

# Aid for Trade and Export Performance of Developing Countries

Lucy Sau Kiute\* Dr. Alireza Nasiri Antonio Alleyne Professor Jiang Wenxue  
Dongbei University of Finance and Economics, International Institute of Chinese Language and Culture, P.O  
Box 116025, Hei Shi Jiao, Dalian, P.R China

## Abstract

Developing countries face a compliance gap with regard to trading rules at multilateral and bilateral negotiations and despite greater trade openness and the increasingly interdependence nature of global economy, these countries face internal constraints perpetuated by limited resources required to invest in the elements that would boost exports. This study examines the impact of Aid-for-Trade (AfT) on export performance of developing countries using panel data consisting of 131 countries from 2000 to 2013. In order to reveal the impact of AfT on export performance, the study uses regression analysis where the model specification includes variables such as Gross Domestic Product (GDP), money supply, exchange rate, trade openness, transparency and corruption and regulatory environment which are important in trade and have been used in regressions to explore the impact of aid on exports of receiving countries. The study reveals surprising results of the impact of AfT on export performance. Empirical results demonstrate that the impact of AfT on export performance is insignificant despite having a positive coefficient.

**Keywords:** Aid for Trade, Exports, developing countries.

## 1. Introduction

In recent years, there has been an emergence of a new consensus on trade and economic development whereby it is now widely accepted that economic growth and development cannot be achieved by pursuing trade policies that center on trade openness alone. Promoting trade and export performance is fundamental for developing countries' survival in the globalized world. Similarly, enhancing competitiveness of their export is essential as developing countries face trade related challenges such as infrastructure (roads, ports, and telecommunications), supply-side constraints and vulnerabilities such as external shocks and limited resources which only undermine their capability to participate effectively in international trade and gain the benefits offered by economic globalization (Brigugo & Cordina, 2004).

The inability of these countries to redress the constraints that hamper trade and thus improve their competitiveness in the regional and global markets threatens the sustainability of their economies. This shift in the understanding of trade and economic growths' relationship and the efforts to build the trade capacity for developing countries has influenced the Aid for Trade initiative. Thus, WTO promotes and encourages AfT to facilitate and enhance trade, diffusion of knowledge and technological progress and facilitate innovation thereby improving the quality of exports from developing countries and facilitate their full integration into the global multilateral system.

As AfT is generally intended to facilitate trade, Charlton and Stiglitz (2006) see AfT as a requisite for trade reforms and market access in developing countries and a catalyst for enhancing exports in multilateral forums. As such, AfT is a means of assisting developing countries to exploit to the fullest the existing opportunities that come with trade liberalization. Similarly, AfT offers developing countries a chance to build up their trade potential, alleviate the administrative related burdens which result from exploitation in the globalized economy.

Since its inception in 2005, AfT has increased in importance and has become an integral component of international aid that has been devised as essential for advancing developing countries' full integration into the global economy and to achieve greater self-reliance, improve their trade competitiveness capacity and strengthen their bargaining power in international negotiations. As of 2013, the amount of AfT funds disbursed to developing countries reached \$150,370 million<sup>1</sup> with top recipients being countries located in Asia. While some developing countries who are recipients of AfT funds are large and their economies are growing rapidly, some developing countries are small and the value of their exports is small in comparison to the other large countries. Therefore, AfT becomes an integral tool for incorporating broader trade facets into countries' development plans thus improving exports and bridge the gap that come with competition at global markets.

This study aims to examine the impact of AfT on the overall outcomes of exports in developing countries. It differs from other studies in that it uses the indicator growth to investigate whether the increase in exports is as a result of AfT or other factors which promote exports. In addition, the study uses aggregate AfT disbursement figures to assess its impact on export performance.

The study is constructed as follows. The next section reviews existing literature, followed by section 3 which presents the model, and methodology. Section 4 provides an overview of Aid for Trade trends and

<sup>1</sup> [stats.oecd.org/](http://stats.oecd.org/)

distribution as well as trade. Findings from empirical analyses are in section 5 and Section 6 provides conclusions.

## 2. Literature Review

Arguments on trade's potential to mutually benefit participating countries have come to constitute a very critical component of growth perspective. For developing countries, translating trade potential into tangible benefits remains unattainable even though market liberalization is seen as a means for realizing these benefits.

