UNIVERSITY OF NAIROBI

EFFECTS OF TRADE PREFERENCES AND RULES OF ORIGIN FOR KENYA'S CLOTHING

EXPORTS

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DECLARATION

I, the undersigned, declare that this research report is my own unaided work. It is being submitted for the Degree of Master of Arts in Economics at the University of Nairobi. It has not been submitted before for any degree or examination in any University.

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DEDICATION

To my parents Mzee Joseph Mutui Lemba and Mama Esther Kanono Mutui

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ABBREVIATIONS AND ACRONYMS

ACTIF	African Cotton and Textile Industries Federation
ACP-EU	African Caribbean and Pacific - European Union
ATC	Agreement for Textiles and Clothing
AGOA	African Growth and Opportunity Act
AGOA SR	African Growth and Opportunity Act Special Rule
ATC	Agreement for Textiles and Clothing
CA	Cotonou Agreement
EBA	Everything But Arms
ECSs	Export Compensation Schemes
EPA	Economic Partnership Agreement
EPZs	Export Processing Zones
EU	European Union
GATT	General Agreement on Tariffs and Trade
GTAP	Global Trade Analysis Project
GSP	Generalised System of Preferences
IF	Integrated Framework
ISI	Import Substitution Industrialization
IPC	Investment Promotion Centre
LDCs	Least and Developing Countries
MFA	Multi-fibre Arrangement
MRT	Multilateral Resistance Terms
MFN	Most Favoured Nation
MUB	Manufacturing Under Bond
NBER	National Bureau of Economic Research
NIEs	Newly Industrialized Economies
OLS	Ordinary Least Squares
RoO	Rules of origin
SP	Special Rule
SSA	Sub-Saharan Africa
TCFP	Third Country Fabric Provision

US	United States
EU	European Union
UK	United Kingdom
VAT	Value Added Tax
WTO	World Trade Organisation

ABSTRACT

This study examined the effects of trade preferences and rules of origin for Kenya's clothing exports to the United States (US) and European Union (EU). The study used the gravity trade model framework and time series data depicting clothing exports from Kenya to the US and EU from 1991 to 2013. Trend analysis portrayed an upward pattern of clothing exports destined to the US market while the exports to the EU market had been declining. This was also true with statistical results which indicated that both AGOA and Cotonou Agreement had statistically significant effects on clothing exports from Kenya. Results of the models indicated that the US-AGOA preferences had a positive influence on the growth of clothing exports. On the contrary, Cotonou Agreement had a negative influence on clothing exports and indeed they actually declined a possibility that EU's rules of origin were more stringent when compared to the US.

CHAPTER ONE

1.0 INTRODUCTION

An essential aspect of international cooperation has been the development of non-reciprocal preferential trading schemes by developed countries in favour of exports of developing countries. Trade preferences are commercial and foreign policy instruments meant to create both economic and political relationship among nations. These preferences have become essential elements of development-oriented strategies especially on exports growth from least and developing countries (LDCs). There are two major elements of the schemes. The first one is where preferential market access is granted at lower tariffs and lenient quotas that are in the form of duty-free and quota free market access. The other one involves constraining the number of participation by limiting eligible products and countries as well as imposing rules of origin (RoO).

These schemes provide preference-receiving nations with preferential market access of the preference-granting countries by way of reduced of tariffs on goods and service coming from the preference recipient nation. The reduction tariffs make the products of the beneficiary exporter competitive in terms of price when compared to other exports not enjoying preferential tariffs. On the other hand, this requirement of the RoO is meant to ensure that goods from the beneficiary country are produced using either locally sourced materials or other approved sources benefit from the preferences, and not simply transhipped. By granting preferential treatment, there may be a substantial export supply response which may lead to attraction of investment, creation of employment and acceleration of development in developing economies.

This paper seeks to investigate the effects of trade preferences and rules of origin on clothing exports from Kenya. Chapter one presents the background to the study, statement of the problem, objectives of the study, research questions, relevance and organization of the study.

1.1. Background to the study

The emergence of independent nation states in the post-colonial era was followed by the introduction of preferential trade arrangements. The preferential trade access to developed economies became a way that less developed countries could use to integrate themselves into the global economy. Many of Sub-Saharan Africa (SSA) nations embraced this idea to stimulate their respective economic growth and development. In many of the SSAs, priority was on manufacturing activities and the clothing sector played an important role in the African industrialization process and employment creation (Koech, 2004; Kaplinsky, 2006; Kaplinsky and Morris, 2009). Indeed, post-independence governments throughout SSA invested heavily in domestic clothing manufacture in which the emphasis was on "African" designs as the sector provided stepping stone for the growth of industrial capabilities (Mangieri, 2006; Koech, 2006 McCormick and Rogerson, 2004; Kaplinsky and Morris, 2006).

Since independence in 1963, the clothing and apparel industry in Kenya was the focus of economic development strategies (Koech, 2004). Import Substitution Industrialization (ISI) policies in the initial post-independence years were a boon to cotton-growers and to the clothing and apparel industries themselves and was mainly driven by 100% duty imposed on imported goods (EPZA 2005). The industry produced not only for local consumption but was also pursued as both an economic policy generating jobs and revenue. In addition, the industry was pursued as strategy to showcase the pride of Africa by putting on "African" garments during the post-independence era. By the early 1980s, the clothing sector was among the major manufacturing activities in Kenyan economy and whose contribution was greatly experienced in creation of employment and economic development. It employed over 195,000 families and about 31% of the work force in the manufacturing sector of Kenya (Kinyanjui and McCormick, 2004).

However, clothing sector started deteriorating in the mid-1980s because of inadequate supply of raw materials, inadequate upgrading of machinery and equipment in the enterprises owned by the government as well as inability to raise exports, mainly as result of the collapse of the East African Common Market.

However, following the liberalization of market which began 1990s, production of cotton locally was no longer attractive and there was a shift in favour of importation of cheap but high quality second hand clothing. As a result, the local clothing industry collapsed in the early 1990s and by 2001, even domestic manufacture of African fashion-ware notably *khanga* and *kitenge* ended in Kenya (Mangieri, 2006).

Amidst the global restructuring associated with trade liberalization, numerous trading agreements and trading blocs emerged at regional and international level. This led to the nascent growth of export apparel productions industries in Africa, including Kenya (Kinyanjui, Lugulu and McCormick, 2004). Among the notable trade agreement that emerged includes but not limited to the African, Caribbean and Pacific –European Union (ACP-EU) and African Growth and Opportunity Act (AGOA). These agreements rekindled interest in the industry and resulted in tremendous growth in export apparel production prior to the culmination of the Multi-fibre Arrangement (MFA) on January 1, 2005.

Trade agreements altered the manufacturing landscape in terms of the production and the growth of clothing export sector. To tap the gains emanating from trade agreements, many SSAs introduced considerable incentives to exporting firms intended to attract foreign-based investors. In Kenya, a new development began in 1990 with introduction of Export Processing Zones (EPZ) program to promote export-oriented investments. Previously, firms that either produced for domestic consumption ceased to produce or re-opened as export apparel facilities. This saw Kenya's apparel exports to US increase from US$ 39.4 million to US$ 278 million within a span of five years from 1999 to 2004; investment in the sector increased from Kshs 1.3 billion to Kshs9.8 billion. There was also creation of jobs from about 26,000 in 2002 to 37,000 in year 2003, but declined to 32,000 by end of 2004 (Mangieri, 2006).

However, export of apparel has not been without obstacles in Kenya. To start with, all SSAs, including Kenya, experienced a decline in export trade with the expiry of MFA on January 1, 2005 (Kaplinsky, 2006). Kaplinsky notes that many Asian firms especially

from China and India which had established garment facilities in Africa in order to circumvent MFA's country-based quota restrictions relocated back home. Secondly, China's economic and political influence was rising globally and the fear of the export market being flooded with "low cost" Chinese products at the detriment of SSAs was eminent. Thirdly, despite impressive performance of EPZ in Kenya that generated a US$163 million clothing manufacturing sector and created over 30,000 jobs; the growth was not without controversy. Labour conditions in these zones were likened to the "sweatshops of South East Asia", resulting in labour unrest and manufacturing shutdowns.

1.2. Major Trade Preferences for Kenya

1.2.1. USA Preferential Market Access Scheme

The AGOA took effect in 2000 as USA initiative to offer preferential market access for selected SSAs up to until 2008. However, subsequent amendments to the legislation establishing AGOA   resulted in the AGOA's date of expiry being extended to 2015. Kamuganga (2007) notes that the total tariff line coverage eligible for GSP and AGOA is approximately 7,000 comprising of 1800 non-energy products, 36 energy-related products, 622 apparel and footwear related products, 35 energy related product categories, and 1800 non-energy and non-apparel products.

The major recipients of AGOA-US preferences comprise of Nigeria, Angola and Gabon whose oil related products destined to US market contributes close to 75% of SSA exports to US through AGOA. This is no surprise as Africa contributes almost 15% of US energy needs (Kamuganga, 2007). The major apparel exporters under AGOA are Lesotho, Kenya, Madagascar, Mauritius, South Africa and Swaziland. The apparel products which are of key interest this study are among the products that have benefited from AGOA "Special Rule" and for   which only 26 of the 40 AGOA countries are eligible.

Under RoO, production of apparel for export must use raw materials that are either sourced locally or from other AGOA beneficiaries or the US. An exception to this rule is the "Special Rule" for the LDCs called the Third Country Fabric Provision (TCFP).

US`s GSP until enactment of AGOA had been largely criticized in the literature for its limited beneficiary country coverage, exclusion of sensitive products, stringent RoO and being politically sensitive.

1.2.2. EU Preferential Market Access Schemes

The EU preferential schemes that are offered to LDCs are non-reciprocal but competing in nature. Such preference schemes includes the GSP which was started in 1971, the Cotonou Partnership Agreement, a replacement to the four consecutive Lome Conventions which took place between 1975 and 2000 an organisation to negotiate Regional Economic Partnership Agreements (REPAs) with the African, Caribbean and Pacific (ACP) group of nations and Everything but Arms (EBA) for LDCs, which came into, force in March 2001.

EBA offers DFQF market access to all developing economies products except Arms and Ammunitions and with provisional plans for products that were sensitive like rice, bananas and sugar. The EU preferences have been criticized throughout their long life, for example; inability of GSP and the four Lome Conventions to raise market shares of the recipient economies in the European market and as well as negligible diversification of products meant for exports in both processing and manufacturing sectors of LDCs.

1.3. Evolution of the Clothing Industry in Kenya

The clothing industry was among the earliest modern manufacturing activities in Kenya, with the first plant established in the 1930s by Indian investors (Ikiara and Ndirangu, 2003b).Sunflag Ltd was the first integrated clothing firm in Kenya. It was set up in 1936 in Nairobi by a group of Asian investors who had business links with the textile industry in India. It was followed by other Indian-owned firms such as Padam Cotton Yarns Ltd and Alpha Graphic India Ltd (Koech, 2004). At the time of independence, the government of Kenya took over well-functioning clothing sector. The sector experienced growth under the inward-looking ISI strategy whereby imported clothing and fabrics faced heavy taxations to pave way for the growth of local industry (Kinyanjui, Lugulu and McCormick, 2004). A significant number of textile mills were owned by private investors, majority of whom were Kenyans of Indian

origin who had invested in Kenya with resources brought from India. The growth of industry continued rapidly post- independence era between 1976 and 1983 and certain fibres were sourced locally while synthetic fibres were imported together with resins, dyes and chemicals (Kamau, McCormick and Pinaud, 2009).

