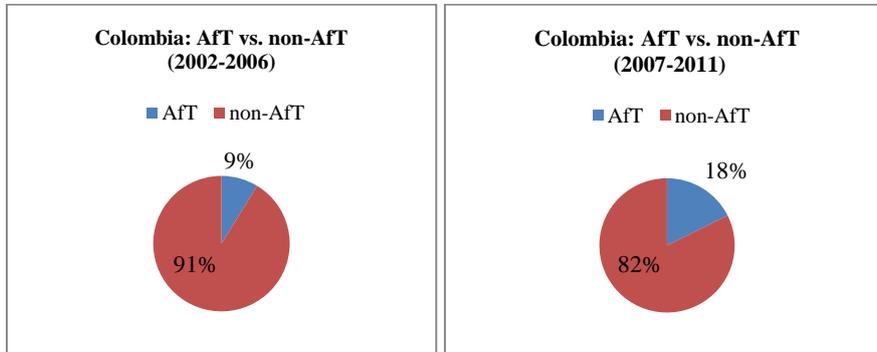
[Figure 11] Private Sector Responses submitted by Aft Recipients



Source: OECD/WTO Questionnaire 2013, www.aid4trade.org.

²⁸ 10 countries in the MP: Belize, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, and the Dominican Republic.

[Figure 12] Colombia: Total ODA & Aid for Trade



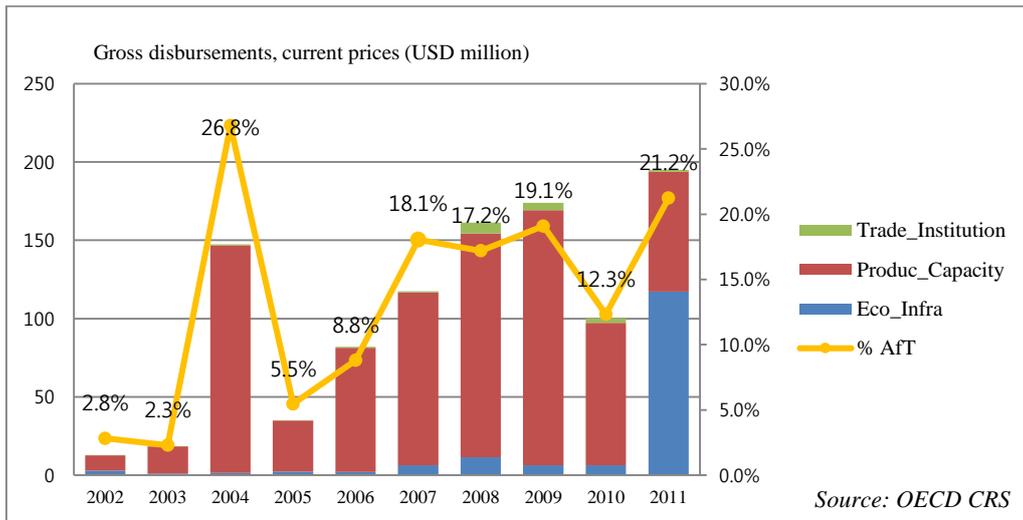
Source: OECD CRS

As shown in the [Figure 12], in 5-year average, the amount of Aid for Trade (AfT) has been doubled from 9% to 18%. However, the portion of non-AfT is four times largest than the share of AfT. In addition, when it is averaged in 10-year base, the share of AfT is 13.7% although Colombia receives large amount of AfT in Latin America. In general, Latin American countries' AfT share is around 20% on average except Costa Rica and Chile as shown in the [Figure 10] and [Table 22]. The smaller portion of AfT for Colombia is partly due to the fact that it belongs to the income group of UMIC, which already achieved the substantial level of economic growth compared to LDCs or LMICs that UMICs are on the low profile for donors.

Referring to the [Figure 13] below, when total AfT is disaggregated into three categories, it is clear that Colombia receives AfT in the sector related to productive capacity building. However, the amount of Aft given to economic infrastructure was dramatically increased in 2011, which exceeded the amount of productive capacity AfT. In addition, the trade institution – a proxy for trade policy and regulations – is given only in a small portion, despite receiving the largest amount in 2008. The share of AfT was the highest in 2004 (26.8%), but there was a sudden drop of the share to 5.5% in 2005. Then, the share was on upward trend until 2009, but it was decreased to 12.2% in 2010 after the Euro debt crisis and then it was recovered to 21.2% in 2011. Based on the

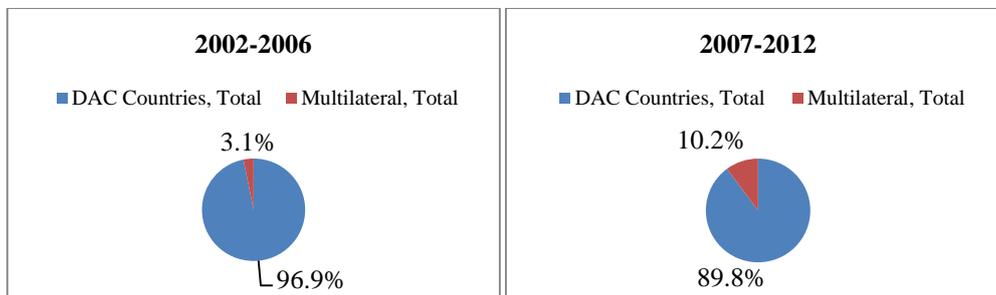
amount of AfT given by sector, productive capacity building is expected to affect the most to increase export of Colombia.

[Figure 13] Colombia: Aid for Trade by Sector (2002-2011)



Moreover, it is important to see the top AfT donors to Colombia as the relationship between the two is critical to enhance the effectiveness of AfT. As shown in the [Figure 14], bilateral donors or DAC countries give more AfT than multilateral donors. However, in 5-year average, the portion of AfT given to Colombia has been reduced from 96.9% to 89.8% whereas there is an increase in multilateral donors from 3.1% to 10.2%. The main multilateral donors are IDB and EU institutions.