There exists a pool of literature on aid, trade and growth but very few on the impact of Aid for Trade on exports. Looking at the relationship between aid and trade on a macro level, empirical literature examining the welfare effects of increased trade in a country's growth and income levels suggests that trade effectively fosters economic development and growth. Noguera and Siscart (2005) view trade between countries as a powerful and important engine for driving economic development and growth. However, there is a growing concern that trade liberalization may not yield greater economic growth and welfare in the presence of the glaring challenges facing developing countries such as weak productive capacity, poor infrastructure, low competitiveness and weak institutions which limit their access to export markets. As such, most developing countries cannot take advantage of international trade benefits accorded by their developed partners in preferential trade schemes (Hoekman and Nicita 2010).

Brun et al. (2005) noted that the claim that poor developing countries have for years been marginalized by the wave of globalization is consistent with various studies' evidence. Also, despite industrialized countries according preferential trade schemes, poor developing countries' share in global trade has not increased accordingly. (Huchet-Bourdon et al. 2009). Bhagwati (2005) argues that the AfT initiative offers developing countries an opportunity to overcome the supply side constraints associated with losing preference in international trade under the growing number of free trade agreements. According to McCulloch et al. (2001), for developing countries, increased trade flows improve income distribution towards wages and this can happen through increased competition and creation of new industries and global value chains.

According to WTO (2006), the rationale for Aid for Trade is that it assists developing countries to increase their export capacity of both goods and services and to integrate into the trading system and gain potential benefits from trade liberalization and increased market access. In addition, effective AfT enhances developing countries' growth prospects as well as complement multilateral trade reforms.

According to Hoekman and Wilson (2010), Aid for Trade plays a significant role in addressing market failures by improving productivity and reducing a country's output volatility while supporting product diversity. This is particularly important in times of uncertainty caused by fluctuating commodity prices and export demand. These authors suggest that the role of Aid for Trade for developing countries is important as it seeks to improve their export performance. The results of an empirical study by Vijil and Wagner (2010) underline the importance of AfT in promoting the exports of recipient countries and indicate that aid allocated to trade-related infrastructure results to an average increase in exports to GDP ratio for a recipient developing country.

A report by UNCTAD (2002) suggest that, while developing countries' share in world exports has been increasing rapidly, there is a discrepancy between these trade volumes and the income earned from increased trade between developing countries and their industrialized partners. Although countries with fast growing high tech products have recorded an increase in exports to the world markets, studies show that there is a tendency for developing countries to engage in low skill manufacturing. In addition, most skills and technology used in production chains are imported from developed countries. Thus, the value addition and income generation in such production networks accrues only to developed countries.

According to Kneller et al. (2008), the structure of trade is important and in particular the nature of a country's exports. Countries that concentrate on production of goods and services with a relatively high level of Research and Development experience high growth rates. Similarly, the form of trade integration and the role of human capital hold concerning the export side of trade.

A bilateral relationship study by Johansson and Petersons (2001) on AfT between the donors and recipients reveal that recipient countries exports increase with increase in AfT flows.

Having reviewed a wide range of literature on AfT and exports, it is evident that the authors of the subject suggest that countries that receive AfT for the purpose of improving their exports and in turn become competitive in the global markets have indeed demonstrated an increase in exports. However, it is to the best of authors' knowledge that a research investigating the impact of AfT on export performance using the indicator growth at an aggregate level does not exist. As such, this study should uncover that.

## 3. Methodology

Although AfT was intended to assist mainly least developed countries, a number of middle income countries benefit as well. This study covers countries categorized by the World Bank as developing and are in income groups of low and lower middle income countries. The study is based on a set of panel data of 131 AfT recipient

countries over a period of 14 years (2000-2013)<sup>2</sup>. Data on AfT are obtained from OECD's Creditor Reporting System (CRS) while the export data and other control variables are from World Development Indicators (WDIs) database.

Secondary data from trade-related institutions such as countries' Bureau of statistics, Chambers of Trade and Commerce, Export Promotion Council agents and Ministries of trade and Industry, journals and books as in reference will be utilized for analysis of the research problem as well as information gathered from websites such as [www.wto.org](http://www.wto.org), [www.worldbank.org](http://www.worldbank.org), [www.oecd.org](http://www.oecd.org), and other official statistics.