However, production started stagnating from mid 1980's and fell abruptly following liberalization of trade in the beginning 1990's (Kinyanjui, Lugulu and McCormick, 2004). This led to enormous competition from imported second-hand clothing (Kindiki, 2009; Kaplinsky, 2004). Kindiki observes an increase in importation of clothing especially second-hand clothes popularly known as, *"mitumba".* Kaplinsky also points out that there was preference of imported second-hand clothes over domestically manufactured clothes due to their good quality and cheap prices. Declining sales coupled with financial challenges among Kenya producers resulted into shutting down of many firms.

While Manufacturing under Bond (MUB) began in 1987, it stipulated tough conditions that all duty free imported merchandise was meant for production of export oriented products. (Kinyanjui, Lugulu and McCormick, 2004). Firms wishing to operate under MUB had to apply through Investment Promotion Centre (IPC) to the then Finance Ministry. Around that time and through assistance from the World Bank, EPZs were established   in 1990 in Nairobi, Mombasa and Athi-River to encourage export-based manufacturing.

Atieno (2009) states that Kenya implements an export-based incentive program that grants tax holidays, freedom to repatriate revenue, serviced premises, cheap but quality labour among other incentives to exporting firms. In addition, certain legislation are not enforced strictly such as the right of association as well as freedom to join labour movements. She also observes that EPZ firms enjoy preferential market access under the US-led AGOA and the ACP-EU Cotonou Agreement (EPZA, 2005).

The promulgation of AGOA occurred in the United States in the year 2000. AGOA offered preferential access to the US market by designated SSA countries. The Act

originally covered an 8-year period from October 2000 to 2008, but in July 2014, the Act was amended leading to extension of AGOA to 2015. In January 2001, Kenya became eligible for AGOA Apparel provision and was among the first SSAs to gain that eligibility. The act played a critical role in assisting exports of clothing and apparel products, which became the country's dominant export category to the US. The exports rose steadily and with the advent of AGOA, the number of manufacturing firms, the value of exports and number of employees increased as seen from table 1.

However, Kindiki (2009) argues that the advantages gained by majority of African countries became threatened from 2005 due to increase in clothing imports from Asian countries after the MFA came to an end MFA. Kindiki observes that the removal of quota restriction following the end of a 30-yearold MFA by the World Trade Organization (WTO) meant that producers from Sub-Saharan Africa countries ceased to enjoy the earlier protections and were exposed to a lot competition of Asian countries. Asian nations began enjoying unrestricted access to the duty-free market following abolition of quota system in January 2005. As a result, there was a drastic rise in Asia's apparel and clothing exports destined to EU and US markets.

1.4.   Performance of Kenya's Clothing Sector

Kenya's clothing sector recorded mixed performance for the period between 2000 and 2012. This period is important in Kenya's export apparel as it coincided with AGOA. With the coming of AGOA coupled with incentives from EPZ programs, there was fast growth export of clothing and especially to US. As shown from table 1, the number of clothing enterprises in Kenya rose from 6 in 2000 to 35 in 2003 and decreased to 18 in 2008 and 16 enterprises by 2010 before increasing to 22 in 2012. Investment in clothing sector also decreased from Kshs 10.3 billion in 2006 to Kshs 5.5billion in 2009owing to uncertainty on AGOA extension (Kindiki, 2009).

Table 1: EPZ Garment Manufacturing Enterprises: Employment, Investment, Total Exports, Quantity Exported and Total Imports 2000 -2012

Year	No. of Enterprises	Employment (No.)	Quantity Exported (pieces)	Export Value (K.sh million)	Investment (K.sh million)	Imports (K.sh million)
2000	6	5,565	6,050,000	2,300	1,200	....
2001	17	12,002	14,548,266	4,294	3,764	....
2002	30	25,288	28,615,384	8,149	6,980	5,699
2003	35	36,348	41,463,230	11,083	9,710	7,121
2004	30	34,614	61,312,309	17,575	8,595	10,012
2005	25	34,234	59,958,104	14,688	9,977	8,592
2006	25	31,813	61,730,934	14,894	10,317	7,674
2007	22	28,506	63,322,416	13,768	8,314	8,439
2008	18	25,766	66,919,400	15,811	7,578	9,146
2009	19	24,359	58,100,000	12,699	5,490	6,443
2010	16	24,114	70,300,000	16,190	6,959	13,966
2011	18	25,169	65,600,000	20,948	7,407	13,966
2012	22	28,298	81,300,000	20,217	10,732	14,699

Source: EPZA Annual Reports, Various Issues.

While Kenyan exports registered a marginal increase of 0.1% in 2012 to stand at US$ 293 million, there has been an upward trend of exports since 2010. In contrast, some other SSA countries like Uganda, Swaziland and Lesotho saw their exports decreasing by as much as 27.7%, 18.8% and 4.4% respectively (Table 2). Among the factors contributing to the decline in exports included the end of MFA in 2005, poor infrastructure, strengthening of the local currency (in Swaziland), the 2008 global financial crisis and the uncertainty surrounding TCFP extension whose tenure was ending in September 2012.

Table 2: Exports to US under AGOA / GSP provisions for selected Africa AGOA eligible countries 2003 – 2012 (US $ '000)

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Growth % (2011 v/s 2012)
Lesotho	372,674	447,803	388,584	384,591	379,617	338,940	277,124	280,392	314,335	300,618	-4.4%
Kenya	184,441	286,688	278,267	272,911	255,012	255,655	207,859	225,491	292,595	292,828	0.1%
Mauritius	143,077	160,468	152,591	157,502	119,906	101,742	103,063	128,927	169,191	175,227	3.6%
Swaziland	133,975	176,853	176,117	149,815	141,410	125,566	101,043	111,073	77,192	62,707	-18.8%
Uganda	1,509	5,147	4,911	2,465	1,691	1,055	742	3,315	2,541	1,838	-27.7%
Tanzania	1,569	3,601	3,797	3,697	4,518	2,047	1,861	2,118	5,751	11,846	106.0%
Madagascar	187,879	316,817	275,466	231,611	283,807	279,293	211,231	***	***	***	***

Source: http://dataweb.usitc.gov/africa/total_agoa_import_suppliers.html

Kenya like other SSA has faced stiff competition with the liberalization of the global clothing market and expiry of MFA in 2005. In particular, China and other Asian Newly Industrialized Economies (NIEs) with more efficient and competitive clothing sectors have continued to displace the SSAs from the US and EU markets. For instance, table 3 indicates that the cost of electricity in Kenya is 0.22 US$ per Kilo Watt hour (US$/KWh), compared with 0.02 US$/KWh for South Africa, 0.04 US$/KWh for Lesotho and 0.07 US$/KWh for China (ACTIF, 2010).

Table 3: Competiveness of Textile and Clothing Industry in Selected Countries

Country	Electricity (US$/KWh)	Transportation- Road Density	Labour Costs (US$/HR)	Productivity	Technology Use	Business Environment
Kenya	0.22	11	0.69	Low	Low	Weak
Ethiopia			0.7	Low	Low	Weak
Lesotho	0.04	20	0.62	Low	Low	Weak
Mauritius	0.09-0.53	99	1.7	High	High	Stable
S Africa	0.02	30	1.75	High	High	Stable
Swaziland	0.023	....	0.78	Medium	Low	
Vietnam	0.05	....	0.38	High to moderate	Moderate	Stable
Cambodia	0.12-0.16	....	0.33	Moderate	Low	Stable
Bangladesh	0.08	184	0.22	High	High	Stable
Benchmarks						
China	0.07	....	2.27	High	High	Stable
India	....	....	1.7	High	High	Stable

Source (ACTIF, 2010)

Kenya is placed position 132 in the ranking of 183 economies on the ease of starting a business (World Bank 2012). For instance, registration of business takes 33 days in Kenya because there are eleven procedures to comply with while incurring costs equivalent to 37.8% of per capita income. However, the minimum paid-in capital required is equivalent to 0.0% of per capita income. Thus a weak business environment in a weak to stable ranking.

Figure 1: Kenya clothing Exports to US under AGOA / GSP Provisions, 2003 – 2012 (US $ '000)

Kenya and Other Selected AGOA Countries - Textile Exports to US Under AGOA/GSP Provision: 2003 - 2012

Value of Exports US $ '000'

Legend: Lesotho, Kenya, Mauritius
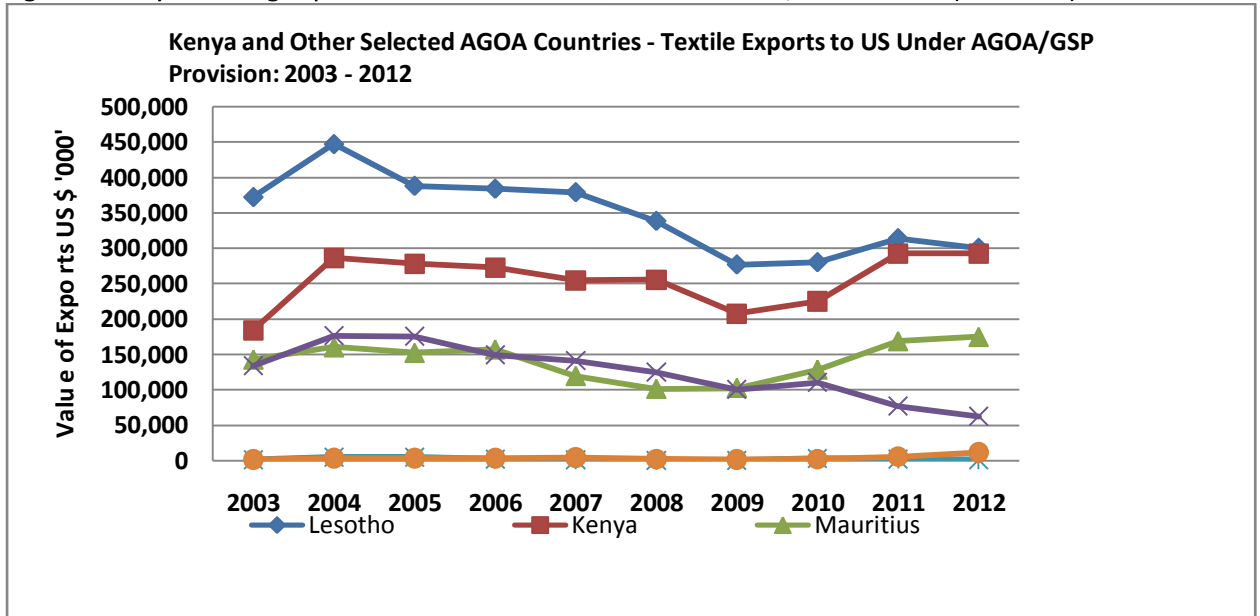
Source: EPZA Annual Report (2012)

From 2000, employment grew steadily, thus reaching the highest level of 36,348 in 2003. As shown from table 1, it contracted to 28,506 in 2007 and it has then been below the 30,000 jobs since then.

The creation of jobs is also declining in EPZ firms where majority of firms are in the garment and apparel sector. As shown in Figure 2, employment has been declining reaching as low as 29,395 in 2008. This is due to some firms scaling down their operations while others leaving the EPZ program as a result of prolonged un-favourable business environment, high cost of production, expansion of domestic market, adverse post-election effects in 2007 and 2008, uncertainty about the future of AGOA, failure to obtain strategic partners.

