



**THE IMPACT OF AFRICA GROWTH AND OPPORTUNITY ACT
(AGOA) ON THE OVER ALL EXPORT AND THE TEXTILE AND
APPAREAL PRODUCTS**

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List of Acronyms

AGOA: Africa Growth and Opportunity Act
CEPII: Centre D'etudesProspectivesEtD'informationsInternationales
DOTS: Direction of Trade Statistics
EU-ACP: European Union-African Caribbean and Pacific
FDI: Foreign Direct Investment
FE: Fixed Effect
FTA: Free Trade Agreements
GAO: U.S Government Accountability Office
GATT: General Agreement on Tariff and Trade
GDP: Gross Domestic Product
GSP: Generalized System of Preference
HTS: Harmonized Tariff Schedule
IMF: International Monetary Fund
LDC: Least Developed Countries
MFN: Most Favoured Nation
NAFTA: North American Free Trade Agreement
OLS: Ordinary Least Square
OTEXA: U.S Office of the Textiles and Apparel
PML: Poison Maximum Likelihood
PTA: Preferential Trade Agreements
RE: Random Effect
ROO: Rules of Origin
UN: United Nations
UNCTAD: United Nations Conference on Trade and Development
USA: United States of America
USITC: United States International Trade Commission
USTR: United States Trade Representatives
WDI: World Development Indicators
WESP: world economic situation and prospects
WTO: World Trade Organization
ZINB: Zero Inflated Negative Binomials
ZIP: Zero Inflated Poison Model

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Abstract

It has been almost 50 years since some of the early nonreciprocal trade agreements in the form of generalized system of preference (GSP) were initiated by developed countries to the developing world. The main arguments in support of the nonreciprocal trade agreement is that developing countries are facing severe market access problems in advanced countries and hence developed countries are agreed to abolish all the tariff barriers to boost developing countries export.

In this paper we are focused in analysing the impact of a special nonreciprocal trade agreement which is the Africa growth and opportunity act (AGOA) granted by U.S to eligible Sub Saharan African countries. The study took both aggregated products and disaggregated products from apparel and textile sector to measure the impact of AGOA on the export performance in the last twenty years for sub-Sahara countries. Our econometric results reveal that, the impact of AGOA on the overall export is insignificant although the impact is Positive. But our disaggregated data have mixed results. From the four product categories, the impact of AGOA is positively promotes the export of knit apparel and woven apparel while it negatively affect export of cotton product and insignificant for other textiles.

Relevance to Development Studies

African countries are gravely suffered by poverty, sluggish economic growth and insignificant market share in the global trade since a long time. The last 10 years or so, African countries shows a glimpse of hope in their economy and remain the least affected area from the scathe of global financial crises. It is widely believed that trade plays a significant role in revitalizing the economic growth of poor countries if the necessary conditions are fulfilled. The impact of AGOA in the provision of market access granted by United States for African countries has a great relevance in the development studies since it has a potential to benefit African countries. This is only possible when all governments and policy makers are taking their responsibilities to provide the necessary preconditions to achieve the ultimate economic goal.

Keywords

Africa Growth and Opportunity Act, Sub-Saharan Africa, Export growth, Gravity model

CHAPTER ONE

Introduction

1.1. Background

It is well asserted fact that promotion of trade is one of the key factors in boosting economic growth and leads for greater welfare benefits. Some of the great theories in international trade such as the theory of comparative advantage by David Ricardo states that trade make every country better off and increases the welfare of the society. With the advent of globalization, countries are highly integrated among each other in which one country is difficult to live without the other. Understanding the benefits of regional and global trading blocs, many countries in the same region are creating regional economic blocs and preferential trading agreements to promote and facilitate the exchange of goods and services among each other.

Preferential trade agreement is a broad concept related to provision of special treatment between member countries. Ahearn (2010) explained PTA as a special arrangement between countries in which one member country provides special treatment such as reducing tariff for a member country over the non-member. The creation of economic blocks enhances bilateral trade among countries by minimizing the degree of tariff and non-tariff barriers and allows for smooth flow of tradable good among member countries. Some of the notable form of PTA is free trade agreements(FTA) among which the prominent ones are the North American free trade agreement(NAFTA) and U.S- Australian FTA.(ibid)

In the early periods of 1960, most of the GATT negotiations to eliminate tariff barriers were mainly focused on industrial commodities that mainly benefited developed countries since industrial goods are mostly traded by industrialized countries. Hence there was a general dissatisfaction from developing countries on GATT negotiations. The partial consequence of the dissatisfaction leads for the birth of the United Nations conference on trade and development (Nilsson 2011). After the creation of UNCTAD, developing countries were requested from industrialized countries preferential access for their products such as elimination of tariff and non-tariff barriers.

Preferential trade agreements could be reciprocal or non-reciprocal in which the reciprocal trade agreement is that all countries signed the trade agreement should eliminate the trade barriers to the same level while the non-reciprocal is one way trade agreement in which the provider of the treatment do not expect the same favour from the recipient countries. According to the world trade organization (WTO 2015) and general agreement on tariffs and trade (GAAT),

the regional trading agreements and preferential trading agreements (PTA) has been increasingly put in to practice since 1990s. As of April 7, 2015 the WTO/GATT had received about 612 notifications of RTA out of which about 406 were converted in to force. Furthermore there were about 29 preferential trading agreements (PTA).

The various form of trade agreements are one of the highly debated issues pertaining to the merits and negative impacts. the question whether PTA is a building block or stumbling block for better and greater global trade liberalization is still a contradicting issue but what is undisputed about PTA is, it has growing at a great pace and becomes the epicentre for global trade diplomacy as countries want their investors and exporters to penetrate international markets as a result around half of the world trade is covered under the PTA (Ahearn 2011).

In this paper our main intention is to evaluate the impact of the preferential trade agreement on enhancement of trade and export performance. In doing this we will look on the general impact of Africa Growth and opportunity act (AGOA) on boosting trade and exports for the treated countries and specifically for the effect on Apparel and textile products.

1.2. Statement of the problem

In recent years, developing countries including sub-Sahara-African have showed a good economic performance although the progress was not shared equally by all countries. World Bank (2014) in its report forecasted the GDP of Africa to be around 4.6% in 2014 which was similar to 2013. Despite the promising achievement of economic growth registered in Africa, the continent is lagged far behind in its engagement in the world trade. The share of African export in the international market dwindles year after year. For instance the value of world export in 1950 was approximately \$54.8 billion and Africa's share was equivalent to \$3.4 billion which accounts about 6% of the world total export (UN 1955). This trend has slumped further in the subsequent years, for instance in 2014, the share of Africa export accounted a mere of 3.42% of the total world exports. This deterioration in export sector was not a one period incident; especially from 1980s its share had dwindled sharply to 5.92, 3, 2.29 and 3.34 in the years of 1980, 1990, 2000, and 2010 respectively (UNCTAD 2014).

Why African export deteriorates year after year? There might be myriad reasons for why the low exports, but among the possible reasons is the lack of market access in foreign countries. In international trade theory there are widely believed that there are some factors that facilitate trade and are also some trade impediments that hinders the flow of trade. Among the impediments, transport cost, higher tariff and non-tariff barriers can be mentioned. A higher

multilateral resistance from importer country to another exporter will increase the price of the exporter country and hence it leads to a lower in the trade flows of the country (Anderson and Wincop 2003). The African Growth and Opportunity Act (AGOA) which is a unilateral trade agreement is mainly considered a trade enhancing instrument through eliminating tariff barriers. Accounting this, to what extent the special treatment on market access by U.S on African commodities could affect the trade flows positively? Can free market access increase the market share of Africa in U.S market? To what extent can the free trade agreement be able to address the existing problems are the main interest of our study.

1.3. Objectives of the study.

It is widely believed that trade promoting initiations such as eliminating of tariff barriers and non-tariff barriers (quota, health and safety standards) can promote trade. Promotion of trade can lead to industrialization and leads for better economic growth. Didia et al. (2015) argues that, AGOA is the most meaningful treatment provided by advanced country toward developing sub-Saharan countries in the last few years. The enactment of AGOA hoped to boost African entrepreneurship and leads to increase the export and manufacturing sector in sub-Saharan. AGOA has been enacted by U.S congress in May 2000 to help sub-Sahara African countries to increase their market share in American market by granting duty free privileges for a total of 39 eligible countries (Williams 2014). The special treatment (AGOA) provided by congress is a non-reciprocal trade agreement and is similar to the general system of preference (GSP) but with a wider variety of products (ibid).

Among the motivations of conducting this study is to investigate the impact of the special privileges received by African countries to export textile and apparel products. Under the Africa Growth and Opportunity Act (AGOA), goods which were not eligible under GSP even for least developed countries became eligible to enter duty free in American markets. The objective of this paper hence will infer the achievements in the overall export sector in general and the textile and apparel products in particular. Any policy is implemented to achieve certain targets and put in to practice in fixed time frames. Similar to this, AGOA has initiated by office of the U.S. president during the Clinton administration in the year 2000. After it has expired by September 30, 2015, AGOA has renewed for its fifth time for another 10 years and it will expire in 2025. So in these 14years (2000-2014) of its life span it is necessary to evaluate the impact of this intervention. By doing this we will be able to know how much is this policy relevant for the promotion and enhancement of trade in sub-Sahara Africa and helps other GSP providers to implement similar policies for others based on the success of the policy.

1.4. Basic research questions.

This paper will try to answer the following basic research questions:

1 what is the impact of Africa Growth and Opportunity Act on export sector of the beneficiary countries? Does AGOA significantly contribute to the overall export performance of the treated countries?

2. What is the impact of AGOA on the export performance of the apparel and textiles sector?

1.5. Policy relevance and justification of the study.

U.S.A has initiated the general system of preference (GSP) for various commodities and one of such commodities is oil and related products. Looking the impact of GSP on the aggregate export performance only gives crude results since few commodities like energy related products, minerals and metals account the biggest share of the total export of Africa under the AGOA. Hence we choose to add in the study to look the impact of AGOA on export promotion of the apparel and textile sector. The underlying importance of adding the apparel and textile sector is quite obvious in which most developing countries are highly engaged in production of light manufacturing goods such as production of textile and garments, in extracting of primary row minerals and agricultural products. Understanding the impact of the non-reciprocal trade agreement granted by U.S.A is crucial to investigate whether countries who received the treatment had benefited or not.

Table 1.1 US Imports from sub Saharan Africa, by commodity sectors, by shares 2014

Commodity Sector	Year 2014	
	Value in million \$	Percent
Agricultural materials	2267	8.5%
Energy related products	13335	49.8%
Minerals and metals	6201	23.2%
Chemical and related products	1134	4.2%
Textile and apparel	1050	3.9%
Special provision	361	1.3%
Others	2403	9.0%
Total	26751	100%

Source: USITC

As we can see from the above table African exports are mainly composed of few products in which dominated by energy and related products. From the type of products granted preferential treatment textile and apparel accounts

only 3.9% of the total exports in 2014. We are focusing in textile and apparel products mainly due to the importance of this sector on a number of sub-Saharan African countries.

1.6. Research Methodology and Data collection.

To determine the impact of AGOA on export performance of the recipient countries, we use the gravity model of international trade. Over the last four decades or so, the gravity model in international trade is one of the leading empirical tools of investigating the impact of free trade associations and customs union on merchandise trade among countries (Baier and Bergstrand 2007). The gravity model has been first used in economics related to international trade flows by Tinbergen in 1962. Since then the model has been popular and used for various disciplines such as in migration.

Developed countries such as U.S and Europe, provides a general scheme of preference (GSP) for developing countries to export their products without tariffs or minimum import restrictions. AGOA is an extension for the generalized scheme of preference created to maintain suitable environment to encourage developing countries to boost their efforts to expand and penetrate the western markets. In this case the gravity model is suitable to track the impact of bilateral and multilateral trade deals in the form of reciprocal or nonreciprocal trade agreements among countries.

In this paper we have used the basic gravity model and also added other relevant control variables for our study.

$$T_{ij} = \frac{K * GDP_i * GDP_j}{DIS_{ij}} \text{----- (1)}$$

In our analysis we will use the export data of 41 AGOA eligible countries and the period of study is extended for a period of 20 years from 1995 to 2014 based on the data availability

Regarding to the data collection, we have used the UN Comtrade Database and the U.S office of the textiles and apparel (OTEXA) for the trade on the disaggregated products of HTS-2category, IMF- direction of trade statistics (DOTS) for the aggregated exports of commodities. Data related to population size, area, GDP and price index of countries is extracted from WORLD BANK-development indicators. Finally Data related to colonial ties, language and geographical distance is from CEPIL.

1.7. Organization of the study:

The paper is organized in to 5 chapters. The first chapter includes the introduction part and research proposal. The second chapter is all about the theoretical frame work and literature review about the general system of preference,

the third chapter is more related to the socio economic characteristics, eligibility criteria and AGOA trade for apparel and textile with United States. The fourth chapter will be focused on data analysis, empirical strategy, model specification, data and econometric result interpretation. Finally the fifth chapter will have conclusions and policy recommendations.

1.8. Limitation of the study

One of the limitations for this study is the inconsistency of eligible countries in AGOA. Since eligibility is based on certain preconditions and criteria imposed by U.S., countries are joined and left AGOA in different time periods makes hard to track the overall impact of the intervention using a balanced panel data. Another limitation of this study is sample selection bias, the intervention is focused for specific countries with certain characteristics and samples are drawn based on specific criteria hence there could be a sample selection bias. Another big concern is the availability of more zero trade flows. As Bergeijk and Brakman (2010) stated, the problem of zero trade flows usually occurs when many less developed countries are included in the sample. In our case, the sample comprises of trade between sub-Sahara African countries and U.S.A. the two groups have quite different in terms of GDP, Per capita income, consumption and level of preference. Hence it has reported that data suffers with excessive zero trade flows, and if this zero trade flows is not properly handled it could lead to a biased estimation.