The study will adopt a stratified sampling method due to its nature, objectives and limited resources and will utilize both qualitative and quantitative methods of data collection.

### **3.1 Model specification**

In order to reveal the impact of Aid for Trade on export performance, the study uses regression analysis where the model specification includes variables that are important in trade and have been used in regressions to assess the impact of aid on export performance of receiving countries. Similarly, an individual panel co-integration test was carried out to investigate the impact of each variable on export performance. The model is in the form illustrated below:

$$EX_{i,t} = \alpha + \beta_1 AfT_{i,t} + \beta_2 GDP_{i,t} + \beta_3 EXC_{i,t} + \beta_4 TO_{i,t} + \beta_5 TAC_{i,t} + \beta_6 MS_{i,t} + \beta_7 RE_{i,t} + \varepsilon_{i,t};$$

Where  $i$  and  $t$  denote country and time, respectively, EX represents the log of export adjusted for inflation in using a base year of 2005 prices, AfT denotes the log of Aid for Trade, which is the main variable of interest in this study. GDP represents the log of real Gross Domestic Product, EXC represents the log of real exchange rate, TO denote the log of trade openness which is an index for measuring freedom of trade of a country. TAC and RE represents the log of transparency, accountability and corruption and the log of regulatory environment respectively and MS represents the log of money supply and  $\varepsilon_{i,t}$  denote error term. These variables are relevant in this study as aid effectiveness can be determined by the quality of these measures. All of the variables are expected to impact exports.

### **3.2 Specification technique**

Panel data estimation methods will be used in the present study to capture the impact of Aid for Trade on exports. Categorized by WTO as low and lower middle income countries, Random Effect Model is appropriate for analysis. Working with panel data usually raises potential endogeneity issues; i.e. the explanatory variables may be correlated with the error term. Generalized Method of Moment (GMM) technique serves as a robustness test for the impact of Aid for Trade variables on exports, as it allows controlling for the endogeneity.

## **4. Overview of Trends and Distribution of AfT and Trade**

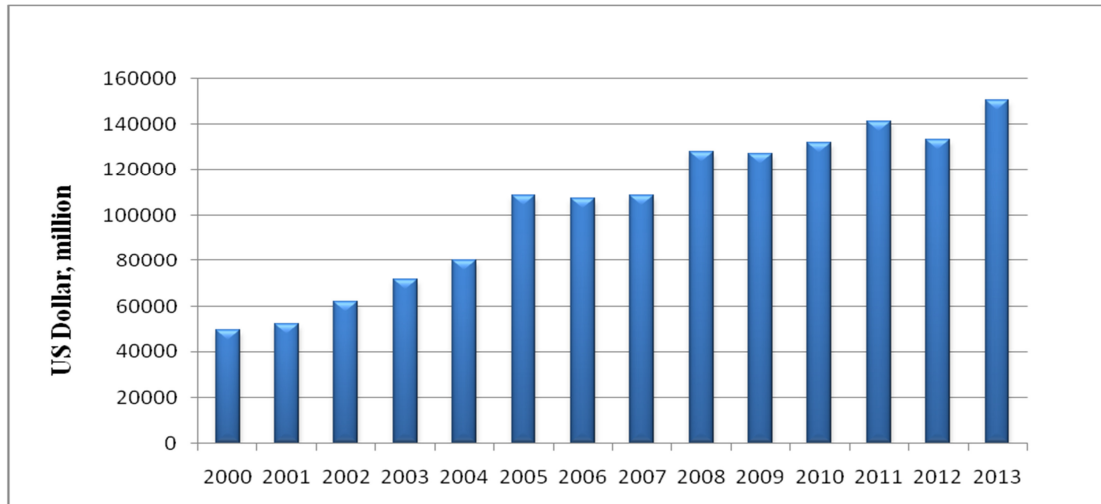
### **4.1 AfT**

It is important to note that AfT is not a separate category of foreign assistance given by donor countries to aid developing countries but "targeted" aid. The projects where aid is channeled to, directly or indirectly impact the economic development of the recipient countries. According to OECD guidelines, AfT is summed up as aid flowing into sectors that boost the capacity of the recipient country to enhance and promote trade. These sectors are categorized under different headings as (a) trade related infrastructure, (b) trade policy and regulations and (c) productive capacity building<sup>3</sup>. This study analyses the impact of AfT on export performance with respect to the broader measure of AfT whereby, the data used for analysis reflects the effects of AfT on total exports of the recipients'.