Figure 2: EPZ Employment: 2001 – 2013
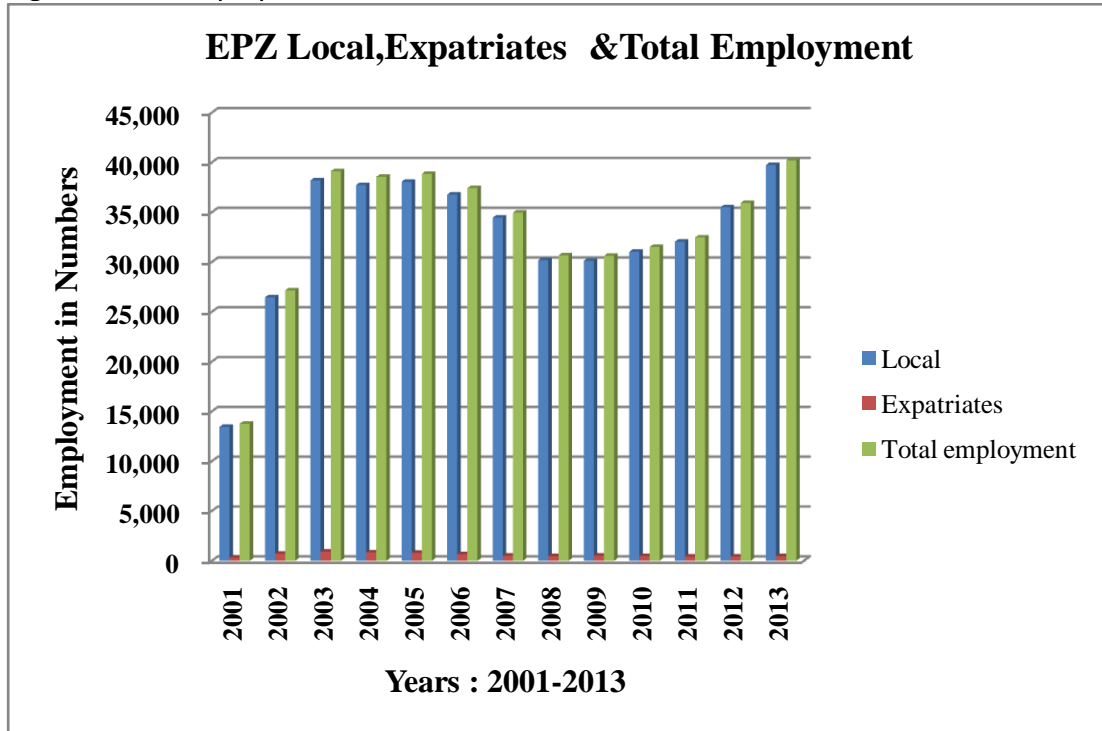
Source: EPZA Annual Reports, Various Issues.

1.5. Statement of the Problem

Trade preferences that would give market access to developed economies are anticipated to have positive effect on the growth of exports. They have been used extensively in the labor-intensive textile and clothing sector to induce economic growth for many LDCs.

The apparel sector is one of the few sectors where several economies have managed to increase and diversify exports through exploitation of comparative advantage in low-cost labour. Further characteristics that make the sector suitable for developing countries are low start-up investment, simple technology, a demand for low-skilled labour and limited importance of scale economies. That many LDCs in SSA have preferential market access to EU and US have provided an additional incentive for developing the textile and clothing sector.

Kenya is one of the developing countries whose export of clothing exports to US and EU depends on unilateral preferences whose continuity is a prerogative of the preference-granting country. Contained in the trade preferences are complicated

requirements in the form of rules of origin that must be fulfilled for the exporters to qualify for preferential market access. These rules of origin may turn out to be cumbersome and complicated and exporters compensate for the additional compliance costs with RoO by increasing the price of exports. Accordingly, these rules of origin may restrict exports flow from exporting country and end up reducing the intended market access the trade preferences are supposed to grant.

The forgoing leads to the question of why should the US and EU grant preferential market access for clothing exports from Kenya but enforce compliance with complex rules of origin at the same time. It is unclear how the continued existence of rules of origin has affected the growth of clothing exports and thus how the country can exploit the benefits attached to these trade preference agreements. It is also unclear as to whether preferential market access has had any effect in increasing clothing exports. This study was, therefore, informed by the fact that while most studies observed that both the trade preferences and rules of origin impacted on exports, they failed to ascertain the nature and extent of these effects.

1.6. Objective of the Study

1.6.1. General Objective
- The broad objective of the study was to establish the effects of the US and EU trade preferences and rules of origin on clothing exports from Kenya.

1.6.2. Specific Objectives
- To establish the trade patterns of Kenya's clothing exports with US and EU.
- To analyse the effects of the rules of origin by US and EU on clothing exports from Kenya.
- To suggest possible policy recommendations based on the results of the study.

1.7. Research Questions
The study sought to answer the following questions:

- What is the pattern of the US and EU trade preferences and rules of origin on clothing exports from Kenya?

- Has clothing exports from Kenya increased as a result of US and EU preferential market access?

- Are the rules of origin imposed by the US and EU on clothing exports from Kenya different?

1.8.   Relevance of the study

As mentioned earlier, Kenya's clothing exports to EU and US depends on unilateral preferential market access. In this regard, the on-going restructuring of   international trade will affect the future of Kenya's clothing sector. To start with, if US-AGOA preference is not extended after September 2015, the US would revert to the GSP granted to LDCs. Going back to the previous GSP implies loss of preferential treatment to over 1,800 product lines as they would cease to be duty free; hence phasing out of AGOA preferences will reduce textile and apparel products from Kenya.

Turning to EU, Kenya is yet to conclude the Economic Partnership Agreement (EPA) negotiations that ought to have been concluded by December 31, 2007. The delay has been occasioned by disagreements touching on economic and development co-operation, rules of origin, export taxes and the Most-Favored Nation clause. Should Kenya not sign the EPA by October 1, 2015, her trade with EU would revert to the less-generous terms of the GSP where some of the products, which have been enjoying zero duty, would attract tariff charges of between 8.5% to 15.7%. Among the products that would be deprived of the preferential access includes textiles and apparel, cut flowers, skins and hides, nuts, fish and fish products, vegetables and fresh fruits.

Focusing on the on-going negotiations about the future of preferential market access this study will be relevant in guiding policy makers to negotiate for improved preferential market access for Kenya's textile and clothing exports. It will also contribute to the literature of whether trade preferences has a positive impact on export growth as well as providing better understanding of the effects of rules of origin .

1.9. Organization of the Study

Following this introduction, Chapter two briefly reviews the literature on clothing export performance from SSA economies under trade preference agreements. Chapter three will present methodology and theoretical framework of the model as well as the data type and data sources to be used in the analysis. Chapter four will present the data analysis, the results and discusses them; while   Chapter five concludes the study by providing policy recommendations.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1. Introduction

This chapter presents three categories of literature related to the study. The first section presents theoretical literature in relation to trade preferences and rules of origin (RoO). The second section focuses on previous literature in relation to the effect of the US and EU trading agreements and role of RoO on SSA clothing exports. The third section examines the strengths and weaknesses identified in the review with regard to methodology, modelling, data limitations and analytical techniques from the past studies and identify the expected contribution of this study.

2.2. Theoretical Literature

Several theories have been put forth to explain the relationship between international trade and trade preferences. Among the notable theories are the Ricardian theory, the Heckscher-Ohlin (H-O) theory and the New Trade theory. These theories are elaborated further in the discussion that follows.

The Ricardian theory is built on the principle of comparative advantage which states that countries will gain if they specialize in the production of products with low opportunity cost. The theory further postulates that all countries engaging in trade become well off especially if each nation exports commodities whose comparative advantage has the greatest positive effects (Krugman and Obstfeld 2006). In this regard, it is desired that countries understand their factor endowments so that production is directed in usages that optimizes returns of the resources that are available. In other words, the theory advocate for full specialization by respective countries. In this theory, the only factor of production considered is labour, so the only difference in labour productivity between countries, not the relative amounts of labour and capital, is measured. Thus as Krugman and Obstfeld observes, international trade is purely as result of differences in labour productivity. In this theory, there is perfect competition in the market and factors are perfectly mobile

within country and between sectors but immobile between countries. The theory further assumes that only two countries engage in trade and they produce two products. Transport costs are ignored.

The theory has been criticized due to the fact that some of the assumptions are unrealistic. For instance, it fails to examine how international trade affects income distribution within a country considering that countries differ in resource endowment as well as how productivity is achieved out of those endowments. Furthermore, free international trade is non-existent in reality as countries will always impose barriers like tariff barriers to either protect infant industries or correct market failures. Free trade may also expose LDCs to prolonged poverty especially if their trading counter-part developed countries have attained the stage of complete specialization. Furthermore, firms in the least and developing countries are unable to compete in the international markets as well as even in their own motherlands in situations where firms from developed economies are able to decrease cost of production as output increases.

The Heckscher-Ohlin theory was built on the comparative advantage by putting into considerations some of the criticism of the Ricardian theory. The theory assumes no differences in consumer preferences, productivity and technology in international trade. It also assumes existence of economies of scale and free trade. Based on these assumptions, the theory states that trade would be as a result of international differences in relative abundance two factor endowments, that is capital and labour. Thus countries will export those goods in which they are relatively well endowed and import goods with factors with which they are relatively less endowed. This theory places emphasis on exports contrary to the Ricardian theory in which emphasis is on productivity. Krugman and Obstfeld (2006) observes that the theory provides for the analysis of the results of trade on income distribution due to the fact that trade changes relative prices and changes in relative prices of goods have very strong effects on the relative earnings of resources.

The Heckscher-Ohlin theory postulates the tendency towards factor-price equalization. However, Krugman and Obstfeld (2006) notes that this is seldom observed in reality because of the differences in resources, barriers to trade and the international differences in technology which make it practically unachievable. Accordingly, owners of the abundant factor gain while owners of other factors lose from trade liberalization within each country due to the failure to attain factor-price equalization. However, aggregate welfare increases in both countries and the sum of the gains exceeds the sum of individual losses. To compensate losers and make everyone better off, separate redistribution policies are required which is beyond the scope of this study.

However, Heckscher-Ohlin theory failed to explain presence of inequality in highly open economies in which the theory is not always clear. The most famous empirical evidence against the Heckscher-Ohlin model is the Leontief Paradox in which it was discovered that, in spite of the fact that US is endowed with capital as a production factor, her imports were indeed capital intensive while exports comprising labour-rich products. Thus empirical literature seems to suggest that variations in the endowment of resources alone cannot explain international trade and world factor prices and one must also consider the significant differences in technology (Krugman and Obstfeld, 2006).

The New Trade theory provides an alternative approach from the Ricardian and the Heckscher-Ohlin theories as to why countries trade with each other. Apart from comparative advantage, this theory emphasizes the importance of the economies of scale and network effects. The theory argues that countries should not specialize purely for the purposes of gaining from the differences in comparative advantage but also to reap from increasing returns associated with trade. Krugman (1987) argues that international trade models based on perfect competition and constant returns to scale have been to some extent superseded by models emphasizing on imperfect competition and increasing returns to scale.

Due to the existence of increasing returns and especially in developed countries, it might be in the interest of the developing countries to seek protection of their infant industries. This is because although a developing nation may possess absolute advantage in certain sectors of the economy, it would be difficult for her as a new entrant to enter the world market. This is attributed to the fact at initial stages, developing countries' infant industries will have higher average costs than established industries of the developed countries which enjoy advantages of economies of scale; thus they will initially make losses. Furthermore, a country may dominate an industry simply because it was fortunate to be the first one to exploit and monopolize it; thus making it difficult for the developing countries whose infant industries which are still at the initial entry stages not be able to withstand competition on the world market.