[Figure 14] Colombia: AfT given by Bilateral and Multilateral Donors



Source: OECD CRS

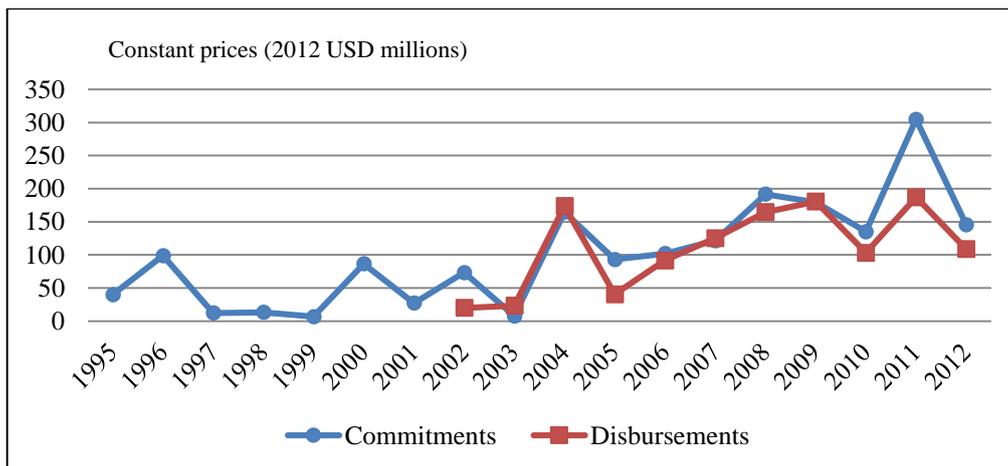
[Table 23] Top 10 Aid for Trade Bilateral Donors

	Top 10 Donors	2002-2006	2007-2012	2002-2012
1	United States	269.5	521.7	791.2
2	France	1.9	118.1	120.0
3	Spain	12.1	67.7	79.8
4	Netherlands	28.3	37.5	65.8
5	United Kingdom	1.0	35.4	36.4
6	Germany	13.3	22.6	35.9
7	Japan	6.5	17.6	24.1
8	Canada	8.4	12.2	20.6
9	Switzerland	2.8	16.6	19.3
10	Belgium	1.8	9.0	10.8

Source: OECD CRS

The [Table 23] shows top 10 bilateral donors to Colombia that the ranking is based on 10 year-average. The United States ranked in the first place with doubling the amount of AfT in 5-year average. Notably, there are donors that dramatically increased the amount of AfT disbursement to Colombia after 2006, which are France, Spain, U.K. and Switzerland. It can be partly explained in a manner that Spain has a colonial relationship with Colombia in the past whereas Switzerland has a free trade agreement with Colombia.

[Figure 15] Aid for Trade from DAC donors to Colombia



Source: OECD CRS

In the [Figure 15] above, it can be seen that Aft was given prior to the Aft Initiative in 2005; however, the data is only available in commitments whereas data on disbursements is fully available from 2002. In general, Colombia's disbursement follows the amount of commitment and it exceeds that of commitments in a few periods. However, the actual disbursement is way below the commitment level in 2011. Despite increasing trend in the long term, there is a fluctuation in both commitments and disbursements. Moreover, the gap between two types of aid flows indicates the difficulty of translating promise into action.

[Table 24] Colombia's RTAs

Bilateral RTAs			Plurilateral RTAs		
Trading Partner	Entry into force	Type of Agreement	Trading Partner	Entry into force	Type of Agreement
Mexico - Colombia	1995	FTA & EIA	LAIA	1981	PSA
Chile - Colombia	2009	FTA & EIA	CAN	1988	CU
Canada - Colombia	2011	FTA & EIA	GSTP	1989	PSA
EFTA - Colombia	2011	FTA & EIA	Northern Triangle - Colombia	2009	FTA & EIA
US - Colombia	2012	FTA & EIA	EU - Colombia and Peru	2013	FTA & EIA

*Note: Northern Triangle (El Salvador, Guatemala, Honduras)

LAIA (Latin American Integration Association)

GSTP (Global System of Trade Preferences among Developing Countries)

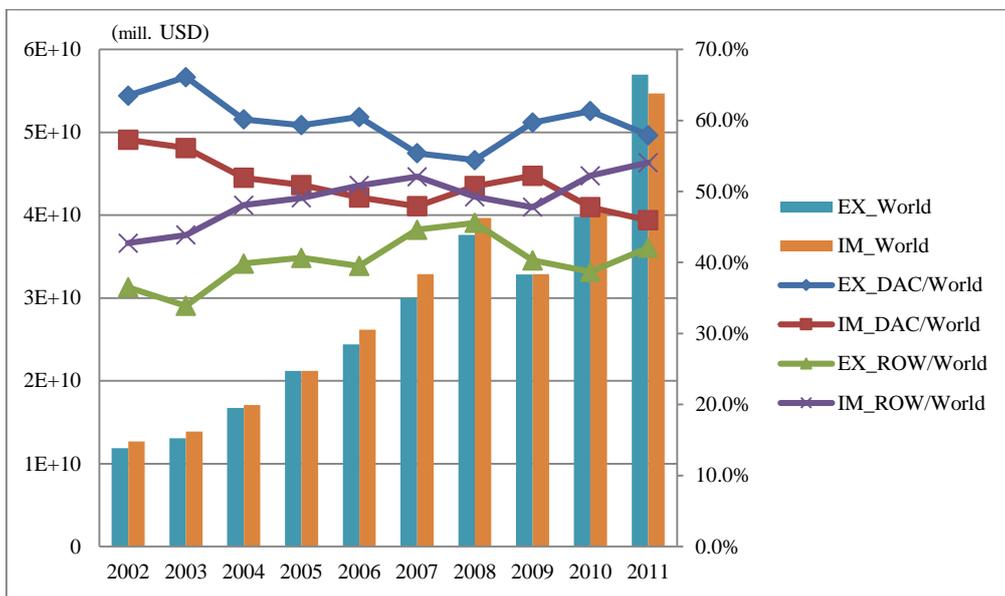
CAN (Andean Community)

Source: WTO RTA Database

The [Table 24] shows the current status of Colombia's RTA including both bilateral and plurilateral trade agreements. Colombia is a member of Andean Community (CAN) since 1988; however, recently it was inactive for a while, which may reduce the trading volume between Colombia and other CAN members. To strengthen and deepen regional integration, Colombia pushed for the creation of the Pacific Alliance as a new Latin America trading bloc, in which goods, services, capital and persons can move freely between Colombia, Chile, Peru and Mexico. It was formally created in June 2012

by the Framework Agreement. Costa Rica and Panama are participating as observers and Costa Rica is on the process of becoming the fifth member. However, the Pacific Alliance is not notified to the WTO; thus, it is not included in the table above. This table above is provided as the regression analysis is based on the bilateral pairings with Colombia and each donor.

[Figure 16] Colombia Export and Import (2002-2011)