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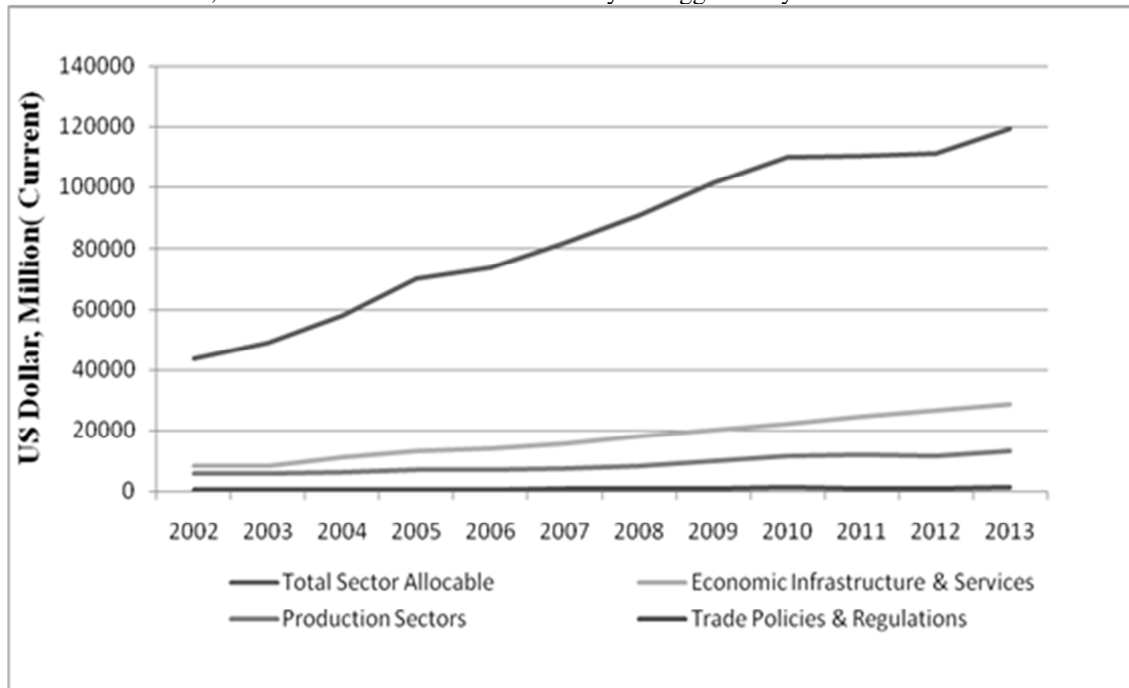
<sup>2</sup> See appendix A

<sup>3</sup> <http://www.oecd.org/trade/aft/45581702.pdf>



**Figure 1: Total Aid for Trade flows, 2000-2013 (Current Prices, USD millions)**

Donors have continued to abide by their commitment towards increasing AFT flows. In 2013, a total of \$150,370 million was disbursed to developing countries, an increase from \$ 49,779 million in 2000. While figure 1 demonstrates a significant steady increase in funds over the period of study, the flows however started to slow down in 2006. Overall, Aft disbursements increase annually as suggested by the momentum of disbursements.