In view of this discussion, it is impracticable to claim that since free trade could potentially increase least developed countries' export growth; it is merely good for them. What liberalization of trade can cause is an increase in imports that is not accompanied by an equivalent increase in exports for the least developed countries. This causes trade deficits to rise, deterioration in the balance of payments and worsening of external debt. This constraints growth prospects and often results in persistent stagnation or recession (Khor, 2001). In this regard, it worth noting that both imperfect competition and increasing returns exist in the global economy, and consequently developing economies might not endure competition on the world market. The more developed countries gain somewhat since they have a better chance at competing on the world market while developing countries initially lose significantly when it comes to trade liberalization. Furthermore, the prospect of the small industries and producers especially in the agricultural sector is likely to fail yet they form the foundation of economic activities in many developing countries. These industries are threatened by liberalization as it exposes them to competitive cheap imports from the developed world. Khor (2001) notes that developing countries would become less self-sustained and more dependent on imports for even basic supplies such as food.

In this respect, the New Trade theory posit that liberalization of trade should not be pursued automatically and rapidly without first establishing whether necessary conditions for liberalization exist in a country or not. Khor (2001) argues that developing countries must have the opportunity to make strategic choices in finance, trade and investment policies, where they can decide on the pace and extent of liberalization and also have the opportunity to protect local business ventures. However, creating environment for trade liberalization is not automatic in developing economies since even the start-up capital for building up new efficient and competitive industries might not be available in the low-income countries. Thus aid in form of special trade agreements as well as financial assistance to cover start-up costs could be invested by developed economies so that developing countries may become capable to compete on the world market.

In view of the above theories, it is evident that both the Ricardian and Heckscher-Ohlin theories advocate for free trade on the premises of comparative advantage while the new trade theory is of the different view that is based on increasing returns. It is noteworthy that the arguments driving both the Ricardian and Heckscher-Ohlin theories are applicable based on some assumptions and as such they are not usually valid. Furthermore, the fact the two theories advocate for the presence free trade with no state intervention is not realistic as state usually intervenes either to protect infant industries or correct market failures. Thus the argument in favour free trade as supported by the two theories seems not to favour the use of trade preferences and cannot be used to guide modern trade policies in which numerous preferential trade agreements exist.

On the contrary, the view of the New Trade theory is that developed countries should promote the use trade preferences in order to encourage economic growth in the LDCs. The theory argues that such endeavours makes it possible for LDCs to partake in economically worthwhile activities that may lead to increased output and low production costs, hence stimulating more trade. The rationale of trade preferences is to offer LDCs opportunities to realize a self-sustained enhancement of their economic, political and social destiny. In the past, people considered trade preferences as

probable substitute to technical and financial support, as manifested in the "trade rather than aid" slogan (Brenton and Ikezuki, 2005). This slogan has been critical in persuading leaders in developed nation to agree to open their market for imports from LDCs.

Trade preferences act as the foundation for the liberalization of trade through both multilateral negotiations and unilateral policy reforms in many countries. As a result, trade preferences for LDCs should be perceived as anticipation of universal liberalization of trade that will be achieved in future, hence the preferences should be established in those sectors where recipient countries expect to benefit a lot from international trade.

LDCs receive preferential treatment because of their demand to access better markets of developed countries and also on the basis that providing LDCs with such opportunities will spur their economic growth. On this basis, LDCs reap 'hard' economic benefits such as improved market access and product prices, increased exports and creation of jobs leading to better economic welfare as well as accelerated economic growth. Besides, there accrue other gains such as acquaintance with advanced markets of the developed economies, increasing awareness to improve quality of products, change of mind-set in favour of export-oriented ventures as well as formation of more economic partnerships.

In contrast, preferences can also inhibit market competition and constrain product diversification leading to production of preferred and but few products that may be uncompetitive in terms of production costs (Topp, 2001). In addition, it is not always the desiring constituents of developing nations that benefit from the preferences. Thus, in LDCs, it is the owners of the intensively used factor of production that tend to receive rents accruing from preferences. Case in point is the agricultural sector in which the land owners are beneficiaries of the preference gains. In this case, the effect of preferences will be strong in alleviating poverty should the owners of land be poor. Thus, even when preferential treatment generates considerable transfers to

producers in LDCs, they may lead to an export base that is less diversified as well as failure to either ignite growth of exports or reduce poverty in the long-term.

LDCs experience higher costs that are related to trade when compared to developed economies in availing their goods and services into global markets. Brenton and Ikezuki (2005) examined effect of costs associated with trade preferences in LDCs. They observed high costs of compliance with preference requirements among small producers in LDCs; a situation which was considered risky as it was impeding competition and diversification in the international markets. Such costs were a reflection of institutional failures in developing countries which could be addressed through country-specific policy formulation. They also observed weak transport infrastructure in LDCs and inability of firms to access trade facilitation incentives such as trade finance and insurance.

In advocating for preferential treatment for developing countries, Topp (2001) observed that preferences could be source of superior returns on investment which is necessary to induce flow of investments and increase trade in LDCs. As such, preferences would stimulate trade and catalyse increased output at low cost which would accelerate more trade and economies of scale. It worth to note that the economic sectors that benefit from the preferences are those with long-term comparative advantages.

A number of studies exist on the effect of preferences on clothing exports from SSAs Economists and Historians (e.g. Farnie (2004); Brown (1995) documented the lead role that the apparel industry had played in the industrialization and development process for the LDCs and emerging economies. In their studies of cross-industry linkages in developing countries, they demonstrated that these industries generated positive externalities in the form of technology transfer, knowledge accumulation and worker skills development that facilitate broader industrial growth and poverty reduction.

But despite these positive externalities, some studies will argue that trade preferences on apparel provision have not achieved the purpose for which they were established. For instance, exporters need to consider the costs of tariffs as a factor incurred by the developing countries while trading with developed countries in a perfect market under preferential market access (Mulangu, 2012).Using a case of exporters for apparel in LDCs, Olarreaga and Ozden (2005), analysed the effect of tariff costs and established that it is one third of the expected benefits that are captured by exporters. They also found variance among the beneficiaries in which new and small exporters capture small portion tariff gains against established and large exporters whose tariff rent is high.

In the case of preferences in apparel sector, the RoO are particularly stringent, generally necessitating that a minimum two to three transformation process to take place for the preference-recipient country to meet the threshold of duty-free entry (Edwards and Lawrence, 2010). The RoO are particularly challenging since production of fabric is a technology and capital intensive venture that is out of reach for many LDCs.

2.3. Empirical Literature

There exists vast literature about clothing exports from SSA to developed markets under various trade preferences. More specifically, many researchers have resorted to the use of gravity equations while assessing the impacts of trade preferential for exports. Among the studies that have used gravity model includes Kamuganga (2007); Nouve and Staritz (2003); Verdeja (2006) and Nilson (2007).

Nouve and Staritz (2003) focus on studying the impacts of AGOA following the export of clothing products from the SSA countries to US in the period from 1990 to 2010. Despite the impact being insignificant in the empirical analysis, their findings indicate a positive impact of AGOA exports from the SSA countries. Nevertheless, the fixed effect model of Nouve and Staritz indicates a very low explanatory power.

Verdeja (2006) examines the impacts of trade preference schemes and enlargement of EU in the period between 1970 and 2002. He argues that when a country becomes a member of EU, it starts to trade lesser than what it uses to do with the SSA countries. However, Verdeja points out those LDCs start to benefit from the preferences emanating from the EU member states. The findings indicate negative impacts from the two opposing forces from the exports of Agricultural products to EU countries.

In related studies on the impact of quota removal, Martin (2004) through calculation of Export Tax Equivalents (ETEs) for quota-bound exporters found increased clothing exports accompanied by a reduction in apparel exports. Through third-country responses, Martin (2004) also used the GTAP model to calculate indirect effects. Iacovone, Rauch, and Winters (2012) examined the impacts of production in a third country (Mexico) in response to the price competition of Chinese exports. They used a plant-level panel database for 1994-2004 to examine the ways that individual Mexican firms responded to competition. They highlighted a dichotomy between small and large firms; small firms exit, while large firms expand.

Staritz (2010) provided an excellent review of apparel production opportunities in low-income countries, with extended attention to several SSA countries (Kenya, South Africa, Lesotho, Swaziland and Mauritius). She notes that the removal of quotas and the slowdown associated with the financial crisis led to scaling down of clothing exports of SSA exporters in the vital EU and US markets. She rooted this concentration in the evolution of the global value chain in apparel exports in which leading firms were more empowered and the premium that is attached by purchasers to the flexibility of suppliers rising and shrinking the lead times. To alleviate this inherent disadvantage, Staritz (2010) is of the opinion that there is need for improvement of institutions and infrastructure of export-destined production in low-income exporting economies.

Mulangu (2012) notes that the opportunities, especially access to US market, granted by AGOA has benefited apparel industry in Africa. He observed that all SSA apparel

exports to the US rose from US$583 million in 1999 (before AGOA) to almostUS$1.79 billion in 2004 of which exports valued at US$1.5 billion was eligible preferential market access under AGOA. AGOA-eligible countries notably South Africa, Kenya, Swaziland, Madagascar, Namibia and Lesotho reported a marked increase in the export of apparel. In addition, (Rolfe et al., 2004) observes that AGOA as having rekindled the life of export process zones that were almost collapsing in Kenya. Rolfe et al. (2004) notes a remarkable increase of clothing exports of 607% in Kenya between 1999 and 2004.

Using gravity model, Lederman and Ozden (2004) studied the effect of political and geographical factors on preferences granted by the US. In their study, they not only focused on the impact of AGOA but they also reviewed other preferences the US grants to other parts of the globe. They noted a rise in exports up to three times among preference recipients as opposed to non-preference receiving countries.

But preferences accorded to SSA especially by US-AGOA program are an important exception as they not only gave recipient SSA countries extensive DFQF access to the US but they also incorporated a rare exemption to apparel exporting countries categorised as "Lesser Developed Beneficiary Countries (LDBCs). These exceptions were made to overcome the prevalent productivity disadvantage of almost no domestic clothing industry in SSA, thus making apparel exports survival dependent on its preferences as well as being vulnerable in case of changes in special preferences (Edwards and Lawrence, 2010).

Comparative studies of the effect of third party-rule between EBA and AGOA clothing exports for SSA were carried out by Collier and Venables (2007), Brenton and Hoppe (2006) and Portugal Perez (2008). Using gravity model, Collier and Venables observed that apparel exports to the US through special AGOA provision had increased four-times for the period between mid-1990 and 2005. On the contrary, the clothing exports to EU market had actually stagnated over the same period. Similarly, a study by Brenton and Hoppe (2006) for the period between 2000 and 2005 showed unprecedented decline in EU clothing exports in spite of the presence of liberal

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preferences. They also observed similar levels of clothing exports to both EU and US in 2000. However, this similarity was short-lived as they observed the US value of clothing imports were four times greater than EU by 2005.

Another study by Portugal Perez (2008) was done to assess the differential effects of rules of origin on apparel for EBA and AGOA. Using Tobit econometric model, they observed a decline in apparel exports to EU for the period from 2000 to 2004. At the same time, over 300% increase in AGOA apparel exports from the seven top SSA recipients was observed which was largely attributed to lenient rules of origin. The study also revealed diversification in apparel exports due to AGOA flexible RoO.

While preferential market access helped African apparel export to increase somehow, there are also reservations. Edwards and Lawrence (2010) describes the preferences as shambolic as they are laced restrictive RoO requiring use of local content in production which many LDCs are unable to produce. The RoO help to control trade-deflection that could occur in cases of importations from developing countries. In addition, there has been little skills transfer as most of the production activities is largely Cut-Make-Trim (CMT) with meagre value addition. This cast doubt as to whether there is any backward linkages to other economic sectors.

2.4. Overview of Literature

The section draws from the foregoing sections of the theoretical and empirical literature review as the basis for examining the effect of trade preferences and rule of RoO on SSA exports. Our review of previous literature focuses on identifying the strengths and weaknesses from the past studies so as to identify the expected contribution of this study.