CHAPTER TWO

2.0. THEORETICAL FRAME WORK AND LITRATURE REVIEW

2.1. Theories of international trade

The gravity model has been highly used in tracking the flow of goods between trading countries. But one of the shortcomings of the gravity model was its lack of theoretical economic underpinning. The last 30 years a number of economists were able to formulate microeconomic theories to the gravity model from the Ricardian, Heckscher-Ohlin and the new trade theories of Krugman and Helpman.

2.1.1. The Ricardian Theory of Comparative Advantage in the Gravity Model

The theory of Comparative advantage is first used by British economist David Ricardo in 1817. This theory explains that countries benefit from international exchange of goods if they produce in the area where they can incur the lowest opportunity cost. (Krugman and Obstfeld 2009)

Eaton and Kortum (2002) similar to the Ricardian model assumed labour as the only internationally immobile factor of production. He also states that, countries vary in their production based on their technological differences hence countries have different levels of efficiency in their commodity productions. The Ricardian model developed by Eaton and Kortum were based on three basic things. First the difference in countries level of technology which is the basis for absolute advantage second the comparative advantage which is expressed by heterogeneity in technology and finally the different geographic barriers. Unlike the monopolistic competition in which its theory of bilateral trade flows is based on the distinction of the products each country produced, the Ricardian basis for trade is mainly due to the production cost associated with the level and type of technology used to produce those products (Eaton and Kortum 2002). The countries state of technology is related to absolute advantage while the heterogeneity of technology in producing various products dictates the comparative advantage.

2.1.2. International Trade due to Factor Endowment Differentiations.

In 1970s two Swedish economists, Eli Heckscher and Bertil Ohlin (Ohlin was a nobel laureate in 1977) developed a new economic theory which is named with their names as Heckscher-Ohlin (H-O) theory. The main essence of the H-

O theory is that countries are endowed with different factors of production and therefore trade among countries is based on the difference in resource endowments. Hence countries with abundant labour tend to export labour intensive products and countries with more capital exports capital intensive products. (Krugman and Obstfeld 2009)

The initial H-O model was constructed in a two country two products and two factors of production model. In the subsequent years many economists had modified the H-O theory by expanding the model. Deardorff (2000) states that countries specialization in specific production is not solely depend on absolute abundance of the factor of production but on the pace of relative growth as compared to the world. For instance If one country's capital input grows at faster pace as compared to the rest of the world then that country relative capital abundance is greater than the world. Hence the country specializes in capital intensive products. According Deardorff(2000) a country has various stages in the combination of the factors of production such as labour and capital. Therefore a country's stage of production depends on how much of the two combined inputs of production have accumulated. A country may switch its comparative advantage based on how the country is able to accumulate the inputs of production. Through time a country can move from one stage of product mix to another product mix or from one level of comparative advantage to another level. So its trade also changes based on the relative endowment of the factors of production.

The Heckscher -Ohlin Theory of international trade developed by Deardorff (1995) was based on two cases. The first one is assumed that all trading partners have similar consumption preference and countries are indifferent from which trading partner to import since prices are identical under the perfect competition. This is mainly due to the frictionless trade in which there is no barriers to trade. This international trade using the H-O gravity model works on average with some deviations in the exporters and importers from the world demand and supply.

The second case is derived with all trade impediments such as the transportation costs and countries were producing differentiated products therefore it is assumed that there is a difference in factor price among trading partners. The gravity equation is influenced by two factors, one is the elasticity of substitution in which the greater the elasticity of substitution among products the higher will be the trade among close countries and the second factor is the reduction in trade impediment such as reduction in transportation cost will help to expand trade between distant trade partners while contract trade between closer countries because the closer countries will lose some of their proximity advantage due to the reduction in transportation cost. (Deardorff 1995)

2.1.3. Trade Based on Monopolistic Competition.

The Heckscher-Ohlin theory was based on the assumption that countries export was related to the relative factor abundance but in reality we have witnessed that many countries with similar abundance of resources were traded among each other. Therefore a new trade theory was developed by Paul Krugman that addresses the existing puzzle. The new trade theory states that firms are producing differentiated products in a large volume of output (economies of scale). Although countries have the same level of technology and resource endowment, two economies can benefit from trade due to the economies of scale. (Krugman 1980)

Helpman and Krugman (1985) emphasized on the importance of the increasing returns to scale and the imperfect market competition in detecting the international trade flows. Other thing being constant big firms with large capacity and better technology can able to produce goods in mass and will lead to a reduction in per unit overhead costs. Under the economies of scale, markets are tend to be imperfect competitive and each firms produces slightly differentiated products from its competitors so that the products are not exact substitutes. (Helpman and Krugman 1985)

Besides to the above mentioned efforts exerted to derive the economic underpinning of the gravity model, Anderson (1979) was one of the early economists derived the economic theory of the gravity model in international trade. He assumed that there is homothetic preference across countries and products are differentiated according to the place of production. Through the various efforts made to establish a concrete micro economic underpinning of the gravity model, now a day's gravity model becomes the workhorse tool in analysing the bilateral trade among countries. Our data related to the impact of AGOA on the export performance can be explained under the different models discussed on the above theories.

2.2. Empirical Study Review of Generalized System of Preference.

It is being more than four decades since the generalized system of preference has been agreed on principle to establish under the auspicious of the United Nations conference on trade and development (UNCTAD). Since its establishment various developed countries were agreed to open their markets to the least developed countries by means of eliminating or reducing the tariff or quota barriers. Although the general system of preference was established in 1968, the inception to establish such a preference was started back in 1964 when famous development economist Raul Prebisch insisted the establishment of special preference in the first meeting of the United Nations Conference on Trade and Development (Dowlah 2008). The main argument by Raul Prebisch and

others for establishing a special preference for developing countries is to support the infant industries to get some market access in developed countries and enhance the industrialization process so that they can achieve the economies of scale that helps to compete in the global market competition (ibid).

Although EU was first responded by establishing the GSP for developing countries by reducing the tariff rate and quota system in 1971, but the non-reciprocal trade agreement of GSP took another 8 years to be legalized by GATT from its establishment (Nilson 2011). The EU-ACP is mainly included 71 small and poor African, Caribbean and Pacific countries and trade agreement was basically based on the colonial ties in which most countries are ex-colonies of the European Union countries. The main objective of this EU-ACP trade partnership through the GSP is mainly to assist for development and combat the existing poverty in these countries (Ahearn 2011). The U.S GSP started three years after the European Union GSP which was in 1974 and converted in to force in 1976. But in terms of country coverage the US. GSP hold a bigger number of countries (Dowlah 2008).

A number of empirical studies have published to estimate the impact of generalized system of preference (GSP) on the export performance of developing countries using numerous techniques. One of the fundamental reasons stated for providing preferential tariff treatment to developing countries was to boost the economic growth through the promotion of export. Despite the claimed objective of GSP, the impact of GSP is still contradictory. Some group of economists argued in support of GSP for instance, Sapir (1981) used a cross section gravity model to measure the impact of European Union GSP on the trade of the beneficiary countries based on the comparison on pre and post GSP trade. The regression result was negative but insignificant for the pre GSP trade, and the post GSP trade was positive and statistically significant in the years of 1973 and 1974. This means the special tariff reduction by European Union has a positive impact in the export promotion to the beneficiary countries. Sapir's sample countries were a group of semi-industrialized countries and hence the estimation results did not represent the impact of GSP on developing countries. similar studies focused on the impact of U.S GSP on the export performance of Balkan and Eastern Mediterranean reveals that, GSP has a positive impact on the export promotion for countries with lower middle income countries than those a higher industrialized countries. (B. Truett and J. Truett 1997). Another study by Seyoum (2006) who used data for countries before receiving U.S GSP (1965-1975) and after GSP treatment 1980-1990 investigated if there was a significant difference in export growth for GSP recipients. His econometric results shows that countries received GSP treatment has showed good export performance. But the benefits of GSP are not equally shared by all less developed countries and concentrated on few countries.

Others are critically looking on the impact of GSP on the export performance. One of the early arguments against GSP offered by developed countries was not inclusive and limited to a very few products. Many factors could be attributed for the dismal performance of GSP. Dowlah(2008) mentioned some of The main shortcoming of GSP. First GSP was more beneficial to the more advanced developing countries than to those less advanced countries. Second shortcoming with GSP is that since it is unilateral agreement, the provider countries has a sole right to change, amend or to revoke the trade agreement when they found it inconvenient or unprofitable hence the receiving countries are always vulnerable to the changes made by the GSP granting countries. The third reason that undermines the significance of GSP was the implementation of the rules of origin in which beneficiary countries could only export products originally produced in their home economies. Another big problem is that developed countries provide preferential treatment for only small ranges of products. In addition developed countries did not provide GSP in labour intensive products such as agricultural and textile products in which developing countries have a comparative advantage. Finally the benefits developing countries previously received have been minimized due the continuous negotiations under the multilateral trade agreements to reduce tariff and non-tariff barriers through GATT/ WTO.

Herz and Wagner (2011) investigated the impact of GSP taking a long year's data from 1953 to 2006 for 184 countries. In their general effect model, they strongly criticized the role of GSP on developing countries. In their paper, they found an empirical result contrary to what is advocated by the providers of GSP. The special preference has adversely affected the trade performance of the GSP recipient country while it boosted the export of the GSP granting countries. Using the dynamic effect model they tried to look if GSP has a long lasting impact on export performance. Their result was negative in which the export of developing countries has deteriorated by 22% within a 10 years interval as compared to five years period. Not only that, the previous positive impact of GSP on the GSP granting country has also changed in the long run. In a 10 years period interval, the GSP providers export has declined by -22%. So in general GSP helps to enhance export for developing countries in a short run but its long term effect is negative.

Another study conducted to see if GSP helped countries for liberalization and openness to trade and the study looked at the tariff data and import duties for GSP beneficiaries and non GSP beneficiary countries. The researchers found that countries who received the GSP preference have used more protectionist trade policies, they charge on average 3.83 % higher tariff rate, 1.83higher in duties and also they import 8.5 less as a percentage of GDP than the non GSP treated countries.

2.2.1 Africa Growth and Opportunity Act (AGOA)

Africa growth and opportunity act was initiated by the U.S congress in the year 2000 to boost African economies through the promotion of export by providing duty free access to African commodities in to U.S markets. Among the main objectives of AGOA is to minimize tariff and non-tariff barriers for Sub-Saharan African products, to increase U.S assistance to the creation of intra-African trade integration, supporting to promote reciprocal trade agreements helping to strengthening the private sector and embracing the civil society to build a mature political freedom (USITC 2014). AGOA is similar to the Generalized system of preference (GSP) granted by U.S to 120 developing countries to export a range of products to U.S markets with less restrictions except that AGOA treatment covers a wider range of product types and requires additional eligibility criteria for membership(Williams 2014)

AGOA which was renewed on September 2015 for the fifth time and extended until 2025, is a nonreciprocal trade agreement and it is different from the reciprocal trade agreements in the form of free trade agreements(FTA) or the WTO/GATT led multi-lateral trade negotiations to minimize tariff and non-tariff barriers. The total membership of AGOA varies from year to year due the eligibility requirement in the year 2015 about 41 countries are eligible. The U.S international trade centre (USITC 2004) classified the eligible AGOA countries in to 9 groups of countries based on the country's main export potential. The main classifications are petroleum, predominantly mineral, moderately mineral, cotton, fish, coffee-tea-spice, and other agricultural, apparel and transport service exporting countries.

AGOA is one of the best existing social science experiments implemented on how the special treatment granted to sub-Saharan African countries helps to promote their exports. To evaluate the impact of AGOA, a number of economists have tried to investigate the benefits of AGOA starting from the early period of its inception till the current period. The scholars used country level analysis as well as aggregated level impact of the program using qualitative and quantitative econometric techniques.

Some of the existing literatures that studied the impact of AGOA inter alia Frazer and Van Biesebroeck (2010), Didia et al.(2015),Tadese and Fayissa (2008), seyoum (2007), B. Thompson (2004), Collier and Venables (2007), Jones and Cook (2015). All the existing literatures vary in their scope, study period and also use different methods and strategy to determine the impact of AGOA on the export performance. Hence it is generally expected that the results of their study varies. Some of the existing studies argue that AGOA brought a significant impact on sub Saharan Africa trade initiation and intensification while others claims that the impact of AGOA is minimal and is not as beneficial as expected.

Frazer and Van Biesebroeck (2010) used a triple difference in difference techniques to avoid the possibility of endogeneity problem to determine the impact of AGOA on U.S imports. In their empirical findings, they reported that AGOA has brought a significant impact on the export volume (trade initiation) and the probability of export increased by 3% when countries are getting the AGOA treatment. Another study by Tadesse and Fayissa (2008) also used an aggregated and disaggregated products to compare the pre-post performance of AGOA exports and found that in many of the disaggregated commodities, AGOA had strong impact but in some commodities the impact of AGOA was insignificant. As related to export initiation AGOA has improved the export for 24 products out of 99 product lines. A recent study by Didia et al. (2015) also used a GMM method in level and first difference to address the possibility of some econometrics issue such as the possibility of non-stationarity. Although the impact of AGOA is significant in improving the export performance of sub-Sahara African countries using GMM, but the results using panel least squares are insignificant. Jones and Cook (2015) tried to look if AGOA has improved the export diversification. By looking in to a detailed HT-6 product lines, he tried to investigate if AGOA apparel provision helped the export of non-apparel products and he found that the AGOA helped to increase the number of products exported to U.S.

Although a number of empirical studies stated that AGOA's impact in increasing the export level is significant but others like Vezina et al. (2012) also argue that the increase in export value to U.S does not benefit domestic African firms, instead the preferential treatment benefits the far east Asian countries like china and Taiwan by exploiting the opportunity opened to African countries. Chinese firms tranship their semi-finished apparel and textile products and re-export to U.S by adding little value added in African soil under the umbrella of AGOA member's product. This is mainly done to avoid the strict quota system imposed on Chinese textiles and using the loophole created after the abolishment of the rules of origin (ibid). In account to Lesotho which is a success story in attracting FDI in apparel and textiles, Lall (2007) reported that, out of the total 55 manufacturing firms operated in Lesotho, 38 firms are engaged in production of garments and clothing. The entire export of manufactured products to U.S markets are form the above mentioned foreign owned enterprises and all are owned by East Asian countries mainly by Taiwanese.