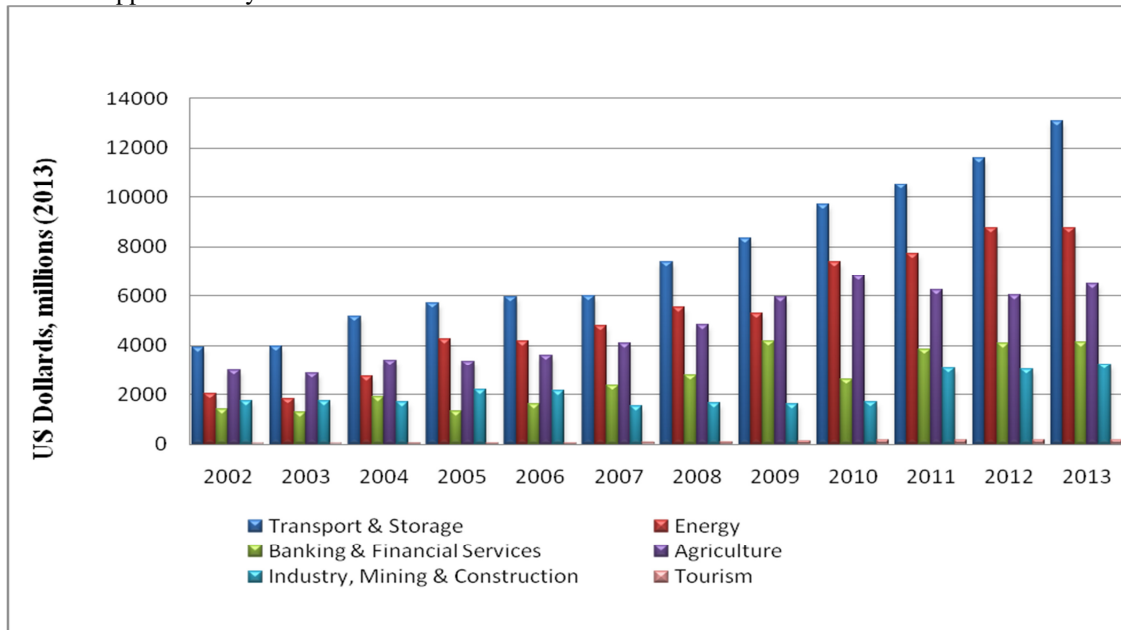


**Figure 2: Aid for Trade by major type disbursements**

As Economic Infrastructure and Services continued to receive a growing share of Aft disbursements, a noteworthy amount has also been directed to Production Sectors as revealed in figure 2. Trade Policies and Regulations receive minimal attention with the amount at USD 1.3 billion in 2013 from approximately 586 million in 2002. High increased trend revealed by the Total Sector Allocable disbursements suggest a general growing allocation of funds on sectoral aid with Economic Infrastructure and Services retaining its position as a priority target.

As shown in Figure 3 below, data across the years reveals that Transport and Storage sectors absorb the largest share of AFT disbursements by sectoral allocation with Tourism receiving the least share of AFT. In recent years, as data demonstrates, Energy sector has continued to gain preference over Agriculture which received the second largest share of aid funds between 2002 and 2004. As such, energy sectors' share rose to USD 8.73 billion in 2013 from USD 3.91 billion in 2002. Disbursements on agriculture appear to have been increasing steadily from 2005 but started to decline in 2010. Throughout the baseline study period (2002-2013),

AfT allocated to Industry, Mining and Construction sectors remained more or less consistent with a significant increment of approximately USD 3 billion in 2013 from USD 1.7 billion in 2010.



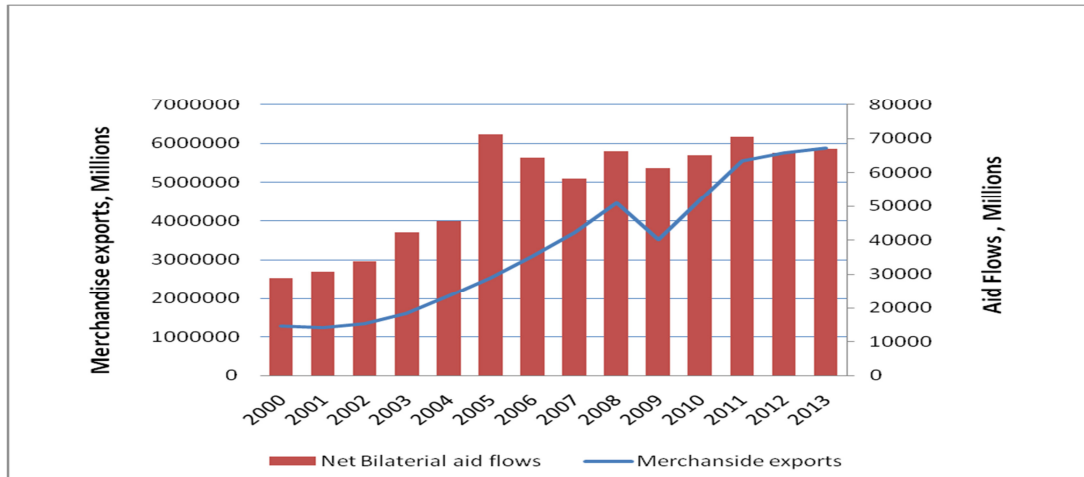
**Figure 3: Aid for Trade to developing countries by Sector, 2002-2013**