Several studies (e.g. Davies and Nilsson (2007) have used GDP as a measure of importing and exporting economic mass while using gravity model to examine the impact of preferences and RoO. Other studies have included distance variable as a hindrance to trade. Variables such as value added of clothing (VAC) in SSA country

and the country's exchange rate have also been omitted in some studies yet they can either impede or enhance bilateral trade

The impact of preferential market access on SSA exports has focused on aggregate merchandise trade without reference to specific sector. In addition, most empirical evaluations were done based on data from the initial years of preferences and focused on the impact of trade preferences on specific market destinations that is US or EU, but not both US and EU markets. In the case of RoO, the more stringent they are on SSA exports the more costly to export, thus RoO reduce the volume of clothing exports from SSA.

This study seeks to use Kenya's clothing exports as case study to examine effect of trade preferences and the RoO on SSA exports. It will also use trade data on clothing exports for an extended time period from 1991 to 2013. The study will use Gravity model and the GDP per capita will be used as an alternative measure of GDP since it serves as a proxy for the income levels of countries. It will incorporate additional variables such as VAC in SSA country and the country's exchange rate. These two variables will be included in the model they can either impede or enhance bilateral trade.

The variable for distance is not included in this study because the coefficient of the distance variable is zero since the distance is fixed over time between the exporting and importing country. Lastly , the previous studies finds that the RoO impedes trade and this study sought to examine the effects of RoO on SSA clothing exports by evaluating Kenya's utilization rates of preferences provided by both US and EU trade preferences.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology adopted in carrying out the research.

3.2 Theoretical framework

The model used in this study to analyse the effect of US and EU preferential market access and the rules of origin on Kenya's clothing exports is the Gravity model. The use of gravity model has been necessitated by the fact it is able to explain extensively trade flows between trading countries. It allows the researcher to test the statistical significance of various factors such as the presence of trade arrangements. Tinbergen (1962) was the first to use this method using economic weights such Gross Domestic Product (GDP) and distance between trading nations to account for the bilateral trade flows between two countries. Initially, the gravity equation was criticised by some scholars that it had little link to particular theoretical models. However, Feenstra, (2004) notes that studies by van Wincoop (2003), Anderson (1979, 2011) and others have derived the gravity equation from theoretical models.

In this study, the choice of gravity model was informed by the fact that it can explain not only the volume of bilateral trade flows between countries, but also the utilization of preferences.

3.3 Modeling the Gravity Model

Equation 1 presents the basic gravity model of two trading countries (*i* and *j)*. Goods supplied at origin *i* are attracted to destination *j* according to the economic masses of the trading countries measured in the form of GDP (Y_i and Y_j).However, the distance (D_{ij}.) between the trading countries reduces the potential flow of trade.

$$X_{ij} = G \frac{Y_i^{\beta 1} Y_j^{\beta 2} z_{ij}^{\beta 3} e^{\varepsilon ij}}{D_{ij}^{\beta 4}}$$ ....(Equation 1)

Where

X_{ij} is the trade flow from *i* to *j* and Y is the respective economic mass of the importing and exporting countries (as measured by GDP).

D_{ij} is the physical distance between *i* and *j* and

Z_{ij} represents other characteristics affecting bilateral trade such as common language, common border, colonial ties, regional trade agreements, or trade barriers.

G is a constant intercept and ε_{ij} is an error term.

The gravity equation is normally expressed in a log-linear form due to the multiplicative nature of the model. This involves taking natural of all the parameters so as to obtain a log-linear equation that can be estimated using OLS regression which is simpler than non-linear estimation methods. Taking the logarithms of equation (1) yields estimation equation:

$$InX_{ij} = \beta_0 + \beta_1 InY_i + \beta_2 InY_j + \beta_3 Z_{ij} - \beta_4 D_{ij} + \varepsilon_{ij} \qquad \ldots\ldots\ldots\ldots \text{(Equation 2)}$$

Where B_0 is a constant intercept common to all trading countries. A limitation of the specification in equation 2 is that it is prone to omitted variable bias. Feenstra (2004) suggests that such problems can be overcome by using sectional time-series data to estimate the equation with fixed effects (such as country-specific fixed effects) that can be thought to capture the impact of the unobserved multilateral resistance variables (MRV) such as transportation costs, trade barriers and other costs of doing business.

The model can be presented in a log-linear specification:

$$InX_{ijt} = \beta_0 + \alpha_t + \alpha_{ij} + \beta_1 InY_{it} + \beta_2 InY_{jt} + \beta_3 Z_{ij} - \beta_4 D_{ij} + \varepsilon_{ijt} \quad \ldots\ldots \text{(Equation 3)}$$

Where α_t is a time fixed effect applicable to all trading nations, but unique to each year *t*, and α_{ij} represents a fixed effect for country pairs that is common to all years and which captures country heterogeneity.

The statistical model for this study was designed to evaluate unilateral trade flows from Kenya to the US and EU; and to explore the effects of trade preferences (AGOA and Cotonou Agreement) and RoO on clothing exports using time series data for Kenya's clothing exports over the period 1991 to 2013.The model can be presented in a log-linear specification as follows:

$$\text{In}CX_{ijt} = \beta_0 + \beta_1 \text{In}Y_{it} + \beta_2 \text{In}Y_{jt} + \beta_3 \text{In}VAC_{it} + \beta_4 EX_{it} + \beta_5 UR_{it} + \beta_6 AGOA_{it} + \beta_7 CA_{it} +$$
$$\beta_8 MFA_{it} + \varepsilon_{ijt} \quad \text{.. (Equation 4)}$$

Where i=1, representing exporting Kenya, j =2 representing the importing countries, the US and EU and t=1, 2 ....T, representing the period 1991 to 2013.

CX_{ijt} represents the value of aggregate clothing exports of Kenya measured in U.S. dollars at time, t. Y_{it} is the exporter's (Kenya's) Gross Capital Formation (GCF) while Y_{jt} is the importer's GDP per capita at time t. GCF is the sum of outlays added to fixed asset of a country and (net) changes in the inventory levels. It helps increase investment through expanding production bases which ultimately influences economic returns and exports positively. Both the GCF of the exporter and GDP per capita of the importer are expected a positive impact on clothing exports.

VAC_{it} is the value added of clothing in Kenya i at time t and it is projected to positively influence clothing exports. EX_{it} represents the exchange rate of country i and it has an important impact on trade flows as a depreciated exchange rate would favor Kenya's clothing exports. *AGOA* and *CA* are dummy variables each with a value of 0 for years prior to the implementation of the US and EU provisions respectively and 1 for years following the implementation of these provisions.

UR_{it} is the rates for US and EU clothing exports preferences and it is used to examine the effect of the rule of origin since a decline in the utilization rates of preference could be due to inability to satisfy importer's requirements that could be becoming increasingly complex. Utilization rates show exports under a preferential trading agreement as shares of total export to the country in question. MFA_{it} is a dummy

variable indicating the impact of the MFA quota removal on clothing exports. The expiry of MFA exposed Kenya to stiff competition from Asian countries. It takes a value of 1 for the period up to 2004 and 0 for period starting 2005 when it ended.

The gravity Equation (4) can be estimated by non-linear or linear ordinary least squares (OLS) with fixed effects as suggested by Feenstra (2004). However, the log-normal gravity equation has been criticized on the basis of the way zero values and missing observations are treated. The next section discusses approaches of handling zero-valued trade flows.

3.4.1. Zero Trade Flows

The gravity model is one of models that is widely used to analyze international trade flows among trading nations. Nevertheless, one of the weaknesses of the gravity model is its inability to explain zero or missing observations. Such observations are automatically dropped by OLS regressions due to non-existent of a log for zero; thus reducing the sample size in a non-random manner in a log-linear specification.

Three approaches have been established to handle the problem of zero trade flows. The first approach is to truncate the sample in which observations with zero trade flows are dropped. The second approach involves systematically adding an insignificant but positive number to the trade observations such that the log-linear transformation is defined. The third approach is estimating the model in levels.

Empirical estimation of trade flows with zero values with OLS leads to a selection bias created by the logarithmic transformation (Burger et.al, 2009 and Flowerdew and Aitkin, 1982). Since zero trade flows are usually not randomly distributed, truncating the observations might lead to biased and inefficient estimates (Burger et.al, 2009 and Heckman, 1979). Systematically adding a small positive number by itself is problematic since there is no theoretical or empirical justification for such a procedure, and it can distort the estimates.

However, our trade flow data had no zero trade flows and the cited weakness of the model to explain zero observations was not an econometric problem in this study. Furthermore, a number of approaches (for instance, Linders and de Groot, 2006 and Flowerdew and Aitkin, 1982) have been advanced that are backed by both micro econometric foundations and econometrically sound. Thus the model we implemented in this study was from the cited studies. It was presented in a two equation context, the selection equation and the outcome equation, specified as follows.

The selection equation:

$$\ell^*_{ij} = \theta_0 + \gamma_{ij} + \theta_1 \text{InY}_{it} + \theta_2 \text{InY}_{jt} + \theta_3 \text{InVAC}_{it} + \theta_4 \text{EX}_{it} + \theta_5 \text{UR}_{it} + \theta_6 \text{AGOA}_{it} +$$
$$\theta_7 \text{CA}_{it} + \theta_8 \text{MFA}_{it} + \mu_{ij} \quad \text{...equation 5}$$

And the outcome equation:

$$InX^*_{ij} = \beta_0 + \alpha_{ij} + \beta_1 InY_{it} + \beta_2 InY_{jt} + \beta_3 InVAC_{it} + \beta_4 EX_{it} + \beta_5 UR_{it} + \beta_6 AGOA_{it} +$$
$$\beta_7 CA_{it} + \beta_8 MFA_{it} + \varepsilon_{ij} \quad \text{...equation 6}$$

Where

ℓ^*_{ij} is a latent variable that shows unilateral trade between Kenya, *i* and US or EU, *j* in the sample occurred. γ_{ij} is the origin's country fixed effect (Kenya) and destination (the importer) and InX_{ij}^{*} is the logarithm of the volume of unilateral trade as defined in equations 1 to 4. μ_{ij} is the error term of the selection equation while ε_{ij} is the error term of the outcome equation.

3.4 Data Types and Sources

The gravity equation was estimated using quarterly time series data on US and EU clothing imports from Kenya for the period covering from 1991 to 2013. It entailed trade data for commodities in Harmonized System (HS) of classification categories HS61 and HS62. HS61 and HS62 are defined as knitted and not-knitted articles of apparel and clothing accessories respectively.

Our primary source of data for our dependent variable was the United Nations Commodity Trade Statistics Database, *UN COMTRADE,* which provided net imports for the two importers (US and EU). The data collected from the UN COMTRADE was in Harmonized System 6-digit level. This 6-digit level data was used because some countries do not give further disaggregation of their exports (to either 8-digit or 10-digit HS codes) and thus 6-digit level was used since this enables UN-COMTRADE to have uniform level of data disaggregation for all countries.

The study used the imports from of US and EU because they provided reliable data instead of the exports from Kenya due to reporting difficulties. Furthermore, the country's accounting measures remain stronger and accurate for the import flows than the recorded accounting measures from the exporting countries following the application of customs and border measures. More specifically, the study analyzed the bilateral imports in order to avoid the silver mistake that arises from a number of research studies while applying gravity specification of average on bilateral trade flows.

In many studies, other factors such as exchange rates, common border, common language, currency union that my influence trade flows have been included as additional variables in the traditional gravity model. This study included real exchange rates and value added of clothing. The World Bank's World Development Indicators (WDI) was used to generate data on real exchange rates, country's GCF, GDP per capita and value added of clothing.