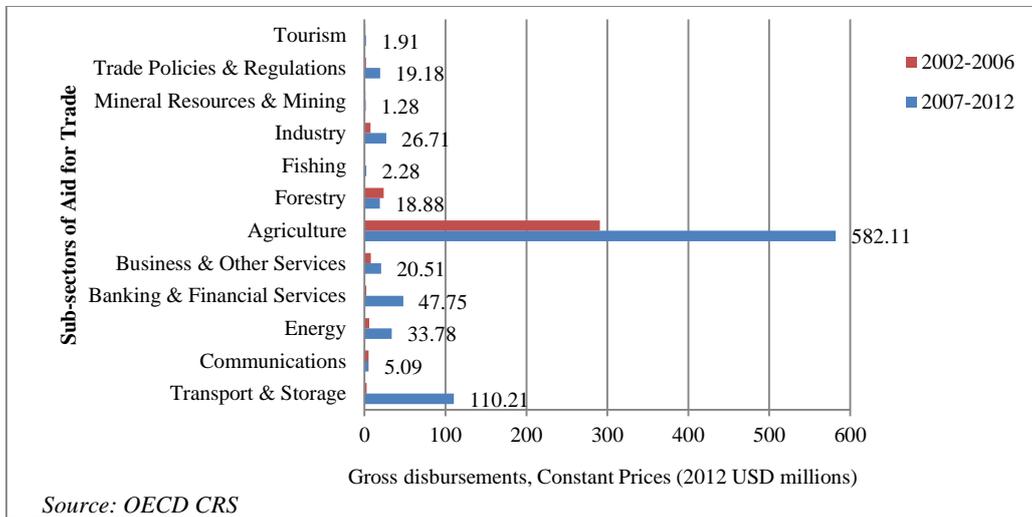


Source: UN Comtrade

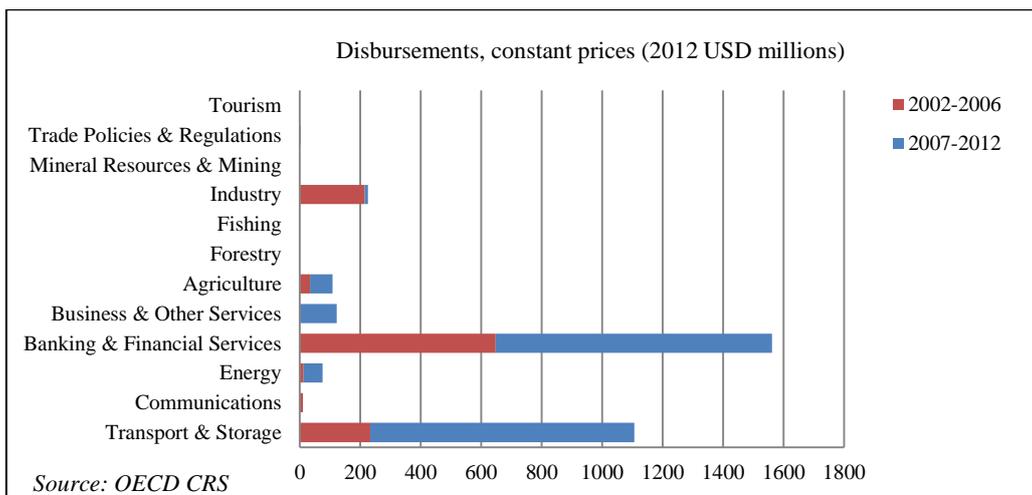
In the [Figure 16], it is shown that Colombia used to import more until 2008. However, its exports in goods exceeded the amount of import in 2010 and export increased further in 2011. The share of both export to and import from DAC donors are in a decreasing trend whereas both export and import are increasing from the rest of the world that are either non-DAC donors or mostly trading partners from the South, notably China. This figure is provided as a part of expectation for the regression that if variables related to donors are found be insignificant, it would be partly due to the fact that Colombia is both exporting and importing more with the rest of the world (ROW).

In the [Figure 17] below, it shows AfT disbursements from DAC donors and Colombia receive the largest amount of AfT for supporting agriculture, doubling the amount after 2006. The [Figure 18] illustrates other official flows (OOF) to Colombia that in contrast to [Figure 17], OOF is given the most to assist banking and financial services and transport and storage. It is important to acknowledge that OOF is not counted as a part of ODA as its concessional terms is less than 25%.

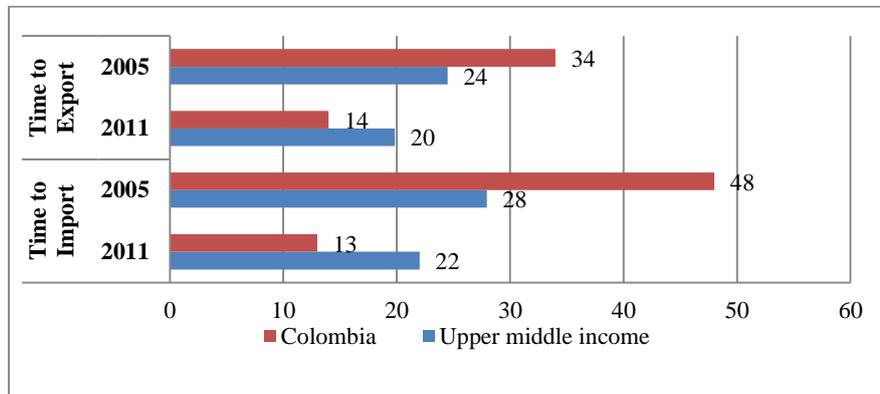
[Figure 17] AfT from DAC donors to Colombia (2002-2012)



[Figure 18] Aid for Trade: Other Official Flows (OOF) to Colombia

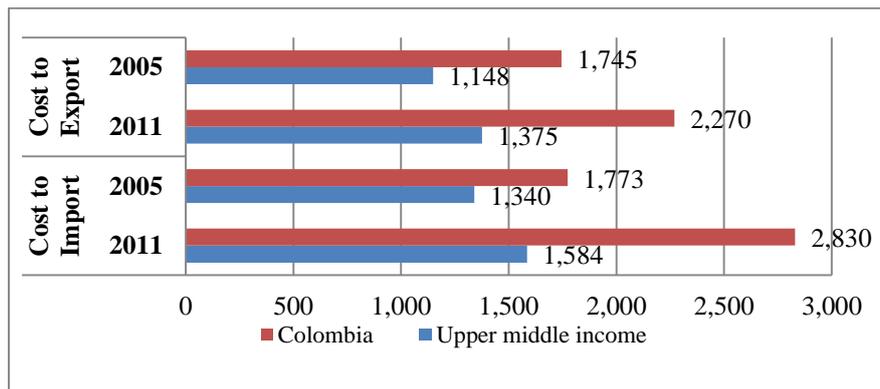


[Figure 19] Colombia's Trade Facilitation: Time to Export/Import



Source: WB WDI

[Figure 20] Colombia's Trade Facilitation: Cost to Export/Import



Source: WB WDI

The [Figure 19] and [Figure 20] show trade facilitation for Colombia and the upper middle income group as a part of LPI (Logistic Performance Index). Both figures show improvement in 2011 for Colombia compared to other UMICs that aid for trade has been effective in reducing trade costs such as time and cost to export/import. The following two regression result tables will discuss how the bilateral Aft contributed to increase the export performance of Colombia and how economic integration has a positive and significant impact on bilateral Aft between each donor and Colombia.