Other researchers like B. Thompson (2004) claimed that, AGOA has not brought any tangible benefits in the export sector although the study period was in the early periods of AGOA's inception. The study revealed that only six countries Kenya, Lesotho, Malagasy Republic, Mauritius, Swaziland, and South Africa out of the eligible 37 AGOA countries showed a big positive export growth in apparel export but only two countries showed a positive export growth in other sectors mainly agricultural products. Another analysis using a time series was also implemented by Seyoum (2007) to assess the importance

of AGOA, and the results shows that for the top AGOA eligible exporters except for Lesotho, AGOA impact is minimal and is not statistically significant. A summary of previous studies about the impact of AGOA has reported in table 2.1.

There might be some reasonable answers to the question why AGOA did not bring the desired effect. First and for most there are quite a number of internal external impediments that could possibly obstruct the export performance. Opening market doors or granting market access by eliminating tariff barriers alone to less efficient and globally uncompetitive African manufacturing firms might not create dramatic improvement in boosting export performance. A number of studies listed a number of legal and institutional barriers that hinders the African export performance. Freund and Rocha (2011) investigated the possible causes of poor export performance and they stated that transit delays and poor infrastructure exacerbates the existing problem, in which a one day delay in inland transit leads for decline of exports by 7%. In a similar study pertaining to South African export, Edwards and Alves (2006) mentioned the vitality of capital infrastructure such as the capital stock in electricity generation, water and gas and paved roads in boosting exports supply. The export in manufacturing sector can be increased by 2.4% as investment in public infrastructure raised by 1%. Collier and Gunning (1999) accounted the reason for the poor economic performance in Africa due to high risk, less social capital and underdeveloped infrastructure.

Table2.1 Summary of previous studies about the impact of AGOA on export performance

year	Name of author	countries	Study -Period	Study focus	Major finding
2004	B.Thompson	37	1997-2001	Change in exports	Very few countries benefited
2007	seyoum	36	1997-2004	Pre/post AGOA performance	Not significant
2008	Tadesse and Fayissa	38	1991-2006	Pre/post AGOA export performance	Mixed result in the disaggregated products
2010	Frazer and Van Biesebroeck	41	1998-2006	Trade initiation and export diversification	Positive impact
2015	Didia et al.	40	1996-2012	Export growth	Positive impact on export
2015	Jones and Cook	48	1997-2011	Export diversification	Positive impact

CHAPTER THREE

3.0. SOCIO ECONOMIC CHARACTERISTICS AND ELIGIBILITY CRITERIA

3.1 AGOA Basic Country Eligibility Requirements

Africa Growth and Opportunity Act was ratified by congress and enforced in to law in 2000 during the Clinton administration. In the genesis of the program which was in October 2 2000, a total of 34 countries were officially declared as eligible countries that fulfils the basic requirements. Soon after on January 2001 Swaziland has received AGOA membership and after one year, on May 2002 and January 2003 Ivory Coast and Gambia also became eligible AGOA members (Agoa.info). According to the United States trade representative (USTR 2000), the general goals of the Act are to boost trade and investment opportunities for sub-Saharan countries and help them to lift up from their economic hardships and poverty. Some of the overall proposed activities in the first act were:-

- . Enhancing U.S relations with African countries, promoting the right institutions, and helping African countries to set the right institutions which are vital for growth.
- Provide eligible sub-Sahara African countries the right to export different types of product with duty free and without quota.
- Giving African countries additional security for investors and traders by extending the GSP to eight years.
- Follow up the US- sub Saharan Africa trade and investment policies by creating a trade and economic cooperation forum for better consultation and discussions.
- Providing technical assistance and create links between U.S and African firms to promote economic reforms.

AGOA membership is based on the general eligibility requirements of the U.S government in which if AGOA member countries fails to fulfil the basic requirement then their membership can be annulled. The criteria's for eligibility were set by U.S government in consultation with African countries and is designed to guarantee a maximum benefit out of the trade agreement. Appendix 1.1 is a full summary of the current eligible AGOA member countries and their date of entry. Based on public law (2000) section 104 of AGOA, there are some fundamental requirements for AGOA eligibility. Any eligible country must demonstrate and show a persistent progress to ward

- A free market economy that guarantees individual property rights , minimum government intervention in the economy especially in controlling price, in providing subsidies and ownership of economic assets

- There should be a continuous progress in the rule of law, political freedom (multiparty system) free and fair judicial system.
- Guarantying intellectual property right
- Design appropriate economic policies that help to eliminate poverty. Increase the educational and health services, building and expanding physical infrastructure, promoting private business by creating conducive environment.
- Maintain a proper institution that can help to combat corruption, nepotism, bribe and malpractices
- Eligible member counties should protect the international workers right such as the right to bargain and make unions, ensuring the health and safety of workers etc. these and other criteria's are the main requirements of the eligibility criteria.

Every year the eligibility criteria of countries is assessed by the United States trade representatives (USTR), based on the consensus reached they decide whether one country is eligible or not. From its inception a total of 13 countries were suspended from AGOA membership, but eventually 7 countries have returned back to get the preferential treatment. As of January 2015 39 African countries are eligible while the rest 10 countries are ineligible. (GAO, 2015)

Table 3.1 Countries who lost their eligibility for benefits and their current eligibility status

Eligibility lost and not regained	Reasons for loosing eligibility	Eligibility lost and regained	Reasons for loosing eligibility
Central African republic	coup	Cote d'Ivoire	Political unrest & conflict
Democratic republic of Congo	Human rights abuse	Guinea	coup
Eritrea	Human rights abuses	Guinea-Bissau	coup
The Gambia (exit2015)	Human rights abuse	Madagascar	coup
South Sudan	Political violence	Mali	coup
Swaziland (exit-2015)	Labour right	Mauritania	Coup
		Niger	Rule of Law

Source: GAO

3.2 .AGOA Product Coverage and Eligibility

In order for commodities to be sold in U.S markets, there are some guiding requirements in the form of product origin and inputs used in the production

process. AGOA is the extension of the existing general system of preference granted to more than 120 countries. There are about 10,500 different product lines exempted from tariff or non-tariff barriers under the AGOA trade act. out of the total Harmonized tariff schedule (HTS) product lines covered under AGOA, 3800 products are included in the most favoured nation (MFN) where every country enjoys to export duty free to U.S markets based on GATT/WTO rules, another 4800 product lines are exempted from tariff and other barriers for least developed countries under the general scheme of preference (GSP). Besides about 1800 product lines are covered by a special privilege to AGOA countries although a big share of this tariff lines are also included under GSP (Williams 2014). products such as textile and apparel which are eligible for duty free in U.S markets must comply with rule of origin(ROO) .Countries can only export to U.S duty free only when the product is originated and exported from AGOA eligible country. Another requirement is related to the amount of value added in the production process. In this respect 35% of the total value of production should be from the beneficiary country or imports from a third country which have similar eligibility status. Additionally 15% of the 35% of value entered in the U.S. market should be made up of U.S inputs ¹(Agoa.info)

Since the establishment of AGOA, a number of amendments have taken place to modify and expand the existing terms and conditions as well as to extend the duration of the treatment period. So far four amendments have passed by U.S congress to amend the existing contents. In the inception of the Program, apparel and textiles were not part of the agreements later on a special apparel provision for AGOA countries were becoming effective. In order to qualify for apparel and textile provision the product should fulfil the requirements. For instance, all apparel products exported to U.S from AGOA eligible countries should be used of raw materials such as fabric and yarn from U.S. (Williams 2014)

3.3 Short Summary of Socio Economic Conditions of AGOA Countries

In describing the socio economic characteristics of AGOA countries, we have divided them based on their geographical location given by world economic situation and prospects (WESP 2014). Hence we divided AGOA countries in to different regions called Central Africa, Eastern Africa, Southern Africa and Western Africa. Almost all of the North African Countries are either not part of the Sub-Sahara African countries or not eligible AGOA members therefore North Africa is not part of the study. The only country included from this re-

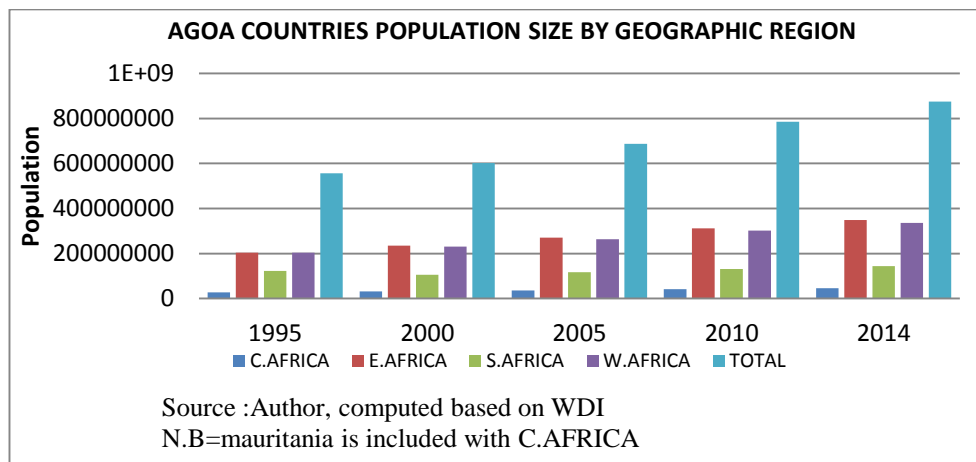
¹www.agoa.info

gion is Mauritania and for this purpose only, we have treated it with Central African region. A full list of AGOA countries is given in appendix section.

3.3.1. Demographic Structure

Sub Saharan Africa is a home for more than one billion population. Based on the World development indicators of 2014, the total population size of the 41 AGOA countries in our study is about 875 million. We used (WESP 2014) as country geographic classification to estimate the total population in each geographic region. In 1995 the base line of our study, the population was about 556 million of which about the same number of people (around 203 million) people lived in western and eastern Africa and another 123 million people lived in southern Africa while the remaining lived in central Africa. Over the last twenty years AGOA member’s population has increased by over 318 million people which means the population growth rate is around 2.85% annually.

Figure: 3.1 AGOA countries population size



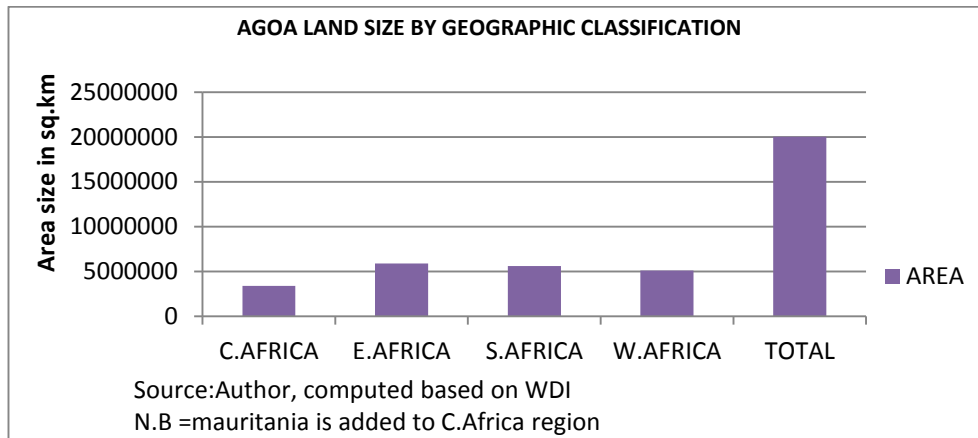
The main reason for the Western and Eastern African region to have the largest population is mainly due to the presence of Nigeria (Africa’s most populous) and Ethiopia (the second populous) countries in these respective regions. In addition, these two regions also a fairly holds more number of countries.

3.3.2. Land Area

Sub Saharan African countries have an abundant land area which is totally about twenty million square kilometres. The regions are blessed with different mineral resources and arable land for agricultural purposes. As pertains to the land size almost the three regions Eastern Africa, southern Africa and western African have relatively owns the same proportion of land. The largest region in terms of the land size is Eastern Africa which has a total of over 5.9 million square kilometres of followed by southern Africa having an area of 5.6million square kilometres, western Africa with about 5.1 million square kilometres and

obviously the smallest in terms of the size of the land is the central African regions which has about 3.3 million square kilometres.

Figure 3.2 AGOA Land Size



Countries with the largest land size in eastern Africa are democratic republic of Congo and Ethiopia. Both countries account to over half of the land size in that region. The region also includes the two smallest islands countries of Seychelles and Comoros, their cumulated land size is only about 2317 square kilometres.

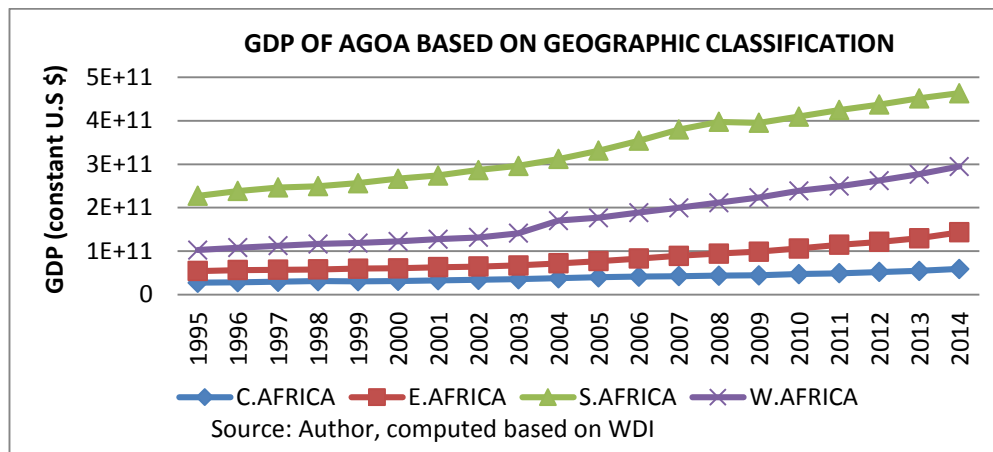
In western Africa region, although Nigeria is the most populous country, but in terms of the land sizes it has smaller than Niger and Mali. The three big countries in that region controlled to about 67% of the total land area. In the southern region the biggest countries in land size are Angola and South Africa. East African region holds 29% of the total AGOA area followed by Southern Africa 28% and Western Africa 26 % while Central Africa regions owns about 17%.