As discussed earlier, one way of examining the effects of RoO is by evaluating utilization rates of preferences. The United States International Trade Commission (USITC) was used to obtain data on utilization rates for the US's preferential schemes while the Statistical Office of the European Commission (EUROSTAT) provided data on utilization rates for EU's preferential schemes.

CHAPTER FOUR

4.0 DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

Chapter four presents the results of the analysis of the data. We present descriptive statistics before turning to Gravity model results.

4.2 Descriptive Statistics

This sub-section was motivated by the need to gain insight in terms of descriptive evidence for our study. We envisage that if the US and EU offer preferential market access for Kenya's clothing exports; we should observe a reasonable rising trend of export growth at the onset of the preferences.

Figure 3 presents US and EU clothing imports from Kenya from 1991 to 2013.Directevidence indicates growth of clothing exports after 2001 especially those destined for the US market because of relatively liberal rules of origin under the AGOA 'special rule' clause. Under this clause, Kenya was allowed to undertake single transformation that entailed conversion of fabric to garment for her apparel to qualify for US market access. In addition, the clause that permitted Kenya to source fabric from other third countries and still qualify to export clothing to US, a condition that has been described as relaxation of rules of origin. Although the special rule is not permanent, it has undergone a number of renewals which has pushed its expiry date to 2015.

Figure 3: US & EU Clothing Imports from Kenya-1991 to 2013
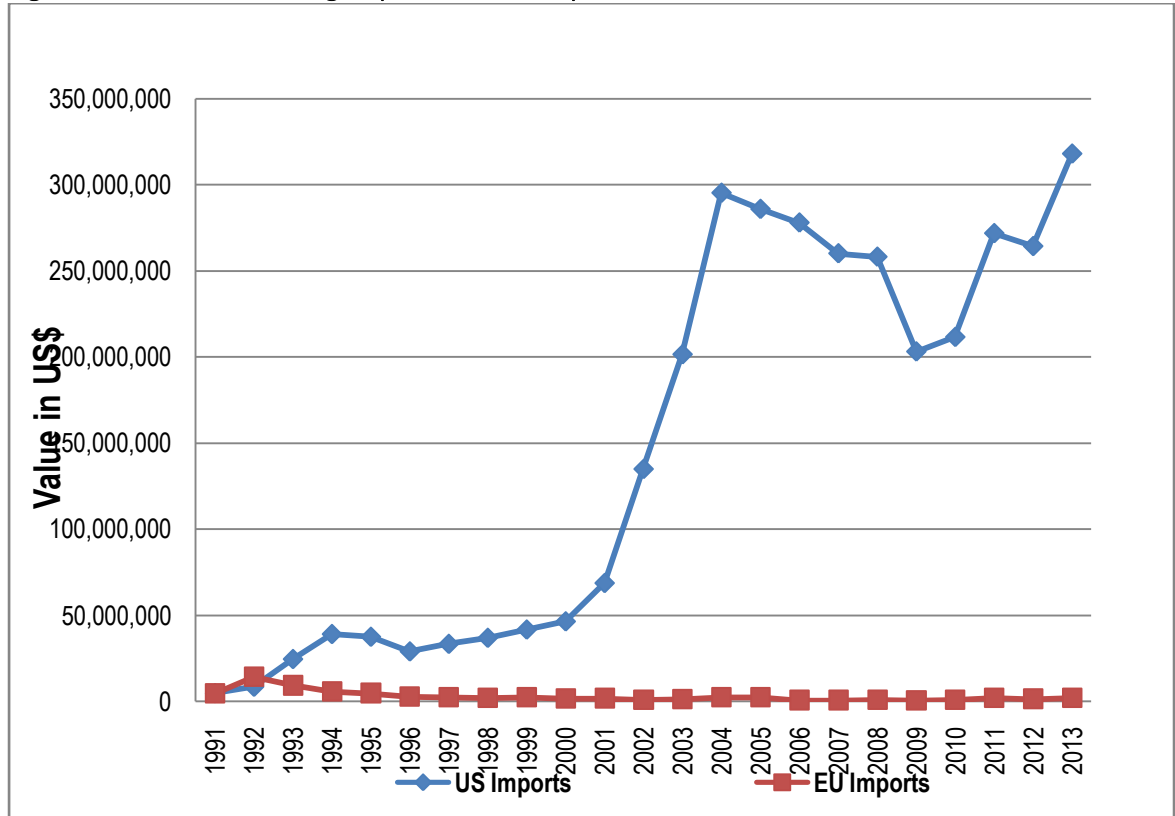
Source: UN-Comtrade

For EU, there has been a declining growth of exports due to stringent rules of origin. In order to export clothing to EU, the RoO entails first producing yarn. This involves dual transformation process taking place in Kenya in which the yarn is woven into fabric followed by cutting and trimming to produce clothing. The argument put forth in support of the EU's restrictive nature of the rules of origin is to encourage significant value additions in the entire clothe production activities in developing countries. It is also pursued as a strategy for enticing development of production structures that are integrated either within specific developing economies, or within groups of regional economies through the mechanism of cumulation, so as to take advantage of the effect on employment and provide assurance that developing countries do not only undertake low value-added activities only but also engage in high value ones. However, Kenya lacks the capacity for production of yarn due to non-existent of an effective textile industry. Thus an inefficient textile industry in Kenya coupled with restrictions on fabric importation has constrained the utilization of EU's preference schemes resulting into declining exports destined for EU market.

The success of Kenya's clothing exports under AGOA demonstrates that preferences can produce great opportunities to expand the growth of clothing exports. This is an attestation that the degree of restrictiveness contributes to the level of performance of an individual preference as demonstrated by an upsurge in US clothing imports relative to no change in EU clothing imports.

The clothing exports are mainly divided into knitted (HS61) and not-knitted HS62. The implication of the requirement of the rules of origin differs from one category to the other as shown in the discussion that follows.

Figure 4: US Imports of Clothing Exports from Kenya-1991 to 2013
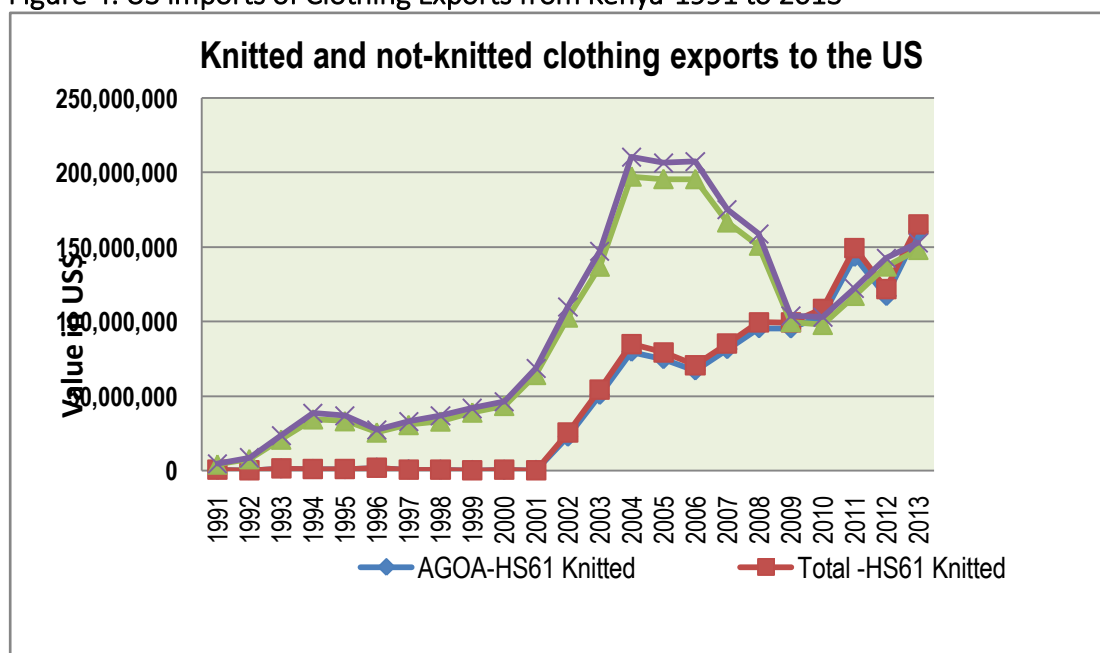
Source: UN-Comtrade

Figure 4 depicts the portion of clothing exports to the US through AGOA program from 1991 to 2013. On average, utilization rate of the preferences for both categories is over 93%; an indication that Kenya's clothing exports is entering the US under the preference. The AGOA seems to have had immediate impact on both knitted and not-knitted as demonstrated by rapid increase in exports after 2001. It is clear from figure 4 that there is a rise in exports of both knitted and not-knitted categories but the rise

in knitted category is drastic especially after inception of AGOA special rule that relaxed the rules of origin.

Figure 5: EU Imports of Clothing Exports from Kenya-1991 to 2013
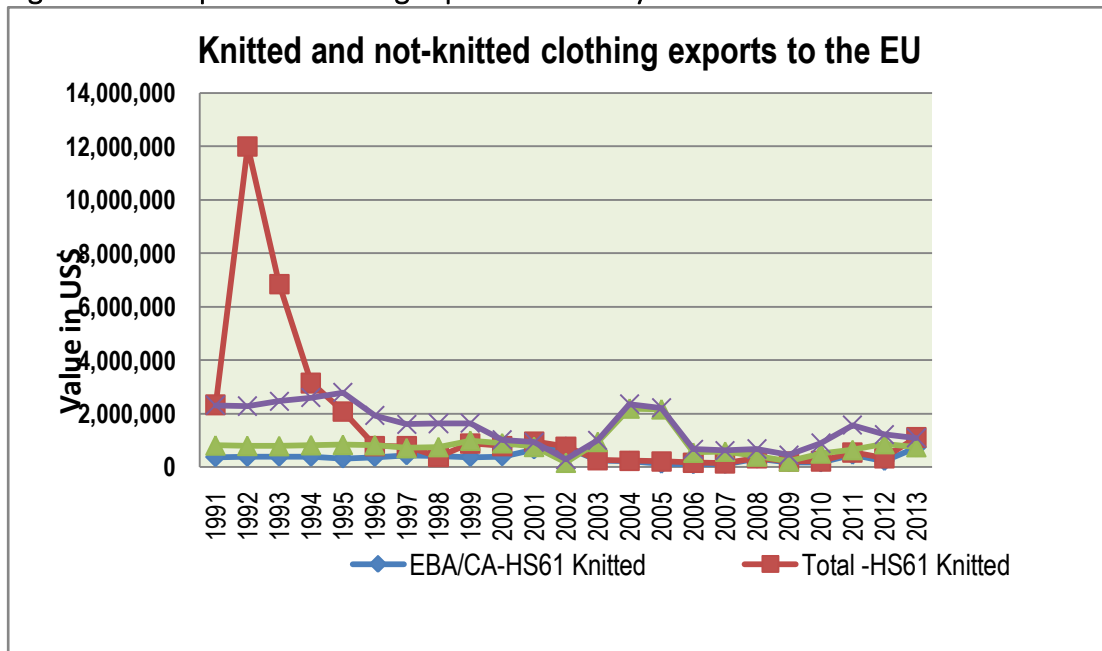
Source: UN-Comtrade

EU imports of clothing exports from Kenya indicates a contrasting pattern against US imports. The average utilization rate of the EU preferences for both categories is less than 60% which implies stringent rules of origin requiring double transformation process. The exports have also been declining which, for the large part, reflects that the cost of complying with EU's trade preferences and rules of origin are high when compared with US's preferences.