[Table 25] Regression Analysis Colombia: Aid for Trade by Sector (1)

Ln(Export _{ijt})	(1)	(2)	(3)	(4)	(5)	(6)
	AfT Total	AfT Total	AfT Total	AfT Institutions	AfT Infrastructure	AfT Production
ln_GDPpcR	1.0039 (0.6428)	1.1060 (0.7065)	1.0079 (0.649881)	1.8833 (1.1080)	0.5658 (0.4334)	0.8578 (0.5331)
ln_GDPpcD	-0.0787 (-0.1849)	-0.2426 (-0.5299)	-0.2022 (-0.4717)	-0.5281 (-1.2390)	0.9695** (2.4091)	-0.3414 (-0.7229)
ln_POPR	-0.3236 (-0.0230)	-1.2091 (-0.0858)	-0.0349 (-0.0025)	-9.9635 (-0.6297)	2.6263 (0.2264)	1.9779 (0.1356)
ln_POPD	0.8640*** (7.3406)	0.8323*** (6.8145)	0.8701*** (7.4403)	0.8416*** (9.1277)	0.7276*** (7.9333)	0.8292*** (6.7640)
ln_DIS	-1.0454*** (-2.8078)	-0.9630** (-2.5217)	-0.8403** (-2.1638)	-1.5696*** (-6.5229)	-1.2274*** (-5.3153)	-1.0436*** (-2.7766)
Landlocked	-0.8010* (-1.8223)	-0.7392* (-1.6642)	-0.8735** (-1.9919)	2.2612*** (5.2751)	-4.5092*** (-5.6727)	-0.7831* (-1.7161)
ln_Bilateral_AfT	0.2262*** (3.9311)	0.2013*** (3.1974)	0.2379*** (4.1341)			
ln_ODA_minus_AfT		0.0740 (0.9742)				
FTA_DAC			0.5191* (1.7282)			
ln_institution				0.1947*** (2.9508)		
ln_infra					0.1388*** (2.6140)	
ln_produc_cap						0.2349*** (4.0724)
Constant	12.1824 (0.0520)	28.2793 (0.1203)	6.3347 (0.0272)	184.9603 (0.6998)	-42.7940 (-0.2215)	-23.6889 (-0.0975)
R-squared	0.7246	0.7265	0.7303	0.8703	0.7999	0.7159
Adjusted R ²	0.7112	0.7111	0.7151	0.8458	0.7804	0.7014
Observations	151	151	151	45	80	145
Note: t-statistics is shown in parenthesis.						
* p<0.1: significant at 10% level, **p<0.05: significant at 5% level, *** p<0.01: significant at 1% level						

In the [Table 25] above, in order to compare the effect of economic integration in the [Table 26], the regression in this table is also based on bilateral pairings. The regression for Colombia give the similar results to the large sample of AfT recipients that *ln_bilateral_aft* is found to be highly significant at 1% level (t-stat=3.9311). However, it was unexpected the following traditional gravity model variables are found to be insignificant – the log of GDP per capita of donors and Colombia, and the log of population of Colombia. This may be due to the data structure that the bilateral-pairings is constructed between only one recipient and 23 donors. What is different from the large sample is that non-AfT (=ln_ODA_minus_AfT) is found to be insignificant to increase export for Colombia. In addition, FTA_DAC dummy variable is found to be significant

in the previous regression for the large sample; however, it is only significant at 10% for Colombia.

Among all three sub-AfT variables, as Colombia receives the most amount of AfT in productive capacity building, *ln_produc_cap* is found to be highly significant with the highest t-stat (=4.0724) with a larger coefficient that a 10% increase in productive capacity sector would increase export by 2.3%. Surprisingly, despite the small amount of AfT given to trade policy and regulation sector, *ln_institution* is also found to be significant at 1% level (t-stat=2.9508), which may indicate that the effectiveness of AfT is not only affected by the absolute amount of aid given to a certain sector, but also by the optimal utilization of the aid in accordance with the AfT Initiative objectives.

What is interesting in this result table is that *ln_infra* is highly significant at 1% level compared to the previous regressions for the large sample that the same variable was significant only at 10% level. Thus, it indicates that AfT to the infrastructure is significantly affecting Colombia to increase export to donors. Indeed, more investigation is needed to assess the overall export performance of Colombia to the world. However, as the economic integration index is constructed based on bilateral pairings, the structure of this case study is also based on bilateral pairings in order to assess the impact of economic integration on AfT effectiveness.

[Table 26] Regression Analysis Colombia: Aid for Trade by Sector (2)

Ln(Export _{ijt})	(1)	(2)	(3)	(4)	(5)
	AfT Total	AfT Total	AfT Institutions	AfT Infrastructure	AfT Production
ln_GDPpcR	0.5990 (0.4409)	1.0565 (0.6756)	1.7995 (1.0952)	0.8371 (0.6371)	1.0837 (0.6696)
ln_GDPpcD	0.7155** (2.4017)	-0.1395 (-0.3256)	-0.7679* (-1.8001)	0.9168** (2.1803)	-0.4489 (-0.9302)
ln_POPR	1.6235 (0.1327)	-0.1772 (-0.0126)	-7.5231 (-0.4967)	1.2908 (0.1098)	1.0546 (0.0718)
ln_POPD	1.1400*** (14.216)	0.8733*** (7.4476)	0.8147*** (8.9307)	0.7428*** (8.0248)	0.8589*** (7.0578)

ln_DIS	-1.9338*** (-5.8350)	-1.0069*** (-2.6668)	-1.6067*** (-6.8724)	-1.2579*** (-5.3708)	-1.0241*** (-2.6729)
Landlocked	-1.3190*** (-4.0736)	-0.7919* (-1.7986)	2.3090*** (5.5494)	-4.6792*** (-5.8512)	-0.7032 (-1.5382)
Integration_ij	0.3533 (1.1255)				
ln_AfT*Integration		0.2119*** (3.8507)			
ln_insti*Integration			0.1788*** (3.3320)		
ln_infra*Integration				0.0879** (2.1069)	
ln_produc*Integration					0.2002*** (3.7893)
Constant	-24.3098 (-0.1191)	9.3094 (0.0396)	146.0413 (0.5772)	-21.0480 (-0.1076)	-8.8672 (-0.0362)
R-squared	0.6871	0.7236	0.8768	0.7936	0.7117
Adjusted R ²	0.6771	0.7100	0.8535	0.7736	0.6970
Observations	227	151	45	80	145
Note: t-statistics is shown in parenthesis. * p<0.1: significant at 10% level, **p<0.05: significant at 5% level, *** p<0.01: significant at 1% level					

In the [Table 26], the regression results are based on bilateral pairings between Colombia and each donor. In the first column is consistent with the large sample discussed previously that economic *integration* variable itself is also found to be insignificant for Colombia. However, when it takes an interaction term with Aft ($=ln_AfT*integration$), it became highly significant at 1% level (t-stat=3.8507) that a 1% increase in AfT and one level increase in economic integration would lead to additional 21% increase in export.

When AfT is divided into three sub-sectors, it brings the similar result as in the previous tables that *ln_produc_cap* is highly significant at 1% level with the highest t-value and coefficient. Interestingly, t-value of *ln_insti*integration* is slightly increased (t=3.3320) and it is the only variable that t-value is increased compared to the [Table 25], which may indicate that when Colombia's level of economic integration is increasing, it creates the synergy effect with Aft given to trade policy and regulation sector. On the contrary, compared to [Table 25], both t-value and coefficient of *ln_infra*Integration* and *ln_produc_Integration* are decreased, which may be due to taking interaction terms.