3.3.3. Economic Structure

Sub-Sahara African countries have showed a lot of economic progress in the last 15 years despite the sluggish growth and poor economic performance in the 1980s and 1990s. As we can see from fig.3.3 all regions have showed an increase in their Real GDP at 2005 constant price level. In the year 1995 the total value of goods and services produced by AGOA countries was 411 billion dollars. Out of this southern Africa total share of GDP was about 227 billion U.S dollars followed by western Africa and eastern Africa with a total GDP of over 102 billion and 54 billion respectively. The main reason for the South African region to be dominant in the level of GDP is mainly due to the presence of South Africa in that region. South Africa has relatively better economic system and had diversified export products. The total share of South African GDP from the Southern Africa Region is about 82% .this indicates how large South African economy is in comparison to the other neighbouring countries

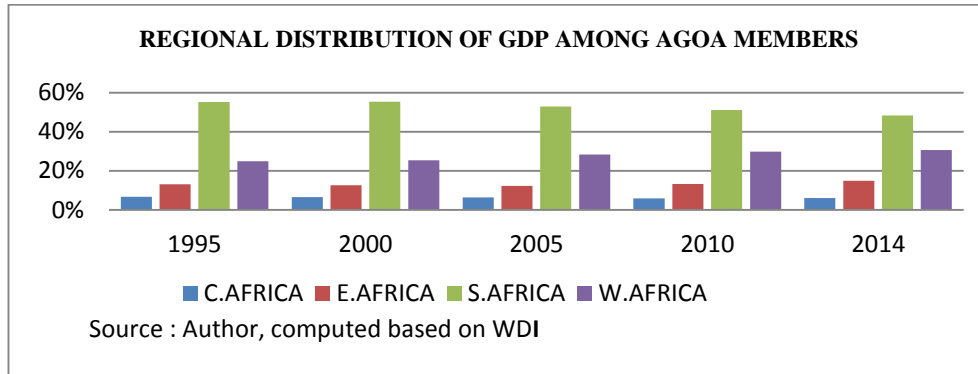
and the rest of sub-Saharan. Besides to this, Angola one of the biggest oil exporters from sub Saharan countries is also located in southern Africa region. Western Africa has also controlled a big chunk of the AGOA GDP. The largest economy in this region is Nigeria, backed by its huge reserves in natural oil and other minerals; it is able to create the biggest GDP in the region. Although there might be a large discrepancy and disparities among countries level of growth, on average AGOA countries grew their GDP level by about 3.2% from 1995 to 2000. After 2000 the AGOA economy has recovered well and showed a good economic progress for the last 15 years.

Figure: 3.3 GDP of AGOA counties



If we look to the share of each region from the total GDP, we can see how much Southern Africa is dominant over the last twenty years although its dominance dwindles gradually. Back in 1995 the Southern Africa region share from the total AGOA GDP was about 55% and followed by western Africa 25%, Eastern Africa and central Africa controls 13% and 7% respectively. Some twenty years later in 2014, the dominance of South Africa is still there but it was not as dominant as of the 1995. Currently southern Africa GDP represents 48% of the total AGOA GDP and this level is 7% lower than the 1995 level. Western Africa has gained some momentum and its share of GDP as total of AGOA has improved to 31% from its 25% level back in 1995.while the share of Eastern Africa has showed a moderate growth to 15% from its previous level of 13% but the central African regions share has dwindled to 6%.

Figure: 3. 4 Regional Distribution of AGOA GDP.



3.4. AGOA Top Exporters to U.S

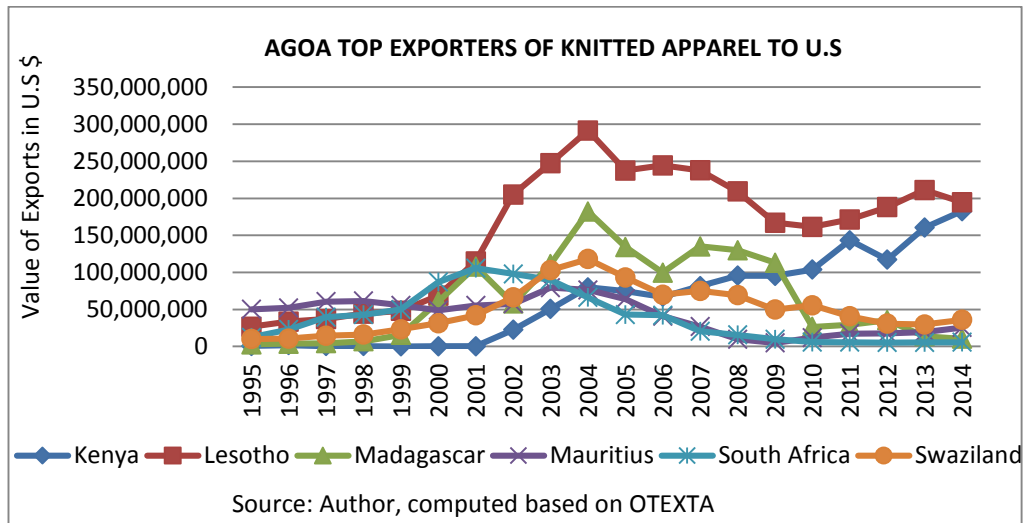
So far we have discussed the socio economic characteristics of AGOA eligible countries and in this section we will look at the top export performers in apparel and textiles from the AGOA eligible countries.

3.4.1. AGOA Top Exporters in Knit Apparel

There is a big disparity between AGOA countries in their export performance and market share to U.S. among the 41 AGOA eligible countries only handful of countries controlled the entire apparel exports to U.S. mainly the southern African countries and eastern African countries are entirely dominated the export of apparel to U.S. from figure 3.5 We can clearly see that the top 6 African knitted apparel export performers are Kenya, Lesotho, Madagascar, Mauritius, South Africa and Swaziland. Two of the best performers, Lesotho and Swaziland are land locked countries and another two countries Mauritius and Madagascar are islands. It is also worth to mention that out of the top 6 exporters of this apparel the 3 countries are very small in their area and population size. The aggregated land area of the three countries is about 49700 square kilometres and their population size is about 4.6 million.

To investigate AGOA market share, we have compared the overall market share of the biggest exporters to U.S. As clearly seen in the above figure, the entire market share of knitted apparel to U.S was dominated by the six countries. Before 2000 the growth level was moderate for major exporter countries. After 2001, when AGOA was put in to action, exports has increased sharply and reached to the peak for most countries in the year 2004. After 2004 the export volume started to drift back for most countries except Kenya. The Kenyan export started at slow motion in the beginning of 2001 and keeps its pace of growth without disruption in the last 14 years.

Figure: 3.5 AGOA Top Knit apparel exporters to U.S



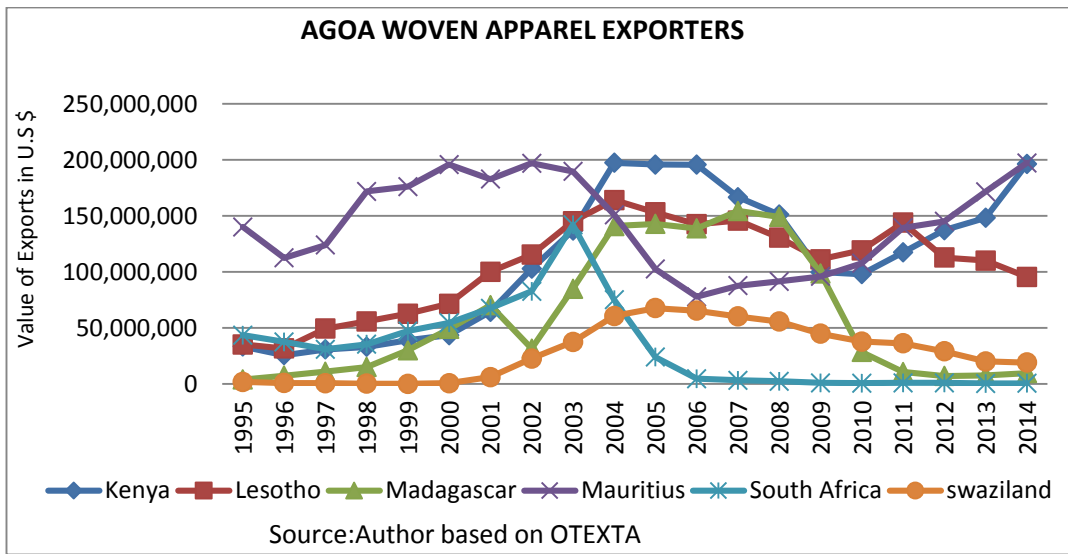
The top six major exporters of knitted apparel controls about 99% of the total AGOA exports to U.S in 1995 and this amount declined to 86% in 2005. However after 2005, the top exporters started to regain their market share as a result in 2010 and 2014 the six countries were able to control about 93% of the total AGOA knitted apparel exports to United States. Within the top exporters, Lesotho has controlled about 40% of the total AGOA export share and followed by Kenya 37% in 2014.

3.4.2. AGOA Top Exporters in Woven Apparel

The woven apparel is also dominated by the same six countries who were major exporters in Knitted apparel. The trend of export is quite similar to knitted apparel where the export grew slowly until 2000. But after the year 2001, most countries registered good export performance until it started to decline in 2004. The South African case seems unique in this respect. Starting from 1995, it has registered moderate growth in its exports and reached its peak in the year 2003. Right after 2003, the export of apparel plunged sharply and reached to the lowest point in 2006. After this period South Africa was not even able to export equivalent to the pre 2000 period.

As pertains to the market share among the top African exporters, Mauritius controlled about 52% and 45% of the total AGOA Apparel exports to U.S in 1995 and 2000 respectively. But after 2005, the market shares of the other African countries continued to grow and the market share started to balance. For instance in the year 2010 Lesotho, Mauritius and Kenya have dominant shares equivalent to 30%, 27% and 24% respectively. In 2014 both Kenya and Mauritius controlled 37% each from the total exports while the share of Lesotho declined to 18%. In general the top six exporters dominated about 97% of the total market share in U.S.

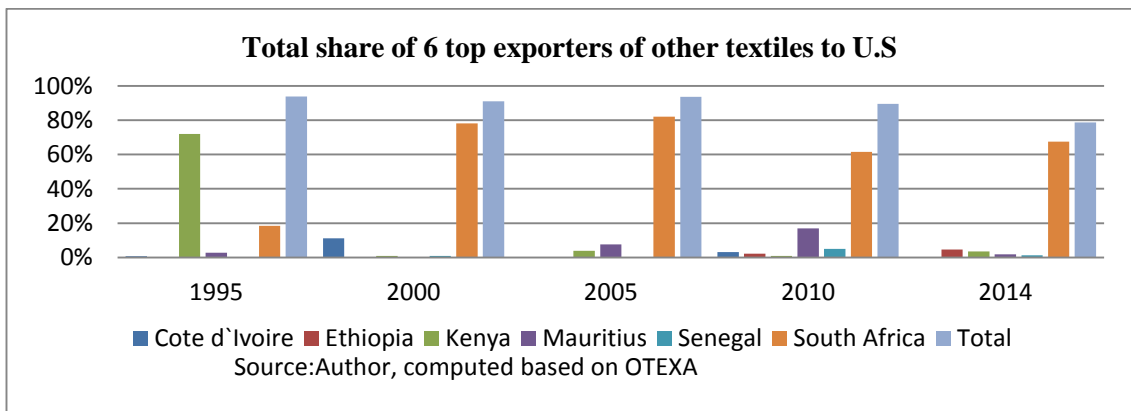
Figure: 3.6 AGOA top woven apparel exporters to U.S



3.4.3. AGOA Top Exporters in Other Textiles.

Other textiles are classified under the HTS-63. The general export of the AGOA countries for this product is not only low but also there is huge disparity between countries in the export value and also lots of fluctuations in the top exporters. In 1995 the top exporter country in other textiles from Sub-Sahara was Kenya and controlled about 72% of the total market share of the African countries in U.S market. But five years later Kenyan export was deteriorated and unable to maintain its export capacity. Starting from 2000, South Africa replaced Kenya to be the biggest exporter of other textiles and controlled above 60% of the total market share of exports to U.S. in general all the six top exporter countries accounts from 80-94% of the overall AGOA exports to U.S.