#### 4.1 Trade

Figure 4 below shows a positive correlation between aid and export performance. Merchandise exports increase with increase in aid flows. However, between 2008-2009 as aid flows to developing countries decreased, exports from these countries dropped sharply from over 4.3 billion US dollars to about 3.5 billion US dollars.

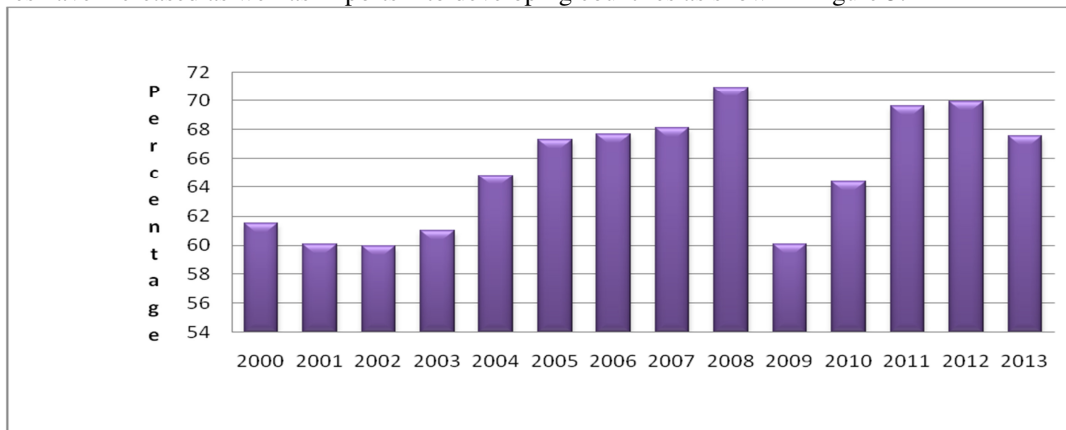


**Figure 4: Exports and Imports values of developing countries**



**Figure 5: Net Bilateral aid flows and Merchandise exports, Current USD**

Imports and exports have moved closely with the value of both indicators increasing. Exports from developing countries have increased as well as imports into developing countries as shown in figure 5.



**Figure 6: Merchandise trade (% of GDP)**

Trade in developing countries was equivalent to approximately 67 percent of their GDP in 2013 an increase from 61% in 2000 as shown in figure 6 above. In 2009, developing countries' merchandise trade percentage of GDP declined sharply to 60% from 71% in 2008. Exports to developing economies accounting for 52% of total exports while those to developed economies account for 43% percent. 3% of the merchandise exports went to unspecified destinations while 2% was exported to common wealth of independent nations (See Figure 7).

### 5. Discussion and Analysis

Examining the impact of AfT and other variables on export performance of developing countries using Generalized Method of Moments (GMM) technique have generated some interesting and in some cases contradictory results when compared to other studies. The empirical results of this study are presented in appendix A

Utilizing the GDP data series in log form base 10, as with all other variables, the results show a positive and highly significant relationship between GDP and exports. This supports previous theories in acknowledging the complementarity between exports and GDP. As GDP increases, exports increase too. In principle, the results of this study reinforces the idea that a rise in GDP leads to a higher level of savings which in turn leads to higher investments activities creating a build up in capital for expansion of export sectors and thus enhances exports. Also, the positive relationship between GDP and exports can possibly be due to increases in production level and improvement in technology and human capital in the recipient countries. This Acknowledgement is relevant as it helps to effectively isolate the partial contribution of AfT in export performance in the model presented.

At 5 percentage level of significance, currency circulation is identified as being significant but with a negative influence on the flow of exports. In this study, money supply (MS) was a proxy for measure of financial development within an economy. The resulting coefficient (-0.34), is inconsistent with previous empirical papers which suggest that financial development has a positive impact on exports. However, a plausible explanation for

observed estimates suggest that an increase in money supply maybe faced with difficulty in credit access and financial investments that are likely to hinder export potential; suggesting the need for improved trade policy interventions which accommodate existing monetary rules. The lightly impact of exchange rate follows the money supply trend. Though not significant, the exchange rate position impacts exports adversely.