From the above analysis, it can be deduced that varying requirements for both US and EU preferential market access and rules of origin have played an important role in shaping the growth pattern of Kenya's clothing exports. Exports to US have been rising while those destined to EU have actually been falling. It is worth noting that EU's strict rules of origin are perceived as a strategy for enticing development of production structures that are integrated either within specific developing economies, or within groups regional economies through the mechanism of cumulation, so as to take advantage of the effect on employment and provide assurance that developing

countries undertake both low and high value-added activities. However, there is no indication in Kenya that EU's imposition of strict RoO has in anyway helped to stimulate and develop an integrated production framework in the apparel sector. Indeed, such arguments have been rendered obsolete considering that global trade liberalization and emerging technological changes have caused production process to be fragmented as well as ease of sourcing cheap materials in the international market.

4.3 Model Estimation Results and Discussion

4.3.1 Time Series Properties and unit Root Test

The study used quarterly time series data for the period 1991-2013. To avoid the problem of spurious regression results, it was necessary to ensure the data is not non-stationary. Accordingly, each series of data was ran using Augmented Dickey-Fuller (ADF) test to check for the presence of unit roots.

The ADF test establishes whether or not the variables are stationary. In the ADF test, the non-stationarity of the series is the null hypothesis while the alternative hypothesis is that the series is stationary. First you must choose the significance level whereby we used 1%, 5%, and 10% in this study. Comparison is then done between the t-statistic and t-critical. The null hypothesis of the non-stationarity is rejected if the t-statistic is less than t-critical. Conversely, the null hypothesis is accepted if the t-statistic is greater than t-critical; and the series is said to be non-stationary and vulnerable to spurious regression. Table 4 provides the results of the unit root tests.

Table 4: Unit Root Test Using ADF

Variable	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Exports-US	-4.759	-2.612	-1.950	-1.610
Export-EU	-5.356	-2.612	-1.950	-1.610
Kenya-GCF	-4.598	-2.614	-1.950	-1.610
US-GDP	-4.373	-2.612	-1.950	-1.610
EU-GDP	-4.956	-2.612	-1.950	-1.610
VAC	-4.477	-2.616	-1.950	-1.610
UR-US	4.435	-2.612	-1.950	-1.610
UR-EU	-5.036	-2.612	-1.950	-1.610
Real Exchange Rate	-4.419	-2.615	-1.950	-1.610
AGOA Dummy	-4.303	-2.612	-1.950	-1.610
Cotonou Dummy	-4.139	-2.612	-1.950	-1.610
MFA Dummy	-5.288	-2.612	-1.950	-1.610

From our results in table 4, we observe that the t-statistics are less than the t-critical value at the 1%, 5%, and 10%. The results indicate that this is a stationary series and thus we reject the null hypothesis of non-stationarity.

4.3.2 Gravity Model Results and Discussion

We set out to establish the effect of establish the effects of the US and EU trade preferences and rules of origin on clothing exports from Kenya. In this section, the focus is on the estimation results from the gravity model. Separate estimations were done using the data of US and EU clothing imports from Kenya respectively. The regression results for both US and EU are presented in tables 5, and 6 respectively.

4.3.2.1 Regression Results for Clothing Exports to US

From our regression results in table 5, we observe that the growth clothing exports to the US is positively influenced by both AGOA and MFA preferences (both are dummy variables), utilization rate of US preferences and the US per capita GDP. The results also indicate that value added of clothing (VAC) has a negative impact on clothing exports to the US.

Table 5: Determinants of clothing exports to US

Variables	Coefficient	Standard Error	t-values	p>|t|
Kenya GCF	0.3873481	0.2354566	1.65	0.105
US GDP	1.95113	0.8085548	2.41	0.019
VAC	-0.2307223	0.2006405	-1.15	0.014
Utilization rate-US	1.776663	1.48097	2.10	0.005
Real Exchange Rate	0.0067847	0.3658656	0.02	0.985
AGOA Dummy	0.8911541	0.1713689	5.20	0.000
MFA Dummy	0.0239682	0.1779152	0.13	0.030

No. of obs = 72; F(7, 65)= 31036.35; Prob>F = 0.0000; R-Squared = 0.7997; Adj R-Squared = 0.7679; Root MSE = .30922

AGOA preference is the most significant determinant of the clothing exports to the US. The variable is statistically significant at the 99% confidence level with a t-value of 5.20 and P>|t|value of 0.000. The AGOA dummy which takes a value of 1 for years it was in place and 0 otherwise shows a unit percentage increase of its provisions increases clothing exports to the US by 0.89%. The sign of this variable is positive supporting our earlier hypothesis and the findings of earlier related studies (such as Mulangu (2012), Rolfe et al.(2004)that the AGOA granting of duty-free quota-free (DFQF) access to the US market has been a major contributor to the growth of Kenya's clothing exports to the US. The results also show that MFA dummy contributed positively to the growth of clothing exports prior to its end in January 2005. The variable is significant at the 90% confidence level with a t-value of 0.13 and P>|t|valueof 0.030. The MFA aided growth of Kenya's clothing exports by imposing quota restriction to protect the LDC producers against stiff competition from Asian mass producers. It is noteworthy even although the two preferences had positive impact on the growth exports; it is AGOA whose effect was greatest.

It was argued that less stringent rules of origin (measured by the utilization rate of preferences) should have a positive influence on clothing exports. The higher the levels of utilization rate the easier to comply and satisfy the rules of origin. The results indicate a significant coefficient (t-value=2.10) at the 95% confidence level. The results thus confirm our earlier assertion of the US's lenient rules of origin which requires Kenya to undertake a single transformation of fabric to clothing before exporting to the US. Besides, the US Third Country Fabric Provision (TCFP) permits Kenya to source fabric from third countries and still remains eligible for the AGOA preferences. Thus the TCFP should be renewed upon expiry if Kenya is to export more clothing to the US and still maintain high levels of the utilization of the preference.

Further, the US per capita GDP positively influences US imports of clothing exports from Kenya. The variable is significant at the 90% confidence level (t-value = 2.41) and p>|t| value=0.019.Its positive coefficient of 1.95 implies that a unit percentage change in the US per capita GDP leads to more than proportional change of 1.95% in the rise

of Kenya's clothing exports to the US. The results thus suggests a possibility that growth of US per capita GDP may indicate a rise in demand for clothing imports, as changes in GDP per capita is likely to lead to increase in consumption of latest fashions of clothing products, which tend to be income elastic.

The variable for value added of clothing (VAC) which measures the sum of gross output less the value of intermediate inputs used in production clothing for exports has a negative influence on clothing exports to the US. It is significant at the 95% confidence level with a t-value of -1.15. It has a negative coefficient of -0.23 contrary to our hypothesis expectations. This means that a unit percentage change in the VAC leads to less than proportional change of 0.23% in fall of clothing exports from Kenya to the US market. This could suggest that the value added in Kenya is costly when compared to other countries like Lesotho, South Africa and China whose electricity costs are relatively cheaper as earlier seen in table 3.As Brenton and Ikezuki (2005) notes, this could be a reflection of institutional problems within Kenya, such as corruption and weak corporate governance, which should be addressed through changes to domestic policies. This could also indicate firms' lack of access to standard trade facilitating measures such as trade finance and insurance as well as weak transport infrastructure in LDCs.

The other two variables, gross capital formation for Kenya and real exchange rate are not statistically significant but both have positive coefficients. A similar OLS regression for Kenya's clothing exports to the US was repeated but with the constant not suppressed (appendix 1B). The results were almost the same as those reported in table 5 with OLS regression results for Kenya clothing exports with constant suppressed. Again we, observe that AGOA and MFA dummies, utilization rate of US preferences and the US per capita GDP are statistically significant and they influence the growth clothing exports to the US.

The second regression estimation incorporates the variables that affect Kenya's clothing exports to EU. The results from the estimation are presented in table 6.

4.3.2.2 Regression Results for Clothing Exports to EU

Table 6 reports our OLS regression results for Kenya clothing exports to the EU. The variables that are statistically significant are the EU per-capita GDP, Cotonou dummy, MFA dummy, value added of clothing (VAC) and utilization rate of EU preferences. The EU per-capita GDP seems to have the greatest influence on the growth of clothing exports to EU. The variable is statistically significant at 99% confidence level with t-value=3.75 and P>|t|-value = 0.000. Its positive coefficient supports our hypothesis expectations. This means that for every unit percentage change in the per-capita GDP in the EU would lead into an increase of the demand of clothing exports from Kenya by 1.97%. This could suggest that the exports from Kenya are capable to cope with changes in the preferences of EU citizens as their well-being improves in terms of per capita income.

Table 6: Determinants of clothing exports to EU

Variables	Coefficient	Standard Error	t-values	P>|t|
Kenya GCF	0.3647444	0.4942809	0.74	0.463
EU GDP	1.978524	0.5269809	3.750	0.000
VAC	-0.9678403	0.4457407	-2.17	0.024
Utilization rate-EU	-0.9922067	0.8638723	-1.15	0.035
Real Exchange Rate	0.1141233	0.7163343	0.16	0.874
Catonou Dummy	-0.8964456	0.2725724	-3.29	0.002
MFA Dummy	0.8411418	0.3371657	2.49	0.015

No. of obs = 72; F(7, 65)= 4112.36; Prob>F = 0.0000; R-Squared = 0.6977; Adj R-Squared = 0.6975; Root MSE = .65129

The Cotonou Agreement (CA) dummy is also important factor on clothing exports to EU. The variable has a negative coefficient of -0.89 and it is significant at the 95% level with a t-value of -3.29 and P>|t|-value = 0.002. It was expected that the coefficient for CA would be positive due to the fact that EU offers duty-free quota-free access of clothing exports from Kenya. However, the results are contrary to our earlier hypothesis. The negative coefficient is thus likely to suggest that EU has continued to

impose stringent rules of origin on clothing imports from Kenya. This is also true in as shown by declining trend of clothing exports to EU (figure 3).

As was the case with exports to the US, the MFA dummy seems to have contributed positively to the growth of exports destined to the EU market. This was through quota restrictions that shielded Kenya against competition from Asian mass producers. The variable whose coefficient is 0.84 is touted as the main factor contributing to growth clothing exports during the period prior to the promulgation of AGOA. This could be true as Kindiki (2009) observes that all SSAs, including Kenya, experienced a decline in export trade with the expiry of MFA in January, 2005.

The variable on the value added of clothing (VAC) captures the sum of gross output less the value of intermediate inputs used in production clothing for exports. The results indicate that the coefficient is negative and statistically significant at 90% confidence level. It was expected that this variable would have a positive impact on the growth of exports. These results imply that that the value added in Kenya is costly when compared to other countries like Lesotho, South Africa and China whose electricity costs are relatively cheaper as earlier seen in table 3. In addition, the fact that EU preference places limitation on where to get input could imply that even accessories like zips and buttons could also be coming from uncompetitive sources. We used utilization rate of preferences to capture the effect of rules of origin on clothing exports. The utilization rate of preferences shows the exports under a preferential trading agreement as shares of total export to the country in question. The results provide a negative coefficient of utilization rate of EU preferences although it is statistically significant at 90% with t-value=-1.15 and P>|t|-value = 0.035. Although, the negative coefficient of this variable does not support our priori expectation, this is true as attested by declining exports to the EU market. It implies that EU has continued to impose stringent rules of origin on clothing imports that requires at least double transformation of yarn to take place in Kenya with the yarn being woven into fabric after which the fabric is cut and into clothing for exports. This requirement is hard to comply with as there exist no effective and efficient textile industry in Kenya, hence the reason for many investors to shy away from EU in spite

of the presence of DFQF access to EU market. The results of table 6 were not different from those in appendix 2B in terms of coefficient signs and their significance in relation to the clothing exports to EU when OLS regression results for Kenya clothing exports to EU were obtained with constant not suppressed.