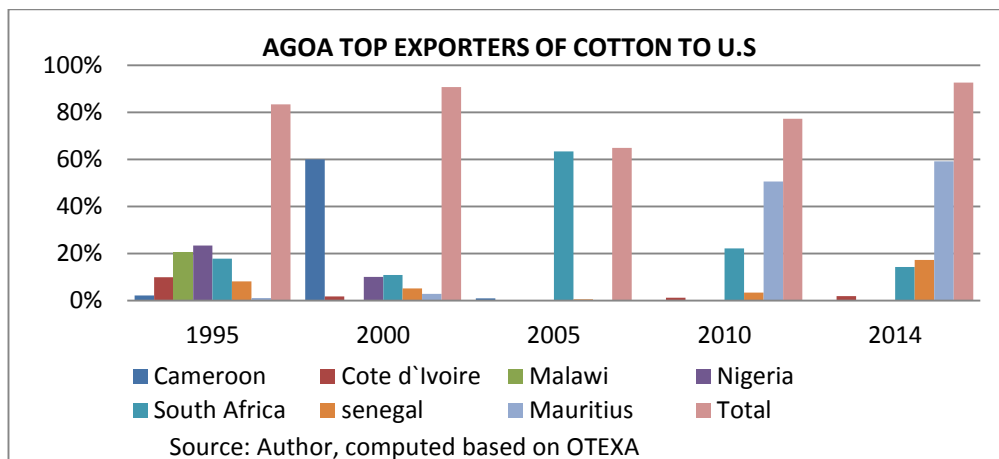
Figure: 3.7. AGOA top other textiles exporters to U.S



3.4.4. AGOA Top Exporters of Cotton to U.S

The last product of our analysis is cotton which is grouped under HTS-52. Like the other products, export of cotton also dominated by few countries which controls above 80% of the total share of AGOA Countries. Before the enactment of the preferential trade agreement, almost all major exporters of AGOA have a relatively equal share. For instance the three big exporters Malawi, Nigeria and South Africa controlled 21%, 23% and 18% of the total cotton exports to U.S. in 1995. However after 2000, countries export share start to fluctuate their exports greatly and a single country dominated above 50% of the total exports. In the year 2000 Cameroon exports of cotton to U.S account to 60% of the total sub-Saharan African exports but five years later another country was able to become the dominant exporter of cotton and controls 63% of the total AGOA exports. Starting from 2010 to the current period, Mauritius took the lead in export of cotton and its total share was 51% and 59% in 2010 and 2014 respectively.

Figure: 3.8 AGOA top cotton exporters to U.S



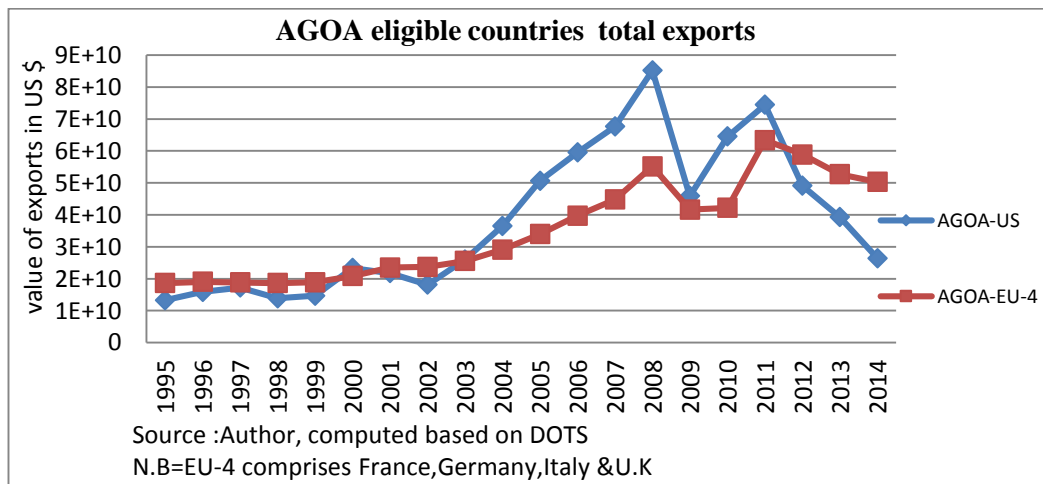
CHAPTER FOUR

4. 0.DATA DISCUSSION AND EMPIRICAL DESIGNH

4.1. AGOA Trade with U.S.

The purpose of our study is to investigate the unilateral trade flows between AGOA countries and the provider of the preferential trade treatment by looking the overall trade flows. As we can see from fig 4.1 AGOA eligible country general exports has increased over the years. We can mention a number of possible factors that could affect the trade flows among AGOA and U.S.A. we are generally expecting that through time trade values increases so the increase of AGOA Exports could be due to the time effects, better institutions, better infrastructure, conducive business environment, better managerial and marketing capacity are among the possible reasons for the better export performance. From the graph depicted below, it is hard to say that the sharp increase in exports of AGOA to U.S is solely due to the intervention of the special trade preference. It is clearly known that when Africa growth and opportunity act (AGOA) was put in to force in 2000, the export from sub-Sahara African has registered impressive growth rate. The export growth rate starting from 1995 until 2000 was almost flat. But from 2001 the level of export started to increase and reached to the summit in 2008 before it plunged sharp in 2009. Later from 2010 it recovered for a couple of years before it declined steadily till the current period.

Figure: 4.1 AGOA total exports to U.S



It might be misleading if we infer the increase in the export is due to the preferential treatment received by AGOA countries from U.S. so we have included a control of four countries from Europe namely France, Germany, Italy and

United Kingdom. We investigated the general trade flows from AGOA countries to the big four European economies. As we can see in fig 4.1, the trade flow from AGOA countries to EU-4 in 1995 was almost similar and the growth level also quite parallel till the year 2000. After 2000, although AGOA Export to EU-4 has increased but the pace of export growth from AGOA to U.S was much faster than to EU-4 Countries. Despite the growth difference, the trend looks quite similar in which AGOA export to EU-4 increased until the year 2008 and plunged in the year 2009 and later it started to recover. If we account the reason for the increase of sub-Saharan export to U.S is due to the AGOA then what would be the factors that increase the export to EU-4? Hence a careful investigation should be made to analyse the possible factors that determine the export performance.

4.1.2. AGOA Apparel and Textiles Export to U.S

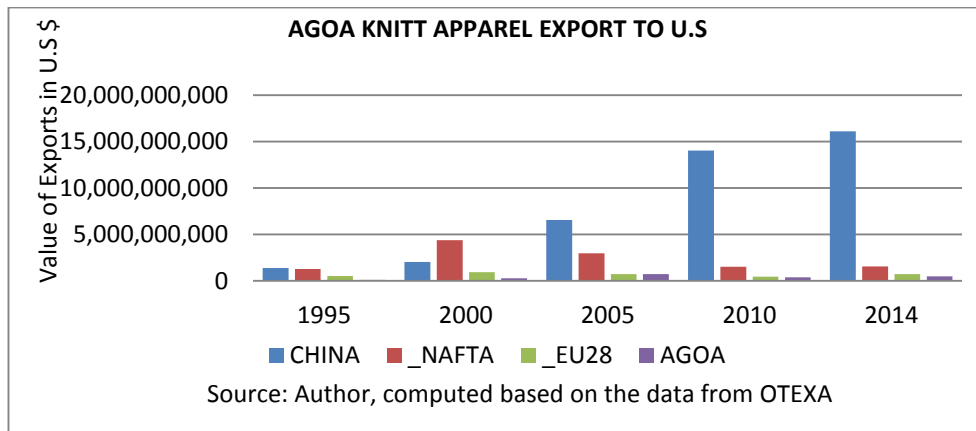
Among the numerous products granted preferential treatment by the trade act, apparel and textile are among the products allowed to enter in to U.S market without tariff barriers. Apparel and textiles were not eligible in first Trade Act, but in the subsequent amendments of AGOA, apparel and textiles were included in the treated product line. The special apparel provision was not granted for all AGOA eligible countries instead it was given to some selected countries and implemented after the formal commencement of AGOA. In the sections below we will highlight the trade flows at the disaggregated HT-2 level for apparel and textiles.

4.1.3. AGOA Knitted Apparel Exports to U.S

Among the large number of commodities granted a tariff free entry to U.S, we are selecting products related to apparel and textile. In this paper we are looking to cotton, woven apparel, knitted apparel and other textiles. This section we will focus on the market share of AGOA apparel and textile exports to U.S as compared to other major trading partners of U.S.

In 1995, U.S imported a total of 13.8 billion worth of knitted apparel from the world out of which the AGOA eligible countries export was a mere of 103.3 million. In the following years although the export of knitted apparel from sub-Saharan Africa increased, but it has failed to grow at a fast pace and able to increase its market share in U.S markets. The general export value of knitted apparel has increased by about 37% on average every year until 2000 however the market share was stagnated and unable increase further.

Figure: 4.2 AGOA Knit Apparel exports to U.S

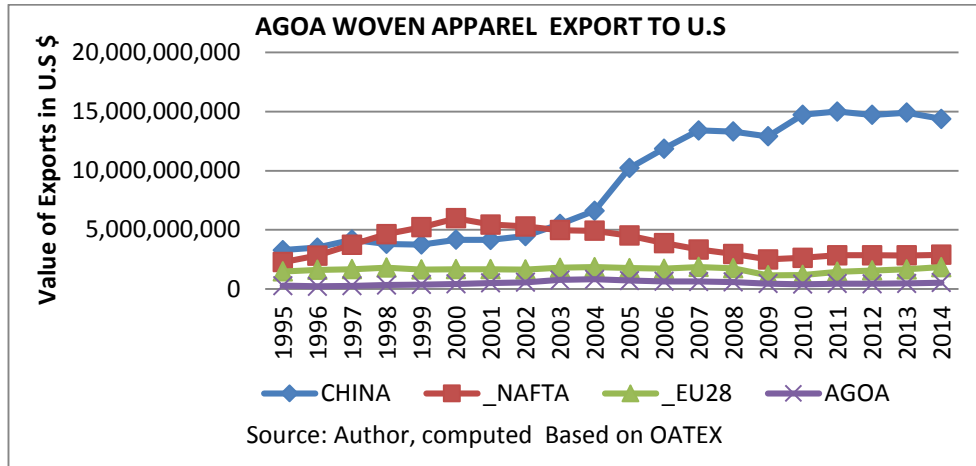


Just 20 years back in 1995, many U.S trading partners have almost equal share. For instance china and the North America free trade association (NAFTA) were controlled 10% and 9% of the U.S knitted market respectively while EU-28 has a 4% market share. AGOA countries were only accounted to 1% of the total market share in U.S. in the following years the Chinese market share in U.S for knitted apparel has skyrocketed to about 37% and 36 % in the years of 2010 and 2014 respectively while the share of the other trading partners has either drifted away or remain stagnant. Our main interest variable is the share of AGOA knitted apparel export in U.S market and the market share of this product was tiny which controls only 1% of the total exports except it was 2% in 2005.

4.1.4. AGOA Woven Apparel Export to U.S

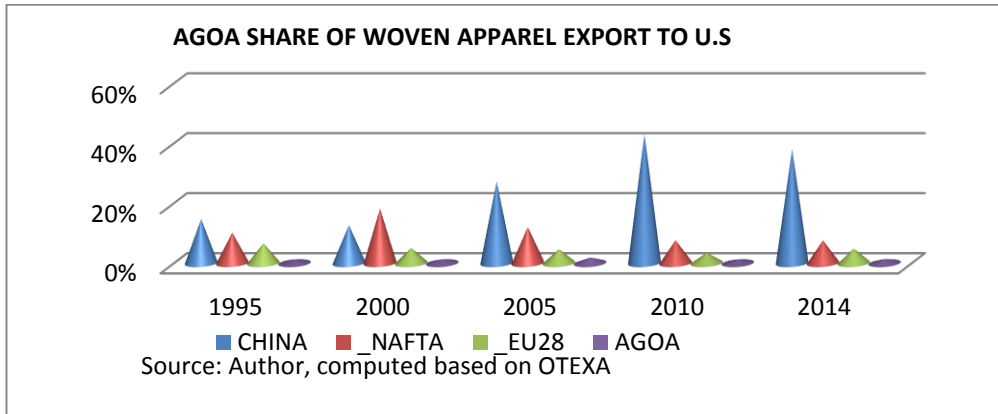
Another product category from apparel and textiles is the Woven Apparel which is grouped under the harmonized tariff s systems (HT-62). Similar to the knitted apparel, AGOA export of woven apparel to U.S is insignificant comparing to the other big trading partners. In 1995 the total woven apparel exports to U.S was about 271 million U.S dollars and it increased in slow pace for five years and reached to above 431 million. This was relatively slow growth in comparison to the other fast growing countries like china. The biggest growth in the woven apparel export was registered from 2000 to 2005. During that period it has showed a 13% growth rate yearly. But after 2005, AGOA woven apparel export was not able continue the pace of growth and its performance had deteriorated and showed a negative growth. The 2010 export of apparel was in fact lower than the 2000 export and if we compare with 2005 export the trade value has dwindled on average by 8.7% yearly from 2005 to 2010.

Figure: 4.3 AGOA Woven Apparel exports to U.S



Although AGOA export had showed a moderate growth in woven apparel, but the market share of AGOA export in U.S is still very insignificant and is limited to about 1%. Only During the heyday from 2000 to 2005, the AGOA woven apparel export share in the U.S market has accounted to 2% of total market share. There might be a number of possible reasons for the sharp decline in the export of apparel and textiles starting from 2005. One of the possible reasons might be the abolishment of multi-fiber arrangement (MFA). Based on the multilateral agreements directed by WTO, U.S has agreed to lift the quota restrictions imposed on major textile exporters and allowed them to supply any amount of quantities with certain level of tariff. For this reason the Apparel and textile firm from AGOA might have a competitive disadvantage hence they cannot compete with the efficient and more productive Chinese textile firms. The Chinese woven apparel export has showed a mercurial growth after 2000 and its woven apparel export share in U.S had grown more than any country's rate of growth and in the peak period of 2010, the Chinese woven apparel has controlled to about 43% of the total U.S market share.