CHAPTER VIII. CONCLUSION

Compared to overall aid effectiveness literatures, there are still relatively smaller numbers of studies related to Aid for Trade (AfT). However, many scholars tried to find AfT effectiveness on export performance and reducing trade costs. Among other scholars, Vijil (2013) was the first scholar to study the correlation between AfT and economic integration. Thus, this paper attempts to follow her empirical methodology and update the previous research by adding new variables and extend the period covered in the study. In addition, this paper includes the case study of Colombia to investigate the effectiveness of AfT in depth and draw implications especially for the upper middle income countries.

Prior to the main analysis on the topic, a primary research was given to see the determinant factors for donors to give more AfT to recipients. It is found that donors tend to give more AfT to those recipients that import more from them and have FTAs with them. As the main analysis is based on bilateral pairings between donors and recipients, non-bilateral pairing analysis was given to assess the effect of AfT in increasing overall export to the world from recipients' perspective. As expected, AfT is found to be highly significant to promote export to the world. An important implication was that increasing share of AfT out of total ODA seems to be more critical to increase export than only increasing the absolute amount of AfT without enlarging its share.

As economic integration is the most important variable in this study, the regression had to be run based on bilateral pairings between each donor and recipient as the economic integration index is constructed using bilateral pairings. The overall regression results show that bilateral AfT is highly significant to enhance export to donors. Interestingly, increasing level of economic integration itself is found to be insignificant; however, when it was run together with AfT in the same model or takes an interaction term with AfT, it is found to be highly significant. Thus, a positive value for

the effect of AfT would imply that the higher the AfT, the greater the effect of economic integration. Similarly, it can be interpreted that the higher the economic integration, the greater the effect of AfT. Among three sub-sectors of AfT, it was an unexpected result that AfT directed to trade-related institution, namely trade policy and regulations, has a relatively stronger effect in increasing export to donors despite the small amount of AfT given to this sector. This result is consistent with Vijil (2013) that she also found AfT directed to this specific sector has the strongest complementary with economic integration.

For the case study of Colombia, most regression results are consistent with the large sample including 88 recipients. Interestingly, non-AfT is found to be insignificant to increase export and AfT directed to building productive capacity has a relatively stronger effect for Colombia, which present different results from the large sample. There are some implications for Colombia that the role of private sector can be significant as much as the role of government for Colombia. Indeed, it was not only affected by AfT as a part ODA, but also affected by OOF, which helps to enhance its supply-side capacity building. Moreover, as Colombia is an upper middle income country, it can play an important secondary role as a “facilitator” between donors and recipients in the context of South-South cooperation or triangular cooperation based on its country-level experiences implementing AfT Strategy into its national development plan and its development co-operation at the regional level.

Despite contribution made in this paper, there are still some limitations, which require further investigation. Indeed, this paper does not include the data on service, but only goods in both export and import. Moreover, the recent data from 2012-2013 is not included because by the time the data was collected for the regression, the data for 2012 and 2013 was unavailable. Furthermore, there are many newly formed FTAs during 2012 and 2013 between donors and recipients that the impact of economic integration on Aid for Trade (AfT) is expected to be greater than the analysis in this study. Also, there are

only a few literatures investigating the relation between AfT and poverty reduction, which is one of the core objectives in AfT Initiative. In addition, the impact evaluation (IE) on AfT has been introduced by Cadot *et al.* (2013). They suggest this methodology in order to capture the effect of AfT in the long-term to better monitor and evaluate AfT projects and programs.

Indeed, it is important to acknowledge that the level of economic growth should be accompanied with enhancing the level of development. Most importantly, the shift from ‘aid effectiveness’ in the Paris Declaration in 2005 to ‘development effectiveness’ in the Fourth High-Level Forum on Aid Effectiveness (HLF4) held in Busan in 2011 opened the wider development context for both donors and recipients. Hence, they should work together to achieve priorities set by each donor and recipient based on the core principles including ownership (partner countries), alignment (donors-partners), harmonization (donors-donors), managing for results, and mutual accountability.

Recently, the importance of global value chains (GVCs) and the role of private sector in the context of Aid for Trade has been emphasized in the development community. Indeed, as the private sector is deeply related with GVCs, it should not be undermined as they are most directly affected by AfT and also they contribute to enhance Aid for Trade effectiveness, working closely with development agencies under the private-public partnership (PPP) framework. Therefore, in order to enhance the effectiveness of Aid for Trade, not only the government, but all stakeholders should be included. Last but not least, rather than depending on preferential market access given by donors, recipients should put more efforts to enhance their level of economic integration by forming more regional trade agreements at bilateral or at regional level.

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- WTO/OECD (2013) *Aid for Trade in Action*

APPENDIX

Appendix 1. 23 DAC Donors (table provided in appendix)

iso3 Country Code	23 DAC Donors	Membership in Bilateral and Plurilateral RTAs
AUS	Australia	SPARTECA (PSA), ASEAN – Australia – New Zealand
AUT	Austria	EU
BEL	Belgium	EU
CAN	Canada	NAFTA
CHE	Switzerland	EFTA
DEU	Germany	EU
DNK	Denmark	EU
ESP	Spain	EU
FIN	Finland	EU
FRA	France	EU
GBR	UK	EU
GRC	Greece	EU
IRL	Ireland	EU
ITA	Italy	EU
JPN	Japan	-
KOR	Korea	GSTP, APTA (PSA)
LUX	Luxembourg	EU
NLD	Netherlands	EU
NOR	Norway	EFTA
NZL	New Zealand	TPSEP, SPARTECA (PSA), ASEAN – Australia – New Zealand
PRT	Portugal	EU
SWE	Sweden	EU
USA	USA	NAFTA, CAFTA-DR

Source: OECD, CEPII, WTO RTA database

Remarks: EU is excluded from 23 DAC Donor list in this paper as it is categorized as a multilateral institution in OECD-CRS. However, individual member of EU are included.