The level of openness (TO) impacts highly on exports as supported by the results of the estimates. According to the analysis, a 1% increase in trade openness within developing countries is expected to boost exports by 1.5% on average.

The impact of the quality of institutions proxied by Transparency, Accountancy and Corruption (TAC) and governing policies (RE) demonstrates mixed results. As the capacity to export is likely to be influenced by the quality of institutions of a country, the results of corruption show a negative sign. The regulatory environment (RE) is insignificant in enhancing exports at 10% level.

### 5.1 AfT and Exports

Analysis of the AfT distribution trend exhibits a sluggish upward movement. However, the share of global exports from developing countries continues to rise at a significantly faster pace. The results of this study, despite being insignificant corroborate the positive expectations that AfT is likely to have on promoting trade. This is indicative of the possibilities that the potential impact of AfT on export performance is unrealized due to unaccounted factors. These constraining factors which can be at the national level or global level are unaccounted for in this analysis. Nevertheless, as AfT provides developing countries with a framework for realization of the full benefits of trade, a range of other harmonizing policies will be required. These policies may be country based to back up the initiative in order to be effective.

Recognizing that AfT has an insignificant impact on export performance, a Kao residual co-integration test was performed to investigate the existence of a long run relationship between aforementioned, not captured in the model. Surprisingly, the results do not deviate too far from the general estimation of the model and supports the null hypothesis that there is no co-integration between the two variables.

The performance in exports, despite AfT ineffective estimates as our analysis demonstrates, is surprising as earlier figures reveal that the largest portion of funds allocated toward economic infrastructure and services goes to transport and storage sector which are deemed important in reducing some of the barriers to trade. However, the current results do not support such assumptions. From this, we can deduce that funding priorities should have been well aligned with development blueprints of these developing countries which recognize multiple constraints such as infrastructure as a stumbling block to poor trade performance. Recalling that the initiative should assist recipient countries to redress supply constraints, our estimates on average may suggest that AfT is partially futile towards the intended agenda.

## 6. Summary and Conclusion

At the commencement of the Aid for Trade initiative, the intent was to offer developing countries an opportunity to advance trade in order to boost up exports and benefit from liberalization. Aid disbursements have since been geared at tackling the constraints faced by developing countries in their efforts to improve their exports in the global markets. This study has uncovered a mixture of notable and conflicting scenarios on the effectiveness of AfT and reveals that the initiative has not been fully a success in achieving the targeted results of promoting the exports of developing countries. Noting the expected outcomes of all the over variables used across the literature, the resulting estimates for AfT were unexpected. However, this may have been as a result of unaccounted for factors in the model due to the varying nature of the developing countries analyzed and data limitation. This contrasts the available work which proposes that AfT is significant in promoting exports. Although the results of the study show no significance between AfT and exports of the countries studied, this is not to say that AfT is completely unproductive in stimulating export growth. The lack of evidence on the beneficial impact of AfT in exports calls for a closer scrutiny of the initiative.