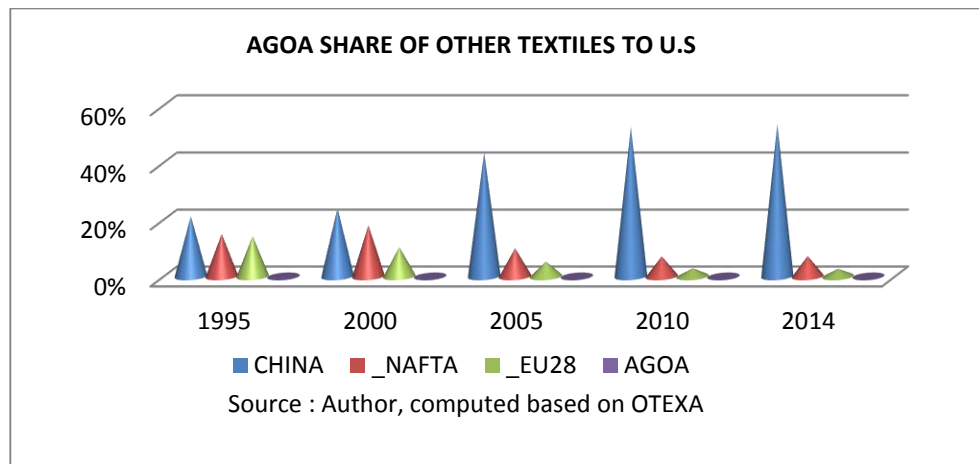
Figure: 4.4 AGOA market share of Woven Apparel exports to U.S



4.1.5. AGOA Other Textiles Export to U.S

Our third apparel and textile category is the product other textiles. It is classified under the Harmonized tariff system of HTS-63. For this product category the export of AGOA is much worse than the woven and knitted apparel. In 1995 which was the bench mark of our study period, the Total AGOA exports of Other Textiles to U.S markets were only about 2.5 million dollars. And 20 years later in 2014, this figure has not registered a tangible growth and was only increased to 3.1 million. Over the last twenty years this products export to U.S from sub-Saharan Africa has increased only by 1.2% yearly.

Figure: 4.5 AGOA market share of other textiles exports to U.S

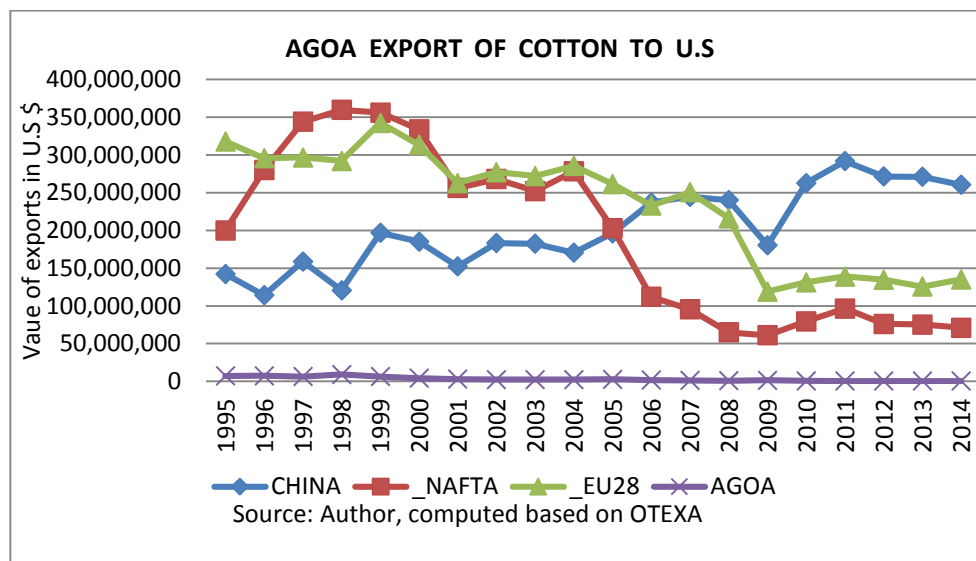


Due to the sluggish export performance of the other textiles to the U.S markets, the share of AGOA export of other textiles to U.S is almost insignificant and nil in all the years even when the preferential trade agreement was enacted in to force. Similar to the previous apparel and textile products, the U.S market is dominantly controlled by china in which its market share has increased from just 21% in 1995 to 54% of the total market share.

4.1.6. AGOA Cotton Export Share to U.S

Cotton is grouped under the category of HTS-52. It is the main input for apparel and textile products. As we can see from fig.4.6, the cotton export from sub-Saharan African countries was poorly performing in the last twenty years. In 1995 the total AGOA cotton export to U.S. was about 7.2 million dollars and this is quite shocking that the aggregate export of more than 35 countries was not able to reach 10 million U.S dollars. In the following years the export of cotton was deteriorated further and plunged to its lowest point in the years from 2010 to 2014. Cotton export has fallen on average of 6% every year starting from 2000. It is generally expected that cotton export to U.S will show a positive growth after trade agreement however, African cotton export has totally lost its competitive advantage and put in to abyss of stagnation. Other major U.S trading partners like NAFTA and EU in cotton product has also eroded their export performance and slipped back from cotton export growth. The only good performer in this case is china which showed an impressive export performance.

Figure: 4. 6 AGOA exports of cotton to U.S



It is clearly depicted in the above figure; that there was no growth in the export of cotton from sub-Saharan to U.S market. Therefore we cannot expect the market share of Africa in U.S. to grow. In fact the AGOA cotton export share in U.S was close to zero and remains to be zero in all the years. The dominant market share of cotton in U.S was hold by China and almost every year its share has increased and reached to the summit of 24% in 2014. Other trading partners such as NAFTA and EU-28 also have a fair market share of about 7% and 13% respectively.

4.2. Descriptive Statistics

Our data is comprised of five dependent variables in which the EXPO_{ij1} is the most aggregated output which includes the total value of all commodities exported from AGOA eligible countries to U.S and other six trading partners namely France, Germany, Italy, U.K, China and Indonesia. The other four dependent variables are the disaggregated products from apparel and textile sector. Our data set for the total export includes a balanced panel data of 5740 (41*7*20) observations including the missing values and zero trade flows. The incidence of zero trade flows and missing value is relatively lower in aggregated trade flows. For the aggregate exports we have 208 missing value and zero trade flows. For the total apparel and textiles there are a about 1997 zero and missing values, for the most disaggregated commodities of cotton, knit apparel, woven apparel and other textiles, the zero and missing values account to 34% of the total apparel and textile, 58% of the cotton, 65% of the knit apparel, 59% of woven apparel and 70% of the other textiles.

Table: 4.1summary statistics

Variable	Obs.	Mean	Std.Dev.	Variable	Obs.	Mean	Std.Dev.
EXPO _{ij1}	5740	3.65E+08	2.11E+09	DIS _{ij}	5740	7984.641	2959.922
APPTEXT	5740	8292951	3.65E+07	AREA _i	5740	488708.6	527758.4
COTTON	5740	2102131	1.11E+07	AREA _j	5740	3212205	4045161
KNITAPP	5740	3518434	2.11E+07	lnEXPO _{ij1}	5532	16.42006	3.027361
WOVENAPP	5740	2602522	1.67E+07	lnAPPTEXT	3743	12.62145	3.340253
OTHERTEX	5740	69863.89	474855	lnCOTTON	2384	12.79966	2.890015
GDP _i	5740	1.55E+10	4.31E+10	lnKNITAPP	1996	10.93333	3.737625
GDP _j	5699	3.51E+12	3.83E+12	lnWOVENAPP	2318	10.5076	3.314315
POP _i	5740	1.68E+07	2.57E+07	lnOTHERTEX	1703	9.424551	2.503023
POP _j	5740	2.96E+08	4.17E+08				

4.3. The Gravity Model

The gravity model has been so popular in international trade for the last five decades since been first used by Tinbergen (1962). In his first application of the gravity model, he used to determine the trade flow between 42 countries and tried to investigate the impact of common wealth in affecting trade volume along with other covariate such as common border. Linneman(1966), a student and later a colleague of Tinbergen has brought with an extension of analysis in the gravity model by adding population in the gravity equation. Apart from

Tinbergen, Poyhonen (1963) was also developed similar gravity model in international trade (Benedictis and Taglioni 2011). The first gravity equation in its simplest form is given in equation 1.

$$X_{ij} = \frac{GDP_i^\alpha GDP_j^\beta}{DIST_{ij}^\gamma} \text{----- (1).}$$

Where X_{ij} is the flow of goods from country i to country j

GDP_i is the GDP of the exporter Country

GDP_j is the GDP of the importer country and

$DIST_{ij}$ is the distance between the two trading partners

When the first equation is transformed in to logarithmic, form the gravity model will be

$$\ln X_{ij} = \delta + \alpha \ln GDP_i + \beta \ln GDP_j + \gamma \ln DIST_{ij} \text{----- (2)}$$

It is normally expected that both α and $\beta > 0$, but $\gamma < 0$.

The explanation for the coefficients of α and $\beta > 0$ are mainly related the law of gravity where large masses attract to each other. In economic terminology, countries with big economies measured in terms of GDP trade more among each other than among smaller ones. GDP of the exporter indicates the supply ability of the exporter country and GDP_j is an indication of the market size (demand) of the importer nation. $DIST_{ij}$ is expected to have a negative coefficient. Since geographic distance is a proxy variable for transportation cost and information about the export market, it is generally expected that the longer the distance between two trading countries the less will be the trade among countries.

Since its inception in 1960s, the gravity model has been modified and transformed by adding different variables to explain the factors that lead to a variation in trade flows among countries. One of the shortcomings of the gravity model in its early period was lack of micro-economic foundation. Bergeijk and Brakman(2010) stated that despite the attempts made by Linnanman (1966), Poyhonen(1963) and Pullianen(1963) the gravity model had serious deficiency in micro economic foundation. In the subsequent years a number of economists were trying to find the micro-economic underpinning of gravity equation see more on Anderson (1979), Bergstrand (1985), Deardorff (1995, 2000) Eaton and Kortum(2002) and Anderson and Wincoop (2003) on the detailed development of micro economic foundation of the gravity model.

4.4. Model Specification.

In our model, the traditional gravity model will be augmented by adding more independent variables that can explain the trade flows and our main interest variable. Our full augmented gravity equation will be

$$\begin{aligned} \ln X_{ijt} = & \delta + \beta_1 \ln GDP_{it} + \beta_2 \ln GDP_{jt} + \beta_3 \ln DIST_{ij} + \beta_4 \ln POP_{it} \\ & + \beta_5 \ln POP_{jt} + \beta_6 \ln AREA_i + \beta_7 \ln AREA_j + \beta_8 AGOA_{it} \\ & + \beta_{10} LOCK_i + \beta_{11} LANG_{ij} + \beta_{12} COL_{ij} + \beta_{13} \ln GDPDEF_{it} \\ & + \beta_{14} \ln GDPDEF_{jt} + \delta_t + \alpha_{ij} + \varepsilon_{ijt} \text{ --- (3)} \end{aligned}$$

In this model our main dependent variable is comprised of: 1) the aggregated total exports from each of the AGOA eligible sub-Saharan African country to U.S at time t. and 2) the disaggregated export related to apparel and textile from the AGOA eligible countries to U.S at time t all dependent variables are expressed in the logarithmic form. Following to other previous similar studies by Didia et al. (2015), Seyoum (2007), Tadesse and Fayissa (2008), we are taking each of the value of exports from the data reported from the importers side. We relied on the importers data mainly because the data is more reliable and free from being inflated by the exporter country.

The first three independent variables GDP_{it} , GDP_{jt} and $DIST_{ij}$ which are expressed in logarithmic form are already explained in the second equation of the traditional gravity model. They are mainly represented the supply and demand capacity of the exporter and importer countries. Both GDP of the exporter and importer are crucial to facilitate the trade flows among countries and their coefficients are expected to be positive. The distance variable is one of the trade resisting variables and expected to impede the trade flow. POP_{it} and POP_{jt} Represents the populations of the exporter and importer countries respectively. The population of the exporter country also shows the supply capacity. Krugman (1980) explained that, countries will tend to export more of the commodities with larger domestic demand; hence domestic market is a vital factor for enhancing export performance assuming increasing returns to scale. Population of the importer country is also vital since exporter countries depend on the market size and capacity of the importer countries. The larger the population size of the importer country is accompanied by larger exports from the other export trading partner. $GDPDEF_{it}$ and $GDPDEF_{jt}$ captures the price level in the exporter and importer countries.

Other independent variables such as the size of land of the exporter and the importer are considered as a resource endowment of a country. The more a country is endowed with natural resources such as lands, the greater the ability of the country to export. Therefore the expected sign of the land size on export is tend to be positive. Beside to the continuous and time invariant trade

promoting variables, we have also dummy variables in our model that could resist or facilitate trade.

Our dummy variables comprised of $LOCK_i$ which takes a value 1 if one of the AGOA eligible country is Land locked and 0 otherwise land locked countries are expected to be negatively affected due to the geographical barrier. $LANG_{ij}$ takes value 1 if both the exporter and the importer country shares the same language and 0 otherwise, it is expected to have a positive impact on trade. COL_{ij} Represents if both the exporter country is an ex-colony of the importer and we generally expect a positive coefficient. Our main interest variable is a dummy variable $AGOA_{it}$ in analyzing the impact of AGOA we will give 1 for countries who gets the preferential treatment at time t. and 0 otherwise.

4.5. Econometric Challenges

4.5.1 *The Question of Heterogeneity:*

Every country has its own unique historical, cultural, economic and geographic characteristics distinct from one to another but in some cases, trade partners might share some common characteristics. In analysing the impact of the preferential trade agreement using the gravity model, we have to account all the heterogeneous unique observable and non-observable characteristics of individual or pair countries. If we fail to account all the heterogeneous characteristics of countries in our gravity model, the model can be miss specified and our coefficient might not give a consistent and unbiased estimation (Aillo et.al 2010). One way of addressing the problem of heterogeneity is to use the exporters and importers time invariant characteristics to be constant and differenced away (Baltagi et al.2014). So that the change in the trade flow is caused by other factors other than the importers and exporters observed or unobserved time invariant characteristics.