Appendix 2. 88 ODA Recipients with the number of FTAs with DAC donors

iso3 Code	88 ODA Recipients	Income Group	Goods-FTAs with 23 DAC Donors (entry into force)	Total # of Goods-FTAs until 2011 (excluding PSA)	Customs Union
ALB	Albania	UMICs	EU-Albania (2006), EFTA-Albania (2010)	4	-
ARG	Argentina	UMICs	-	1	MERCOSUR
ARM	Armenia	LMICs	-	7	-
AZE	Azerbaijan (non-WTO)	UMICs	-	4	-
BDI	Burundi	LDCs	-	2	COMESA EAC
BEN	Benin	LDCs	-	2	ECOWAS WAEMU
BFA	Burkina Faso	LDCs	-	2	ECOWAS WAEMU
BIH	Bosnia and Herzegovina (non-WTO)	UMICs	EU-Bosnia and Herzegovina (2008)	3	-
BOL	Bolivia	LMICs	-	1	CAN
BRA	Brazil	UMICs	-	1	MERCOSUR
BWA	Botswana	UMICs	EFTA-SACU (2008)	3	SACU
CAF	Central African Republic	LDCs	-	1	CEMAC
CHL	Chile	UMICs	Canada-Chile (1997), EU-Chile (2003), EFTA-Chile (2004), US-Chile (2004), Korea-Chile (2004), TPSEP (2006), Japan-Chile (2007), Australia-Chile (2009)	19	-
CHN	China	UMICs	New Zealand-China (2008)	9	-
CIV	Côte d'Ivoire	LMICs	EU- Côte d'Ivoire (2009)	3	ECOWAS WAEMU
CMR	Cameroon	LMICs	EU-Cameroon	2	CEMAC
COL	Colombia	UMICs	Canada-Colombia (2011), EFTA-Colombia (2011)	6	CAN
CPV	Cape Verde	LMICs	-	1	ECOWAS
CRI	Costa Rica	UMICs	Canada-Costa Rica (2002), CAFTA-DR (2006)	8	CACM
DOM	Dominican Republic	UMICs	CAFTA-DR (2006), EU-CARIFORUM States EPA (2008)	3	-
DZA	Algeria (non-WTO)	UMICs	EU-Algeria (2005)	1	-
ECU	Ecuador	UMICs	-	1	CAN
EGY	Egypt	LMICs	EU-Egypt (2004), EFTA-Egypt (2007)	4	-

ETH	Ethiopia (non-WTO)	LDCs	-	1	COMESA
FJI	Fiji	LMICs	EU-Papua New Guinea/Fiji (2009)	2	-
GAB	Gabon	UMICs	-	1	CEMAC
GEO	Georgia	LMICs	-	8	-
GHA	Ghana	LMICs	-	1	ECOWAS
GMB	Gambia	LDCs	-	1	ECOWAS
GTM	Guatemala	LMICs	CAFTA-DR (2006)	8	CACM
GUY	Guyana	LMICs	EU-CARIFORUM States EPA (2008)	2	CARICOM
HND	Honduras	LMICs	CAFTA-DR (2006)	8	CACM
IDN	Indonesia	LMICs	Japan-Indonesia (2008) Japan-ASEAN (2008) Korea-ASEAN (2010) Australia & New Zealand-ASEAN (2010)	7	-
IND	India	LMICs	Korea-India (2010) Japan-India (2011)	8	-
IRQ	Iraq (non-WTO)	LMICs	-	1	-
JAM	Jamaica	UMICs	-	1	-
JOR	Jordan	UMICs	US-Jordan (2001) EFTA-Jordan (2002) EU-Jordan (2002)	6	-
KAZ	Kazakhstan (non-WTO)	UMICs	-	8	EAEC Russia- Belarus- Kazakhstan
KEN	Kenya	LICs	-	2	COMESA EAC
KGZ	Kyrgyzstan	LICs	-	7	EAEC
KHM	Cambodia	LDCs	Japan-ASEAN (2008) Korea-ASEAN (2010) Australia & New Zealand-ASEAN (2010)	6	-
LBN	Lebanon (non-WTO)	UMICs	EU-Lebanon(2003), EFTA-Lebanon (2007)	3	-
LKA	Sri Lanka	LMICs	-	3	-
MAR	Morocco	LMICs	EFTA-Morocco (1999), EU-Morocco (2000), US- Morocco (2006)	5	-
MDG	Madagascar	LDCs	-	0	-
MDV	Maldives	UMICs	-	1	-
MEX	Mexico	UMICs	NAFTA (1994), EU- Mexico (2000), EFTA-Mexico(2001), Japan-Mexico (2005)	13	-
MKD	Macedonia (former Yugoslav Rep. of)	UMICs	EU-Macedonia (2001), EFTA-Macedonia (2002)	5	-
MLI	Mali	LDCs	-	2	ECOWAS WAEMU
MOZ	Mozambique	LDCs	-	1	-
MRT	Mauritania	LDCs	-	0	-

MUS	Mauritius	UMICs	-	2	COMESA
MWI	Malawi	LDCs	-	2	COMESA
MYS	Malaysia	UMICs	Japan-Malaysia (2006) Japan-ASEAN (2008) Korea-ASEAN (2010) Australia & New Zealand-ASEAN (2010) New Zealand-ASEAN (2010)	10	-
NAM	Namibia	UMICs	EFTA-SACU (2008)	3	SACU
NER	Niger	LDCs	-	2	ECOWAS WAEMU
NGA	Nigeria	LMICs	-	1	ECOWAS
NIC	Nicaragua	LMICs	CAFTA-DR (2006)	6	CACM
PAK	Pakistan	LMICs	-	4	-
PAL	Palestine (non-WTO)	LMICs	EU-Palestinian Authority (1997) EFTA-Palestinian Authority (1999)	3	-
PAN	Panama	UMICs	-	8	-
PER	Peru	UMICs	US-Peru (2009) Canada-Peru (2009) EFTA-Peru (2011) Korea-Peru (2011)	8	CAN
PHL	Philippines	LMICs	Japan-Philippines (2008) Japan-ASEAN (2008) Korea-ASEAN (2010) Australia & New Zealand-ASEAN (2010)	7	-
PRY	Paraguay	LMICs	-	1	MERCOSUR
RWA	Rwanda	LDCs	-	2	COMESA EAC
SDN	Sudan (non-WTO)	LDCs	-	2	COMESA
SEN	Senegal	LDCs	-	2	ECOWAS WAEMU
SLB	Solomon Islands	LDCs	-	1	-
SLV	El Salvador	LMICs	CAFTA-DR (2006)	8	CACM
STP	Sao Tome and Principe (non-WTO)	LDCs	-	0	-
SUR	Suriname	UMICs	EU-CARIFORUM States EPA (2008)	2	CARICOM
SYR	Syrian Arab Republic (non-WTO)	LMICs	EU-Syria (1977)	3	-
TGO	Togo	LDCs	-	2	ECOWAS WAEMU
THA	Thailand	UMICs	Australia-Thailand (2005) New Zealand-Thailand (2005) Japan-Thailand (2007) Japan-ASEAN (2008) Korea-ASEAN (2010) Australia & New Zealand-ASEAN (2010)	9	-
TON	Tonga	LMICs	-	1	-

TUN	Tunisia	UMICs	EU-Tunisia (1998), EFTA-Tunisia (2005)	4	-
TUR	Turkey	UMICs	EFTA-Turkey (1992)	16	EU-Turkey
TZA	Tanzania, United Rep. of	LDCs		3	COMESA EAC
UGA	Uganda	LDCs		2	COMESA EAC
URY	Uruguay	UMICs		2	MERCOSUR
VEN	Venezuela	UMICs		1	*CAN → MERCOSUR
VNM	Viet Nam	LMICs	Japan-ASEAN (2008) Japan-Viet Nam (2009) Korea-ASEAN (2010) Australia & NZ-ASEAN (2010)	7	-
WSM	Samoa (non-WTO until 2011)	LDCs		1	-
YEM	Yemen (non-WTO)	LDCs		1	-
YUG	Serbia (non-WTO)	UMICs	EFTA-Serbia (2010), EU- Serbia (2010)	5	-
ZAF	South Africa	UMICs	EU-South Africa(2000) EFTA-SACU (2008)	4	SACU
ZMB	Zambia	LDCs		2	COMESA
ZWE	Zimbabwe	LICs		2	COMESA