CHAPTER FIVE

5.0 SUMMARY OF FINDINGS, CONCLUSION & RECOMMENDATIONS

5.1 Introduction

This chapter provides the summary of the findings and the conclusions and recommendations of the study based on the objectives of the study.

5.2 Summary of Findings

This study was set out with the primary objective of establishing the effects of the US and EU trade preferences and rules of origin on clothing exports from Kenya. The study also set out to analyze the role of the RoO on clothing exports; having established that both the US and EU trade patterns were different despite the two destinations offering Kenya almost similar trade preferences.

The study established that

- The provision of preferential market access by the US and EU has not live up to their initial expectations and in fact the exports to the EU have actually declined. This support earlier studies by Mulangu (2012) Brenton and Hoppe (2006).

- There has been substantial increase in clothing exports from Kenya to the US after promulgation of AGOA while exports destined to the EU have been declining.

- US preferences had greater impact when compared to EU preferences and they insulated clothing exports from Kenya and helped to reduce the adverse effects as a result of MFA's expiration on January, 1 2005.

- The value added in Kenya for clothing products is costly and outweighs its benefits. That is the more value is added on clothing products, the less is exported suggesting possibility of reduced demand due to cost high cost of production.

- Exemption from quota and duty restrictions is not sufficient incentives to spur growth of clothing exports especially from Kenya to EU.

- Improvement in the well-being in US and EU as measured by the GDP per capita may contribute to the growth of clothing exports from Kenya. It is possible that the demand for clothes increases with increase in per capita income in the two market destinations.

- The performance of clothing export from Kenya to EU has been dismal. This could suggest that it is unlikely that clothing sector will be adversely affected by delayed signing of the Economic Partnership Agreement (EPA) between Kenya and EU.

5.3 Conclusion and Recommendations

Kenya enjoyed an increase in clothing exports to the US due to the AGOA's special rule that made it possible for Kenyan exporters to source inputs at competitive prices. This is in contrast with its weak performance in the EU due to the inhibitive and uncompetitive requirements to source inputs either from EU or locally. The positive response to AGOA signifies that EU has been imposing restrictive rules of origin that have reduced the volume of clothing exports to EU market. Indeed the US-AGOA preferences which allowed Kenya to source fabric from other countries has proved to be an effective support for exports of clothing to the US market. In fact, this has been a compensation to Kenyan producers whose production environment for yarn characterized by low yields of raw materials as well as infrastructural and institutional deficiencies in Kenya.

Trade preferences such as MFA and AGOA can be beneficial to Kenyan exporters in a number of ways. First, it provides incentives to the exporters that arise from the forfeiture tariff incomes by preference-granting nation (US) instead of raising taxes of the preference-recipient country (Kenya).Second , it is a form of protection to the infant industries that not only shields them against competition from the more established firms but it also ensures export products are of high standards that meets consumer needs of the advanced countries such as US. A case point was insulation the textile and clothing sector against stiff competition from the Asian mass producers after the expiry of the MFA in January 2005.

However, trade preferences are not all-encompassing as the sector-recipients of the incentives tend to be ones with inclination to produce low quality goods with limited value addition. Thus the expected myriad of benefits in the form upgrading quality production and development and transfer of advanced skills is constrained. There is also a possibility of lack of competitiveness in sourcing materials such as fabric as is the case with EU preference schemes. Such preference limitations provides little impetus for backward linkages in Kenya's textile industry which is still at the rudimentary phase of evolution.

As such, preferences ought to be opportunities but not alternatives for more elaborate strategies that demands development of supportive local policies aimed at improving both public and private capabilities. This does not relegate the vital role of preferences in promoting exports; but a suggestion that preferences are not sufficient on their own. Preferences may also be unfavorable and inhibit backward linkages in circumstances when entrepreneurs establish business entities not to encourage use of local materials and flow of foreign direct investments but to circumvent trade restriction measures such quota system. Besides, the fact that a country has high utilization of preference, as in case of Kenya's utilization of US preferences, may not necessarily lead to more trade. In this regard, any attempt to substitute establishment of detailed development strategies for institutional and infrastructure take-off should be resisted at all cost. After all, it is misleading to adopt " trade not aid" slogan in totality in Kenya without due consideration to the fact that while clothing exports to US has increased, the AGOA preferences have only been a boost to export growth but the not sole driving condition of the growth (Edwards and Lawrence, 2010).

In view of the forgoing conclusion, the study therefore recommends the following:

- **Extension of preferences for a long and predictable period of time:** There was a strong and positive relationship between AGOA dummy and growth of clothing exports to the US market despite the preference having been granted for shorter

periods in the past. To entrench and enhance benefits trade preferences, they should be extended over a much longer period if not made permanent. For the clothing sector, there is a possibility that the relatively short and unpredictable existence of AGOA and EBA/CA preference schemes has not been conducive for substantial investment responses.

- **Simplification and harmonization of rules of origin:** The variable for utilization rate that was a proxy of rules origin indicated clothing exports destined to either of the market was subjected to different RoO. If Kenya was to fully exploit market access preferences under EU, the EU should review and redesign the rules of origin to reflect the industrial capacity of manufacturing firms in Kenya and other LDCs and in particular permit them to source and cumulate their inputs from any part of the world at competitive prices. In this regard, the Government of Kenya (GoK) and the other member states of East African Community (EAC) should take advantage of the yet-to-be concluded reciprocal trade agreement (between Kenya and EU) commonly referred to as Economic Partnership Agreement (EPA) and strongly negotiate for favorable rules of origin.

- **Development of integrated framework (IF) for the textile and clothing sector:** Duty-Free-Quota-Free (DFQF) access to both US and EU markets will not be a sufficient to exploit the potential in the textile and clothing sector in Kenya. To realize the full benefits of the preferential market access, there is need for the preference-granting countries (US and EU) and recipient nation (Kenya) to develop an integrated framework (IF)that will (1) improve incentive regime, (2) lower the cost of backbone services; and (3) develop proactive polices to support trade. This could be in the form of: (1) relaxing non-tariff barriers against clothing products,(2) facilitating accessibility to all trade-related services such as generation of cheap alternative sources of energy and (3) supporting export and investment promotions as well as the Government of Kenya providing safety nets for workers losing jobs from increased international competition.

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APPENDIX 1: OLS Regression Results for Kenya Clothing Exports to US

Appendix 1A: OLS Regression Results for Kenya Clothing Exports to US-constant suppressed

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reglkenyasexporttouslkenyagcflusgdplkenyasvalueofclothinglutilirateofuslrealexcha
ngerateagoadummymfadummy, nocons
```

Source	SS	df	MS
Model	20773.1373	7	2967.59104
Residual	6.21508129	65	.095616635
Total	20779.3523	72	288.602116

```
Number of obs =      72
F( 7,    65) =31036.35
Prob> F      =  0.0000
R-squared    =  0.7997
Adj R-squared =  0.7679
Root MSE      =  .30922
```

lkenyasexp~s	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
lkenyagcf	.3873481	.2354566	1.65	0.105	-.0828913	.8575874
lusgdp	1.95113	.8085548	2.41	0.019	.3363351	3.565926
lkenyasval~g	-.2307223	.2006405	-1.15	0.014	-.6314291	.1699845
lutilirate~s	1.776663	1.48097	2.10	0.005	4.734363	1.181038
lrealexcha~e	.0067847	.3658656	0.02	0.985	-.7238994	.7374687
agoadummy	.8911541	.1713689	5.20	0.000	.5489068	1.233401
mfadummy	.0239682	.1779152	0.13	0.030	.331353	.3792893

Appendix 1B:OLS regression results for Kenya clothing exports to US-constant not suppressed

```
.reglkenyasexporttouslkenyagcflusgdplkenyasvalueofclothinglutilirateofuslrealexch
angerateagoadummymfadummy
```

Source	SS	df	MS
Model	58.6310314	7	8.37586163
Residual	5.93019353	64	.092659274
Total	64.561225	71	.909313028

```
Number of obs =      72
F( 7,    64) =   90.39
Prob> F      =  0.0000
R-squared    =  0.7218
Adj R-squared =  0.6981
Root MSE      =   .3044
```

lkenyasexp~s	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
lkenyagcf	.3028034	.2367486	1.28	0.206	-.1701564	.7757631
lusgdp	1.841301	.7984132	2.31	0.024	.2462871	3.436315
lkenyasval~g	-.0530171	.2219968	-0.24	0.021	-.4965067	.3904725
lutilirate~s	2.060657	3.347621	2.11	0.039	-13.7483	-.3730163
lrealexcha~e	.1385681	.3679212	0.38	0.708	-.596439	.8735753
agoadummy	.9880252	.1775137	5.57	0.000	.6334008	1.34265
mfadummy	.1165539	.1926066	2.61	0.043	.5013298	.2682219
_cons	23.29335	13.28432	1.75	0.084	-3.24514	49.83184

APPENDIX 2: OLS Regression Results for Kenya Clothing Exports to EU

Appendix 2A: OLS Regression Results for Kenya Clothing Exports to EU-Constant Suppressed

```
.reglkenyasexporttoeulkenyagcfleugdplkenyasvalueofclothinglutilirateofeulrealexch
angeratecotonouebadummymfadummy, nocons
```

Source	SS	df	MS		Number of obs =	72
Model	12210.5517	7	1744.36452		F(7, 65) = 4112.36	
Residual	27.5714485	65	.42417613		Prob> F = 0.0000	
					R-squared = 0.6977	
					Adj R-squared = 0.6975	
Total	12238.1231	72	169.973932		Root MSE = .65129	

lkenyasexp~u	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
lkenyagcf	.3647444	.4942809	0.74	0.463	-.6224026	1.351891
leugdp	1.978524	.5269809	3.75	0.000	.9260705	3.030978
lkenyasval~g	-.9678403	.4457407	-2.17	0.024	-1.858046	-.0776347
lutilirate~u	-.9922067	.8638723	-1.15	0.035	-.7330654	-2.717479
lrealexcha~e	.1141233	.7163343	0.16	0.874	-1.316495	1.544742
cotonoueba~y	-.8964456	.2725724	-3.29	0.002	-1.44081	-.3520809
mfadummy	.8411418	.3371657	2.49	0.015	.1677753	1.514508

Appendix 2B: OLS Regression Results for Kenya Clothing Exports to EU-Constant not suppressed

```
.
reglkenyasexporttoeulkenyagdpleugdplkenyasvalueofclothinglutilirateofeulrealexchangera
tecotonouebadummymfadummy
```

Source	SS	df	MS		Number of obs =	72
Model	18.0393106	7	2.57704437		F(7, 64) = 6.43	
Residual	25.659743	64	.400933484		Prob> F = 0.0000	
					R-squared = 0.6428	
					Adj R-squared = 0.6306	
Total	43.6990535	71	.615479627		Root MSE = .63319	

lkenyasexp~u	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
lkenyagdp	.1642682	.4892397	0.34	0.738	-.8131004	1.141637
leugdp	.682875	.7839384	0.87	0.002	-.8832221	2.248972
lkenyasval~g	-.9989512	.4335906	-2.30	0.034	-1.865148	-.1327543
lutilirate~u	-.1293558	.9281845	-0.14	0.043	-1.724906	1.983617
lrealexcha~e	-.3381981	.7265855	-0.47	0.643	-1.789719	1.113323
cotonoueba~y	-.6058937	.2965297	-2.04	0.003	-1.19828	-.0135076
mfadummy	.254178	.4239194	0.60	0.021	-.5926983	1.101054
_cons	21.75938	9.964884	2.18	0.033	1.852239	41.66653