The random effect is assumed that both the exporters and importers time invariant characteristics are randomly assigned and the errors are not correlated. One of the advantages of the random effect is that it enables to include some of the exporters and importers time invariant factors that may affect the trade flow in the model. However the random effect has one severe drawback because it works under a strict exogeneity assumption in which the right hand side variables are not correlated with the importers and exporters error terms. However in reality there is no a priori reason to assume that importers and exporters errors are uncorrelated with the independent variables (Baltagi et al.2014)

4.5.2 Zero Trade Flows and Missing Values

One of the econometric challenges in gravity model is the availability of zero trade flows and missing values. It is widely observed that, many small countries do not have trade relations with their trading counterparts and as the same time many statistics offices in different countries also fail to report trade below certain levels. (Baltagi et al. 2014). As our study deals with the aggregated and disaggregated trade flows between developing African countries and advanced countries, we have encountered more zero trade flows and missing values in our data. As it is indicated in the descriptive statistics, 58-70% of our disaggregated data set is either zero trade flows or missing values. In other studies related to mergers and acquisitions (M&A) for instance Brakman et.al (2010) found a high percentage of zero FDI flows. Mohlmann et.al (2010) also reported that in their 55 sample countries 60% of countries do not trade when goods are disaggregated at one digit product classification. Failing to address the problem associated with the availability of zero trade flows could lead to biased and inconsistent estimation.(Mohlmann et al. 2010)

For the normally distributed zero values, the possible methods of addressing the issue of zero trade flows is, either to eliminate all the zero values from the sample data or add small constant number to all dependent variables but in most cases the zero flows are not randomly distributed.(Van Bergeijk and Barakman 2010). One of the alternatives to deal with zero flows is the use of poisson maximum likelihood (PML) of using the level instead of the log-level (Santos S. and Tenreyro 2006). The authors strongly claimed that the results from traditional log-linear gravity model are not accurately measured and gives biased results. For our aggregated data which is less suffered from zero trade flows, we have employed the random effect, fixed effect and Poisson Fixed effect model while for the disaggregated products with excessive zero trade flows we used Zero inflated models (ZIP). The main reason for using the poisson fixed effect is due to excess availability of zero trade flows and it is believed that the poisson is highly recommended in dealing with more zero trade flows. The main assumption used under the poisson regression is that the mean and variance is almost equal and there is no over dispersion problem. If the data is not suffered from over desperation, it is safe to use the poisson model. However if the data is having more zero trade flows then there is more probability of being over dispersed. Therefore under the situation of over dispersion it is imperative to use other models which are performing better in handling the zero flows than the ordinary poisson model. Brakman et.al (2010) used a zero inflated negative binomial (ZINB) to handle the excess zero in his study about FDI. Therefore we are also employed the zero inflated Poisson model in our case.

4.6. Econometric Results and Discussions.

4.6.1. Econometric Result for Aggregated Products

In analysing the impact of the African growth and opportunity act on export performance we use different models for comparison. In the aggregated data

Table: 4.2 aggregated econometrics results

	(RE-OLS) lnEXPO _{ij1}	(FE-OLS) lnEXPO _{ij1}	(FE-POISSON) EXPO _{ij1}
lnGDP _i	1.638*** (0.296)	1.637*** (0.288)	1.270*** (0.254)
lnGDP _j	3.579*** (0.253)	3.571*** (0.246)	2.374*** (0.369)
lnPOP _i	-1.117 (0.742)	-1.115 (0.721)	-2.311* (1.383)
lnPOP _j	0.247 (2.004)	0.403 (1.941)	-4.962** (2.507)
lnDIS _{ij}	-40.45*** (8.244)		
lnAREAi	16.22*** (6.110)		
lnAREAj	2.987* (1.721)	-279.5 (202.1)	
lnGDPDEF _i	0.0513 (0.0490)	0.0514 (0.0478)	0.0248 (0.0390)
lnGDPDEF _j	-0.351 (0.235)	-0.371 (0.229)	0.268 (0.257)
LANG _{ij}	-0.0250 (0.160)	-0.0657 (0.160)	0.165 (0.126)
COL	-0.235* (0.139)	0.0379 (0.233)	0.256 (0.203)
LOCK _i	1.211 (1.431)	1.306 (1.299)	-1.022*** (0.164)
AGO _{Aij}	0.0989 (0.183)	0.0834 (0.177)	0.231 (0.141)
No.of Obs.	5409	5409	5613
No.count-pairs	287	287	287
R ²	0.2723	0.273	
Log likelihood		.	-1.763e+11
Wald statistic			2569.70

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Time and countries fixed effects are not reported for brevity

We have the export of all goods from sub-Sahara Africa to U.S. and we have employed the Random Effect model, the fixed effect and the poisson fixed effects models for comparison.

Our most aggregate dependent variable is the total export from all AGOA eligible countries to U.S. in addition to our main interest variable AGOA; we also controlled the other independent variables that affect the trade flows. We have reported the three methods for comparison and we use the poisson fixed effect model for interpretations. As we can see from the output table 4.2, most of our output results are consistent with the previous similar studies but some results are contradicts with the existing theories and this might be related to the specificity of the area of study. The impact of exporters GDP is crucial for enhancing bilateral trade flows since it represents the supply ability of the exporter. In our result we found that both the exporters and importers GDP coefficients are greater than one this indicates that a 1% increase in GDP of the exporter country leads to boost the export from a range 1.27% to 1.6% based on the models used. The importers GDP in our case has a much more influence in boosting the export of the Sub-Sahara Africa in which the coefficient is 2.3.

Exporters and importers GDP coefficient which is greater than one indicates that trade openness increases relatively with the economic size of countries. Various similar studies used gravity model to measure the impact of GSP have showed that Exporters and importers GDP has a positive impact in increasing the bilateral flows See (Herz and wagner 2011,Didia et al 2015, Aiello et al.2010). From the results displayed under table 4.2, the OLS Random effect and OLS fixed effect models are higher than the results from Poisson fixed effect models this is mainly the results from OLS excludes the zero trade flows and might overstate the coefficients.

The effect of importers and exporters population on the aggregate export performance is expected to have a positive impact since they are a proxy to the market size of countries. But in our case both the importers and exporters population have a negative sign and statistically significant at 5 and 10% significance level in which it is unexpected. Exporters and importers population is not sensitive to the export of AGOA countries. Other previous study made by Tadesse and Fayissa (2008) also found the insignificant impact of the importers population on export of sub-Sahara African countries.

The impact of distance is very crucial factor in affecting the bilateral trade. Bergeijk and Brakman (2010) cited from Disdier and Head (2008) indicated that distance is still an obstacle in which the average global trade flow decreased by 9% as a distance between trading partners increased by 10% considering the period of study. This clearly shows that the impact of transport cost has still strong impact in reducing bilateral trade. Despite the rapid improvement and growth in the transportation industry, transport cost has not decreased and its adverse (negative) effect in international flow of goods has

increased by 0.22 from 1970 to 1995(Melitz 2006) as per our aggregated data is concerned the impact of geographical distance on export flows is consistent with previous studies and to the coefficient is as expected. Although the distance is a time invariant variable and swept away from our model when we used the fixed effect model, but from the random effect model estimations we can see that distance negatively affects the trade flow since it is a proxy for transportation cost. The longer the distance is the higher the transportation cost and this adversely affects the trade flows. The impact of binary variables such as language colonial ties and land lock has the expected sign although the language and colonial ties are not significant.

Sub Saharan African countries with no access to a sea have relatively traded 63% ($\exp^{-1.02} - 1$) lower bilateral trade with U.S than countries having sea access. the result is consistent with the others studies by Radelet and Sachs (1998) cited on Tadesse and Fayissa(2008)which shows land locked countries transportation and insurance cost are twice higher than those who have access to the sea. In addition countries having some colonial relationship in the past has traded more than the countries with no previous colonial ties. The importance of language in facilitation of trade is well known. But in our case although the impact of language has a desired sign but it is not significant.

Our main variable of interest is to see if there is a positive and significant impact of AGOA on the export of the beneficiary African countries. The econometric result reveals that, although the coefficient of AGOA has a positive sign but it is not statistically different from zero. After receiving AGOA treatment, the bilateral trade has increased by 0.25 times ($\exp^{0.231} - 1$) but this impact of AGOA is not statistically different from zero hence the impact is insignificant. This result is consistent to the previous result by Seyoum (2007) on the impact of AGOA and Herz and wagner (2011) on the impact of GSP. But it contradicts with results of Tadesse and Fayissa (2008) and Frazer and Van Biesebroeck(2010).

4.6.2. Econometric Results for Disaggregated Products

Our second dependent variable is the disaggregated commodities of apparel and textiles. In doing this, the individual disaggregated products are grouped based on HTS-2 digit commodity classification. In the most disaggregated products, zero trade flow hold from 50-70% of the overall trade. In order to address the problem that can arise due to excess of zero of trade flows, we have employed zero inflated Poisson models (ZIP). In our disaggregated apparel and textile products we have 4 products classified under cotton products HT-52, Knit apparel HT-61, woven apparel HTS-62 and the other textiles under HTS-63

The impact of the exporters and importers GDP on each product category is quite important but the magnitude and impact varies from commodity to

commodity. In most cases the model fits with the existing theory, where the exporters and importers economic size positively affect the bilateral trade. The impact of exporters GDP on the export promotion of cotton, knit apparel, woven apparel and other textiles is positive. Although we get the expected sign but in cotton and woven apparel the coefficient is not statistically significant which means that the exports of cotton and woven apparel are not sensitive to the economic size. Importers and exporters GDP for products knit apparel and other textiles have statistically significant impact. a 1% change in the exporters and importers GDP leads to increase from 1.6% to 2.5% in knit and other textiles trade between U.S and sub-Sahara African.

Table: 4.3 disaggregated product econometric results

	(ZIP) COTTON	(ZIP) KNITAPP	(ZIP) WOVENAPP	(ZIP) OTHERTEX
lnGDPi	0.0704 (0.412)	2.517*** (0.782)	0.809 (0.891)	2.239*** (0.621)
lnGDPj	-0.201*** (0.0504)	2.456*** (0.547)	0.0955 (0.133)	1.647*** (0.311)
lnPOPi	4.998*** (1.495)	4.662*** (0.934)	3.535*** (0.754)	6.242*** (1.811)
lnPOPj	1.463*** (0.102)	-2.428*** (0.528)	-3.798*** (0.467)	-1.285*** (0.286)
lnAREAi	-11.03*** (1.376)	-9.329*** (2.975)	-3.553 (2.786)	-12.05*** (2.236)
lnAREAj	-0.676*** (0.0911)	0.410** (0.172)	1.784*** (0.249)	0.633*** (0.240)
lnDISij	-0.0184 (0.192)	-4.717*** (1.189)	1.572** (0.643)	-5.114*** (0.668)
LANGij	-0.269 (0.211)	2.036*** (0.143)	1.713*** (0.168)	0.369* (0.215)
COL	0.189 (0.243)	0.0420 (0.224)	0.419** (0.198)	1.114*** (0.209)
AGOAij	-2.292*** (0.284)	0.993*** (0.217)	0.877*** (0.175)	-0.444 (0.342)
_cons	70.15*** (15.75)	13.49 (22.27)	9.779 (23.14)	35.87 (27.53)
No.of obs.	5699	5699	5699	5699
Non zero obs.	2384	1966	2318	1703
Zero obs.	3315	3703	3381	3996
Pseu.likelihood				

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Time and countries fixed effects are not reported for brevity

The importers GDP for cotton is not sensitive and the coefficient is negative. Population of the exporter country is a proxy for the market size. Krugman (1980) argued that countries export more of the commodities which are demanded in the home market consistent to this statement, the exporter's population has a positive impact in enhancing the bilateral trade between U.S and African Countries but the population of the importers GDP is not sensitive in promoting the bilateral trade.

The language dummy variable is positively affecting the export for all products. Countries shared the same language trade more in Knit apparel and Woven apparel and other textiles than those who don't share the same language but the language effect on cotton is not significant although it has a positive sign.

The distance variable is one of the key variables of the gravity model and the result from the disaggregated econometric result looks consistent with the aggregated results of our model and other similar studies. Transportation cost hampers the bilateral trade flows more to cotton, knit apparel and other textiles but the distance variable for woven apparel is contrary to our expectation. This is mainly due to the proximity of the woven apparel producing countries to U.S

Our main variable of interest in the disaggregated product is to measure how AGOA promotes the export of the textile and apparel products. The impact of AGOA on the export performance for apparel and textile provision is mixed. For some products the impact of AGOA is positive and significant while for others the impact is immaterial. Sub-Sahara Africa Countries export 0.89 times less ($\exp^{-2.30} - 1$) in cotton on average when they receive AGOA treatment. As pertains to knit apparel and woven apparel, the impact of AGOA is positive and significant in which the average AGOA bilateral trade with U.S has increased by more than 1.7 times ($\exp^{0.993} - 1$) and 1.4 times ($\exp^{0.877} - 1$) respectively when they become AGOA members. Our results are consistent with Tadesse and Fayissa(2008) where they found AGOA has a significant positive impact on the export of knit and non-knit apparel articles . But the impact of AGOA on Woven apparel is insignificant although the coefficient has a positive sign. In general Countries that get the privilege to export apparel and textiles on duty free to U.S market are able to increase their export in two products (knit apparel and woven apparel) while it negatively affects the export of cotton and no effect on other textiles. In similar studies conducted on the impact of nonreciprocal trade agreement on 12 disaggregated agricultural products by Aiello et.al.(2010), they found a positive impact on four sectors while the rest are either insignificant or in some cases it was negative.