Source: OECD, CEPII, WTO RTA database, reorganized by author

Appendix 3. PTAs in the WTO

Name	Type	Provider(s)	Initial Entry Into Force	# of Beneficiaries
Generalized System of Preferences - Australia	GSP	Australia	1/1/1974	165
Generalized System of Preferences - Canada	GSP	Canada	7/1/1974	173
Generalized System of Preferences - European Union	GSP	European Union	7/1/1971	88
Generalized System of Preferences - Iceland	GSP	Iceland	1/29/2002	48
Generalized System of Preferences - Japan	GSP	Japan	8/1/1971	151
Generalized System of Preferences - New Zealand	GSP	New Zealand	1/1/1972	141
Generalized System of Preferences - Norway	GSP	Norway	10/1/1971	85
Generalized System of Preferences - Russian Federation, Belarus, Kazakhstan	GSP	Belarus; Kazakhstan; Russian Federation	1/1/2010	151
Generalized System of Preferences - Switzerland	GSP	Switzerland	3/1/1972	130
Generalized System of Preferences - Turkey	GSP	Turkey	1/1/2002	176
Generalized System of Preferences - United States	GSP	United States	1/1/1976	127
Duty-Free Tariff Preference Scheme for LDCs	LDC-specific	India	8/13/2008	27
Duty-free treatment for African LDCs - Morocco	LDC-specific	Morocco	1/1/2001	33
Duty-free treatment for LDCs - China	LDC-specific	China	7/1/2010	40
Duty-free treatment for LDCs - Chinese Taipei	LDC-specific	Taipei, Chinese	12/17/2003	48
Duty-free treatment for LDCs - Kyrgyz Republic	LDC-specific	Kyrgyz Republic	3/29/2006	46
Preferential Tariff for LDCs - Republic of Korea	LDC-specific	Korea, Republic of	1/1/2000	48
African Growth and Opportunity Act	Other PTAs	United States	5/18/2000	39
Andean Trade Preference Act	Other PTAs	United States	12/4/1991	2
Caribbean Basin Economic Recovery Act	Other PTAs	United States	1/1/1984	16
Commonwealth Caribbean Countries Tariff	Other PTAs	Canada	6/15/1986	18
Former Trust Territory of the Pacific Islands	Other PTAs	United States	9/8/1948	4
South Pacific Regional Trade and Economic Cooperation Agreement	Other PTAs	Australia; New Zealand	1/1/1981	13
Trade preferences for countries of the Western Balkans	Other PTAs	European Union	12/1/2000	7
Trade preferences for Pakistan	Other PTAs	European Union	11/15/2012	1
Trade preferences for the Republic of Moldova	Other PTAs	European Union	1/21/2008	1

Source: WTO PTA database

Appendix 4. List of Members of the OECD Development Assistance Committee (DAC)

	Date	DAC members	Note: UN Target: 0.7%	
			ODA/GNI in 2011	Bilateral Share (%)
1-12th	1961	Australia	0.34	87
	1961	Belgium	0.54	62
	1961	Canada	0.32	75
	1961	France	0.46	65
	1961	Germany	0.39	62
	1961	UK	0.56	61
	1961	Italy	0.20	39
	1961	Netherlands	0.75	68
	1961	Portugal	0.31	67
	1961	EU	N/A	98
	1961	Japan	0.18	64
	1961	USA	0.20	88
13 th	1962	Norway	0.96	75
14 th	1963	Denmark	0.85	73
15 th	1965	Sweden	1.02	65
16 th	1966	Austria	0.27	44
17 th	1968	Switzerland	0.45	78
18 th	1973	New Zealand	0.28	78
19 th	1975	Finland	0.53	60
20 th	1985	Ireland	0.51	66
21 th	1991	Spain	0.29	55
22 th	1992	Luxembourg	0.97	68
23 th	1999	Greece	0.15	36
24 th	2010	Korea	0.12	75
25 th	2013 Mar	Iceland	Remarks: only 23 DAC Donors are included in this paper due to period range 2002-2011. In addition, EU is excluded from 23 DAC Donors as it is categorized as a multilateral institution in OECD-CRS. Thus, 23 DAC Donors are included from Australia to Korea (1961-2010).	
26 th	2013 May	Czech Republic		
27 th	2013 Sep	The SlovakRep.		
28 th	2013 Oct	Poland		
29 th	2013 Dec	Slovenia		

Source: OECD, reorganized by author

Appendix 5. ODA/GNI of DAC Donors (UN Target: 0.7%)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	10 year average
All DAC Donors	0.23	0.24	0.25	0.32	0.30	0.27	0.30	0.31	0.32	0.31	0.29
Australia	0.26	0.25	0.25	0.25	0.30	0.32	0.32	0.29	0.32	0.34	0.29
Austria	0.26	0.20	0.23	0.52	0.47	0.50	0.43	0.30	0.32	0.27	0.35
Belgium	0.43	0.60	0.41	0.53	0.50	0.43	0.48	0.55	0.64	0.54	0.51
Canada	0.28	0.24	0.27	0.34	0.29	0.29	0.33	0.30	0.34	0.32	0.30
Czech Rep.	0.07	0.11	0.11	0.11	0.12	0.11	0.12	0.12	0.13	0.12	0.11
Denmark	0.96	0.84	0.85	0.81	0.80	0.81	0.82	0.88	0.91	0.85	0.85
Finland	0.35	0.35	0.37	0.46	0.40	0.39	0.44	0.54	0.55	0.53	0.44
France	0.37	0.40	0.41	0.47	0.47	0.38	0.39	0.47	0.50	0.46	0.43
Germany	0.27	0.28	0.28	0.36	0.36	0.37	0.38	0.35	0.39	0.39	0.34
Greece	0.21	0.21	0.16	0.17	0.17	0.16	0.21	0.19	0.17	0.15	0.18
Iceland	0.15	0.17	0.18	0.18	0.27	0.27	0.47	0.35	0.29	0.21	0.25
Ireland	0.40	0.39	0.39	0.42	0.54	0.55	0.59	0.54	0.52	0.51	0.49
Italy	0.20	0.17	0.15	0.29	0.20	0.19	0.22	0.16	0.15	0.20	0.19
Japan	0.23	0.20	0.19	0.28	0.25	0.17	0.19	0.18	0.20	0.18	0.21
Korea	0.05	0.06	0.06	0.10	0.05	0.07	0.09	0.10	0.12	0.12	0.08
Luxembourg	0.78	0.86	0.79	0.79	0.89	0.92	0.97	1.04	1.05	0.97	0.91
Netherlands	0.81	0.80	0.73	0.82	0.81	0.81	0.80	0.82	0.81	0.75	0.80
New Zealand	0.22	0.23	0.23	0.27	0.27	0.27	0.30	0.28	0.26	0.28	0.26
Norway	0.89	0.92	0.87	0.94	0.89	0.95	0.89	1.06	1.05	0.96	0.94
Poland	0.00	0.01	0.05	0.07	0.09	0.10	0.08	0.09	0.08	0.08	0.07
Portugal	0.27	0.22	0.63	0.21	0.21	0.22	0.27	0.23	0.29	0.31	0.29
Slovak Rep.	0.02	0.05	0.07	0.00	0.10	0.09	0.10	0.09	0.09	0.09	0.07
Spain	0.26	0.23	0.24	0.27	0.32	0.37	0.45	0.46	0.43	0.29	0.33
Sweden	0.84	0.79	0.78	0.94	1.02	0.93	0.98	1.12	0.97	1.02	0.94
Switzerland	0.32	0.36	0.39	0.42	0.38	0.37	0.42	0.44	0.39	0.46	0.40
U.K.	0.31	0.34	0.36	0.47	0.51	0.36	0.43	0.51	0.57	0.56	0.44
United States	0.13	0.15	0.17	0.23	0.18	0.16	0.18	0.21	0.21	0.20	0.18