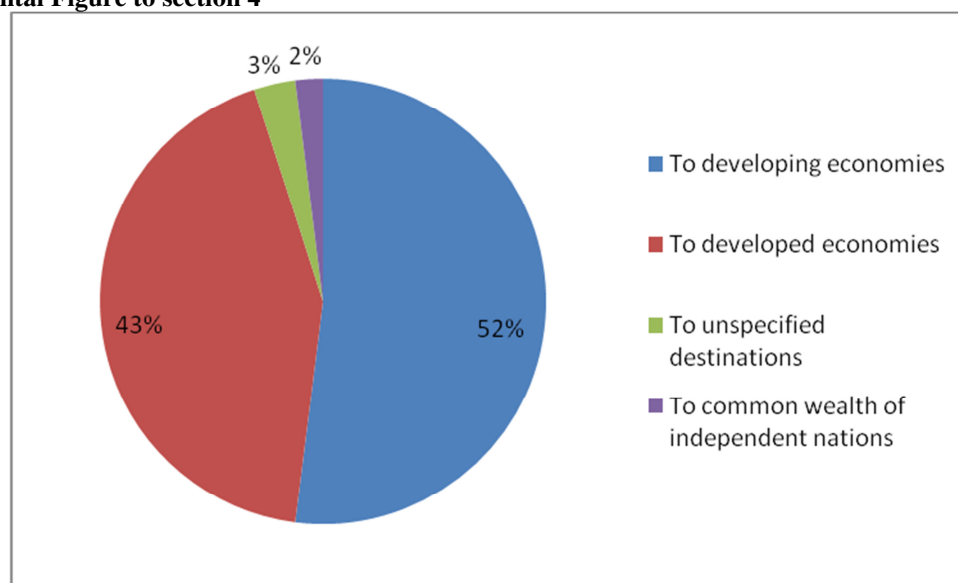
Due to the limitations of data availability, the interpretation of the results should be noted with caution. Alternatively, other techniques of analysis could also be used to support or reject any findings. Noting that the current approach to this study was one of many valid approaches in analyzing AfT, the results may vary from previous research. Further research should expand on impacts of AfT at a national level or regional level.

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#### Supplemental Figure to section 4



**Figure 7: Merchandise exports from all developing countries, 2013**



**Appendix A: Summary Statistics**

Variables	Coefficient	Std. Error	P. value
LN_GDP	1.113594	0.228399	0.0000
LN_AFT	0.051099	0.086773	0.5564
LN_MS	-0.340556	0.153509	0.0273
LN_EXC	-0.150440	0.225191	0.5047
LN_TO	1.597427	0.204053	0.0000
TAC	-0.138605	0.052266	0.0085
RE	0.079521	0.047700	0.0966
<b>Adj. R<sup>2</sup></b>	0.990603		
<b>Durbin-Watson</b>	1.601479		

**Appendix B: Summary Statistics of individual co-integration results**

Variables	T-statistic	P-value
LN_EX & LN_AfT	-0.26289	0.3963
LN_EX & LN_GDP	-6.8477	0.0000
LN_EX & LN_MS	-8.0554	0.0000
LN_EX & LN_OEXC	3.7835	0.0001
LN_EX & LN_RE	3.1113	0.0009
LN_EX & LN_TAC	3.2053	0.0007
LN_EX & LN_TO	1.6263	0.0519

**Appendix C: List of Countries included in the Study**

Afghanistan	Guatemala	Rwanda
Albania	Guinea	Samoa
Algeria	Guinea-Bissau	Sao Tome and Principe
Angola	Guyana	Senegal
Argentina	Haiti	Serbia
Armenia	Honduras	Seychelles
Azerbaijan	India	Sierra Leone
Bangladesh	Indonesia	Solomon Islands
Belarus	Iran, Islamic Rep.	South Africa
Belize	Iraq	Sri Lanka
Benin	Jamaica	St. Lucia
Bhutan	Jordan	St. Vincent and the Grenadas
Bolivia	Kazakhstan	Sudan
Bosnia and Herzegovina	Kenya	Suriname
Botswana	Kiribati	Swaziland
Brazil	Kyrgyz Republic	Syrian Arab Republic
Bulgaria	Lao PDR	Tajikistan
Burkina Faso	Lebanon	Tanzania
Burundi	Lesotho	Thailand
Cambodia	Liberia	Togo
Cameroon	Macedonia, FYR	Tonga
Cape Verde	Madagascar	Tunisia
Central African Republic	Malawi	Turkey
Chad	Malaysia	Uganda
Chile	Maldives	Ukraine
China	Mali	Vanuatu
Colombia	Mauritania	Venezuela, RB
Comoros	Mauritius	Vietnam
Congo, Dem. Rep.	Mexico	Yemen, Rep.
Congo, Rep.	Moldova	Zambia
Costa Rica	Mongolia	Zimbabwe
Cote d'Ivoire	Morocco	
Djibouti	Mozambique	
Dominica	Namibia	
Dominican Republic	Nepal	
Ecuador	Nicaragua	
Egypt, Arab Rep.	Niger	
El Salvador	Nigeria	
Ethiopia	Pakistan	
Fiji	Panama	
Gabon	Papua New Guinea	
Gambia, The	Paraguay	
Georgia	Peru	
Ghana	Philippines	
Grenada	Romania	