4.6.3. Robustness Check

Table: 4.4 Robustness check using real aggregated exports

	1-FE-POISSON EXPO _{ij1}	2-FE-POISSON EXPO _{ij1}	3-FE-POISSON REALEXPO _{ij}	4-FE-POISSON REALEXPO _{ij}
lnGDP _i	1.342*** (0.266)	1.342*** (0.266)	0.583** (0.256)	0.583** (0.256)
lnGDP _j	2.463*** (0.380)	2.463*** (0.380)	2.428*** (0.241)	2.428*** (0.241)
lnPOP _i	-2.321 (1.446)	-2.322 (1.446)	-2.758*** (1.028)	-2.759*** (1.028)
lnPOP _j	-3.841* (2.196)	-3.838* (2.196)	-1.797 (1.410)	-1.794 (1.411)
lnGDPDEF _i	0.0192 (0.0393)	0.0192 (0.0393)	-0.0608** (0.0295)	-0.0609** (0.0295)
lnGDPDEF _j	0.100 (0.211)	0.0999 (0.211)	-0.0827 (0.164)	-0.0834 (0.164)
LANG _{ij}	0.162 (0.121)	0.160 (0.121)	-0.0985 (0.0789)	-0.0995 (0.0789)
COL	0.230 (0.212)	0.230 (0.212)	-0.574*** (0.109)	-0.574*** (0.109)
AGOA _{ij}	0.199 (0.125)	0.199 (0.125)	-0.0258 (0.0982)	-0.0261 (0.0982)
LOCK _i		-1.024*** (0.154)		-0.923*** (0.141)
No.of obs.	5449	5449	5414	5414
Log likelihood	-1.539e+11	-1.538e+11	-7.279e+10	-7.278e+10
Wald statistic	2594.54	2645.79	522.84	574.96

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Time and countries fixed effect is not reported for brevity

Our dependent variable in the aggregated data is the nominal value of total exports from all sub-Saharan African countries to U.S. and most of the previous studies to analyze the impact of GSP on the export performance used the value of exports in nominal terms since there is no a standardized means of converting the nominal values in to real values. So in order to convert the nominal export value to real values, we have used the export value index of each sub Saharan African countries from the world Bank and changed the nominal value of Export in to Real exports for a robustness check. In this data since the export value index is available until the year 2013 and one country export value

index is not reported, the number of observations have reduced from 5740 to 5453.

The robustness check is mainly used to what extent our main interest variable can be changed when we modify the sample size and drop some of the other independent variables. When nominal value of exports is used as a dependent variable, the impact of the exporters and importers GDP on the bilateral trade is huge and is significant at 1% significance level.

As our dependent variable has changed to real value of exports, the impact of exporters and importers GDP is still significant but it is at 5% significance level. Our main interest variable is the impact of AGOA on the export growth hence we employed the real value of exports and dropping some variables to determine to what extent is sensitive the impact of AGOA as we change the nature of the data. In table 4.5 of the first column we use the nominal exports and in the second column we dropped the variable LOCK from the model and the impact of AGOA was positive but insignificant. In the third and fourth column we have used the value of Real Exports and also dropping the variable Lock again. The coefficient of AGOA has changed from a positive sign to a negative sign but still the AGOA impact on the export promotion to sub-Saharan African countries is still insignificant. The results from our econometrics results using the data set with nominal and real value of exports gave as similar results hence the overall impact of AGOA on export is very minimal.

CHAPTER FIVE

5.0. CONCLUSION

The flow of trade among countries is affected by numerous factors. Some factors such as common language, historical ties and economic mass of trading partners promotes trade while others such as distance a proxy of transportation cost and trade barriers are resisting the global trade flows.

The main purpose of this paper is to look whether the establishment of the non-reciprocal preferential trade agreement on the name of the African Growth and Opportunity Act (AGOA) has a desired positive impact on enhancing and promoting the export performance of the beneficiary countries. We have used both aggregated exports of all countries as well as disaggregated commodities from apparel and textiles products. We have employed data for 41 beneficiaries African countries and U.S. for a period of 20 years. In addition we have included 4 countries from Europe and two countries from Asia in our data sample.

The result from econometric estimations reveals that the impact of AGOA is very limited. Taking the aggregate export as a dependent variable, the coefficient of AGOA is positive as expected. But the results are not significantly different from zero hence we can infer that the impact of the nonreciprocal trade agreement in the name of AGOA is very limited. In addition to the aggregate export, we have also included the impact of AGOA on the export performance of the disaggregated apparel and textiles. For the disaggregated products, we took apparel and textile products of Harmonized tax system product classification of digit 2. They are cotton (HTS 52) woven apparel (HTS 61), Knitted Apparel (HTS 62) and other textiles (HTS 63). In our econometric output we have got mixed results in which the impact of AGOA on Knit apparel and woven apparel products are positive and significant in promoting the export while the impact of AGOA on cotton has negatively affect the export growth but for other textiles the impact of AGOA is not significantly different from zero.

Our result from the disaggregated data reveals that the impact of AGOA on knitted and woven apparel is significantly positive. But if we look on the number of countries benefited from AGOA we can understand how AGOA is benefited to very few countries. From a total of 41 beneficiary countries only 6 or seven countries dominate almost the entire share of apparel and textile market in U.S hence the benefit of AGOA is too skewed to fewer countries.

For sensitivity analysis we used a World Bank export value index of each sub Saharan African countries to convert the nominal export values to real exports. The results from the data using the real export are not different in statistical

significance except there is a change in the sign of changed in AGOA variable. Finally our sensitivity analysis further substantiated that the impact of AGOA is immaterial in the aggregated product.

AGOA which has been amended and extended for four times since its establishment in 2000 has also renewed for the 5th time in September 2015 for another 10 more years and expected to expire by 2025. The bilateral trade between African countries and U.S. under the AGOA regime has a mixed feeling. With the continuous effort of WTO/GATT to abolish tariff barriers among countries, the preferential advantages received by developing countries have eroded subsequently. The sharp decline of U.S. imports of oil from Africa and coupled with other reasons, leads for the export value to dwindle sharply from 72.4 billion dollars in 2011 to 25.6 billion dollars in 2014. Although African export to U.S increased on average by 10% in the last 15 years, But the increase in the trade value between U.S and sub-Sahara is mainly due to the huge contribution of oil and natural gas and the beneficiary countries are very limited mainly the oil producing countries (AGOA.info 2015).

Granting market access only does not grant for better export performance. Above all export performance depended on a number of other factors such as competitive and marketing advantage. Hence African countries should invest more in their infrastructure and help their manufacturing firms to mature and compete in the in foreign markets.

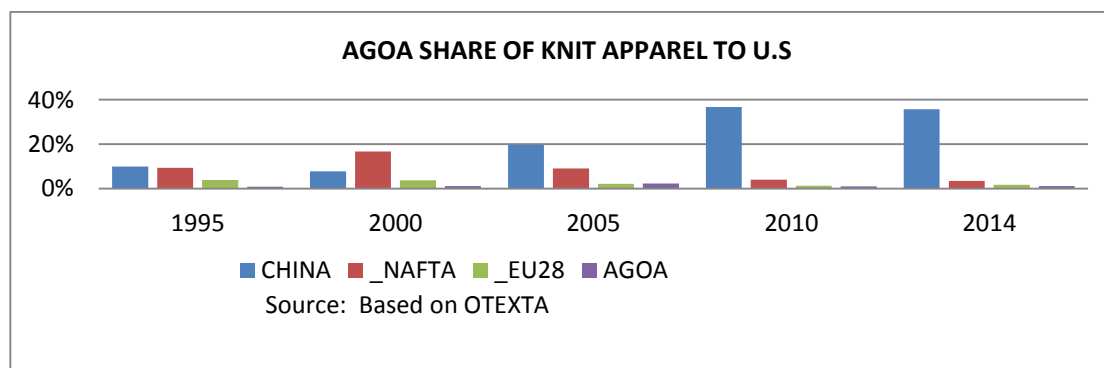
Appendices

Appendix: 1 List of AGOA beneficiary countries and year of eligibility

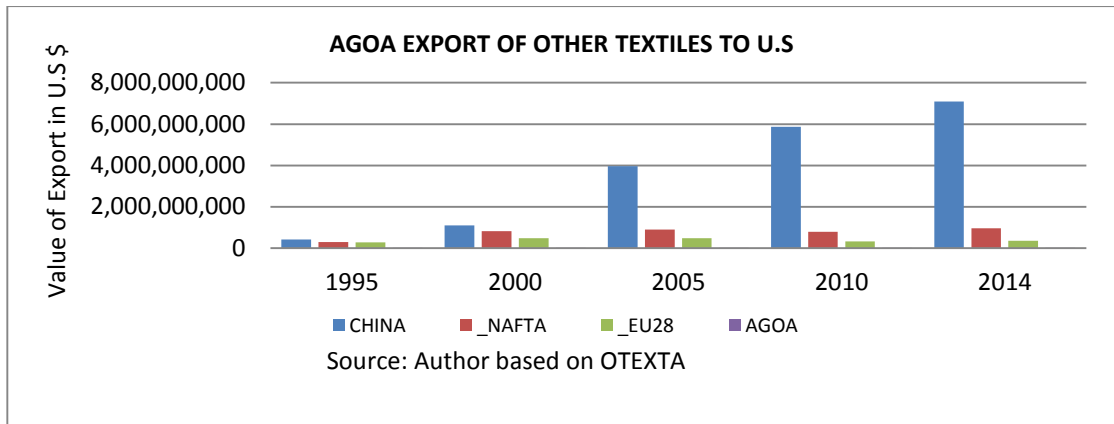
No	Country	Year of Eligibility	No	Country	Year of Eligibility
1	Angola	Dec.2003	22	Liberia	Dec.2006
2	Benin	Oct.2000	23	Madagascar	Oct.2000
3	Botswana	Oct.2000	24	Malawi	Oct.2000
4	Burkina Faso	Dec.2004	25	Mali	Oct.2000
5	Burundi	Jan.2006	26	Mauritania	Jun.2007
6	Cameroon	Oct.2000	27	Mauritius	Oct.2000
7	Cabo Verde	Oct.2000	28	Mozambique	Oct.2000
8	Chad	Oct.2000	29	Namibia	Oct.2000
9	Comoros	Jun.2008	30	Niger	Oct.2000
10	Congo, Democratic Republic of	Dec.2002	31	Nigeria	Oct.2000
11	Congo, Republic of	Oct.2000	32	Rwanda	Oct.2000
12	Cote d'Ivoire	Oct.2011	33	Senegal	Oct.2000
13	Djibouti	Oct.2000	34	Seychelles	Oct.2000
14	Ethiopia	Oct.2000	35	Sierra Leone	23-Oct-02
15	Gabon	Oct.2000	36	South Africa	Oct.2000
16	Gambia, The	Dec.2002	37	Swaziland	Oct.2000
17	Ghana	Oct.2000	38	Tanzania	Oct.2000
18	Guinea	Oct.2000	39	Togo	Apr.2008
19	Guinea-Bissau	Oct.2000	40	Uganda	Oct.2000
20	Kenya	Oct.2000	41	Zambia	Oct.2000
21	Lesotho	Oct.2000			

Source: www.AGOA.info

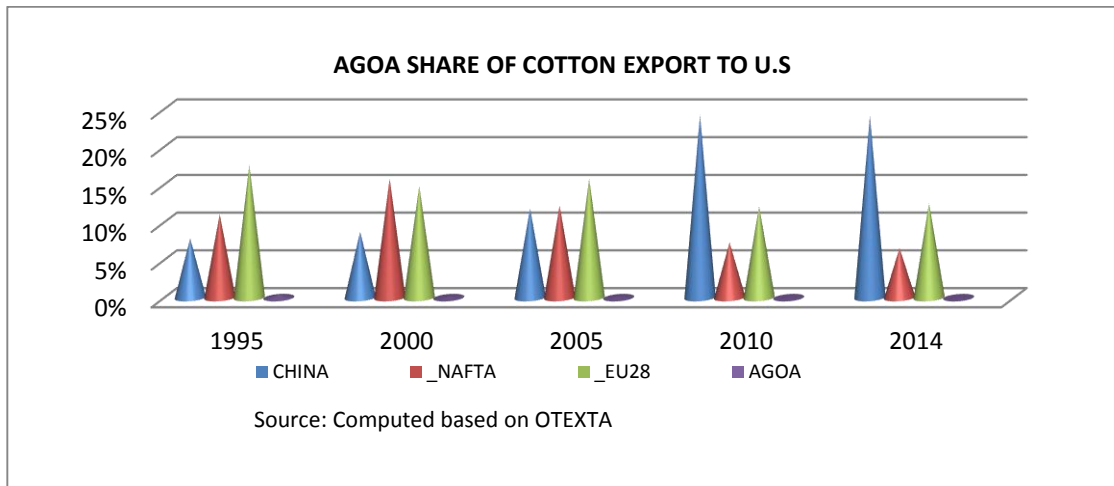
Appendix:2. Market Share of AGOA for Knit apparel



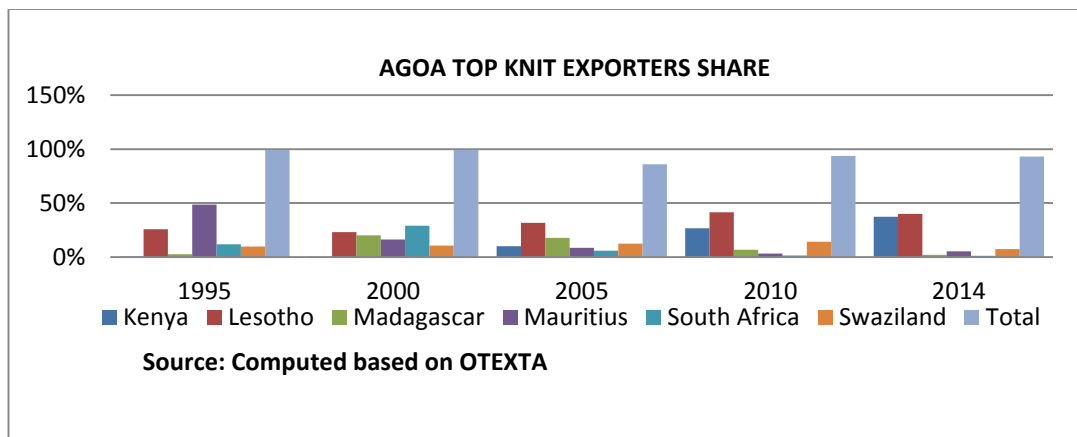
Appendix: 3. AGOA export of other textiles to U.S in comparison to other major U.S partners



Appendix: 4. AGOA share of cotton market in comparison with other major U.S trade partners



Appendix: 5. AGOA top Knit Apparelexporters to U.S.



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