Source: OECD, ODA Trends from 1960 to 2012, reorganized by the author

Appendix 6. The DAC List of 148 ODA Recipients

(effective reporting on 2011-2013 flows)

LDCs	OLICs	LMICs	UMICs
Least Developed Countries	Other Low Income Countries	Lower Middle Income Countries and Territories	Upper Middle Income Countries and Territories
(as defined by UN)	(per capita GNI <= \$1 005 in 2010)	(per capita GNI \$1 006-\$3 975 in 2010)	(per capita GNI \$3 976-\$12 275 in 2010)
Afghanistan Angola Bangladesh Benin Bhutan Burkina Faso Burundi Cambodia Central African Rep. Chad Comoros Congo, Dem. Rep. Djibouti Equatorial Guinea Eritrea Ethiopia Gambia Guinea Guinea-Bissau Haiti Kiribati Laos Lesotho Liberia Madagascar Malawi Mali Mauritania Mozambique Myanmar Nepal Niger Rwanda Samoa São Tomé and Príncipe Senegal Sierra Leone Solomon Islands Somalia Sudan Tanzania Timor-Leste Togo Tuvalu Uganda Vanuatu Yemen Zambia	Kenya Korea, Dem. Rep. Kyrgyz Rep. South Sudan Tajikistan Zimbabwe	Armenia Belize Bolivia Cameroon Cape Verde Congo, Rep. Côte d'Ivoire Egypt El Salvador Fiji Georgia Ghana Guatemala Guyana Honduras India Indonesia Iraq Kosovo Marshall Islands Micronesia, Federated States Moldova Mongolia Morocco Nicaragua Nigeria Pakistan Papua New Guinea Paraguay Philippines Sri Lanka Swaziland Syria *Tokelau Tonga Turkmenistan Ukraine Uzbekistan Vietnam West Bank and Gaza Strip	Albania Algeria *Anguilla Antigua and Barbuda Argentina Azerbaijan Belarus Bosnia and Herzegovina Botswana Brazil Chile China Colombia Cook Islands Costa Rica Cuba Dominica Dominican Republic Ecuador Former Yugoslav Republic of Macedonia Gabon Grenada Iran Jamaica Jordan Kazakhstan Lebanon Libya Malaysia Maldives Mauritius Mexico Montenegro *Montserrat Namibia Nauru Niue Palau Panama Peru Serbia Seychelles South Africa *St. Helena St. Kitts-Nevis St. Lucia St. Vincent and Grenadines Suriname Thailand Tunisia/ Turkey Uruguay/ Venezuela *Wallis and Futuna

* = Territory

[1] This is without prejudice to the status of Kosovo under international law.

Source: OECD

국문초록

경제통합이 무역관련원조의 효과성에 미치는 영향

: 콜롬비아 사례를 중심으로

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무역관련원조는 개발 커뮤니티에게 전혀 새로운 것이 아닌 반면, 2005 년 홍콩에서 열린 제 6 차 WTO 각료회의에서 무역관련원조의 중요성이 재부각되면서 무역 커뮤니티도 무역관련원조에 대해 관심을 가지게 되었다. 무역관련원조는 개발도상국이 다자무역체제에서 혜택을 누릴 수 있게 공급측면의 배양능력 강화를 통해 무역원활화 및 무역장벽 해소를 지원하는 원조로 사용된다. 하지만, 다자간무역협상을 위한 도하라운드의 오랜 지체는 소수의 나라들로 이루어진 자유무역협정의 확대를 초래하게 되었다. 이에 본 논문은 경제통합이 무역관련원조의 효과성에 미치는 영향을 분석하기 전, 수혜국이 공여국과 자유무역협정을 맺었을 경우 더 많은 무역관련원조를 받는지에 대한 여부와 원조 공여국의 입장에서 수혜국에게 무역관련원조를 주는 결정요인에 대한 기초분석을 실시하였다. 무역관련원조 이니셔티브가 출범한 2005 년 이후 많은 학자들은 대부분 무역관련원조와 수출성과의 상관관계에 대한 분석을 통해 무역관련원조의 효과성에 대해 연구를 하였다. 하지만 한 학자(M.Vijil, 2013)만이 경제통합이 무역관련원조의 효과성에 미치는 영향과 두 변수간의 보완성에

대해 연구를 하였다. 이에 본 논문은 이전 연구에 새로운 변수를 추가하고 기존에 2005 년까지만 이루어진 연구범위와 경제통합지표를 업데이트 하였으며, 심도 있는 연구를 위해 콜롬비아 사례분석을 추가로 포함시켰다. 다른 소득수준별 그룹이 어느 정도의 무역관련원조를 받았는지와 상관없이 각 개발도상국의 경제통합수준에 따라 무역관련원조의 효과성은 다르게 나타날 것으로 가정된다. 전반적인 회귀분석결과, 소득수준에 상관없이 무역관련원조는 통계적으로 유의하게 높게 나타났으며 무역을 증진시키는데 기여하였다. 무역관련원조의 세 가지 세부분야별로 (i.무역정책 및 규범, ii.무역관련 인프라, iii.생산역량강화) 경제통합변수와의 상호작용항을 넣어 회귀분석을 한 결과, 무역 정책 및 규범 분야가 다른 세부분야에 비해 수혜국의 수출증진에 비교적 강한 효과가 있는 것으로 나타났다. 결론적으로 더 높은 경제통합수준과 더 많은 무역관련원조를 받는 수혜국일수록 낮은 경제통합수준을 가진 수혜국보다 높은 수출성과를 가진 것으로 나타났으며, 이는 경제통합이 무역관련원조의 효과성에 비교적 큰 영향을 주는 것으로 여겨진다.

주요어: 무역관련원조, 경제통합, 원조 효과성, 콜롬비아

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