DETERMINANTS OF KENYA'S EXPORT PERFOMANCE UNDER AGOA TRADE PREFRENCE REGIME

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DECLARATION

I declare that this paper is my original work and has not been submitted for the award of a degree in any other university or institution.

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SIGNATURE:…………………………

DATE:………………………………..

This paper is submitted for the award of the degree of Master of Arts in Economics with my approval as the university supervisor.

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DATE:………………………………..

ACKNOWLEDGEMENTS

DEDICATION

I dedicate this paper to my loving parents. Thank you!

LIST OF ACRONYMS AND ABBREVIATIONS

AGOA	African Growth and Opportunities Act
FDI	Foreign Direct Investment
GATT	General Agreement on Trade and Tariffs
GDP	Gross Domestic Product
GSP	Generalized System of Preferences
LDC	Least Developed Countries
MFA	Multi-Fibre Arrangement
MFN	Most Favored Nation
SSA	Sub-Saharan Africa
USA/US	United States of America
USITC	US International Trade Commission
WTO	World Trade Organization

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ABSTRACT

The African Growth and Opportunities Act (AGOA) has been operational in Kenya since its inception in 2000.This study contrary to many Kenya-specific studies uses the gravity model to examine the determinants Kenya's export performance to the US under AGOA from 1995 to 2014. Empirical results show that the presence AGOA increases trade flows by 0.08% while a percentage growth in apparels and textiles increases trade flow between Kenya and USA by about 1%. However, agricultural exports reduces exports by 0.07%. A percentage increase in the GDP of Kenya increased trade flows by 0.2% while a percentage increase in the GDP of USA decreases trade flow by 0.4%. A depreciation of currency by 1% increases trade flow by 0.5%. These results suggests there is need to enhance apparel exports besides maintaining macroeconomic soundness in terms of increasing Kenya's GDP and depreciating the currency.

CHAPETER ONE

INTRODUCTION

1.0 Introduction

This Chapter introduces the study whose key objective is to empirically establish the performance of the Africa Growth and Opportunity Act (AGOA) in Kenya since inception using a Gravity Model. The Chapter describes: the background of the study, statement of the problem, objectives of the study, justification and significance of the study and organization of the study.

1.1 Background of the study

The African Growth and Opportunity Act (AGOA), is a preferential trade agreement between the United States of America (USA) and Sub-Saharan Africa countries (SSA) which was formed in 2000. This agreement had a major aim of integrating the two trading parties and ensuring that especially SSA penetrates the US market. This basically means that it anticipates many benefits to beget SSA such as increased exports, increased employment, increased Foreign Direct Investment (FDI) and strong value chains that ultimately spur development. To date, only 39[1] of the potential 48 SSA countries are AGOA eligible while 47 of them are Generalized System of Preferences (GSP) eligible. The major trading products are *inter alia* textile, apparel, specific motor vehicle components and agricultural products. Additionally, over 7,000 product tariff lines are currently controlled under AGOA and GSP in addition to 1,800 product tariff lines that were added by AGOA to GSP (Ngulu, 2014).

AGOA like many preference regime has been guided by the following stylized facts since inception:

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i. Rules of Origin (RoO)

This comprises of restrictions that define the underlying shares of a country's value addition towards production of a commodity. It is basically aimed at establishing whether a product originates from a particular country and in case of preference schemes such as AGOA, it is meant to ensure that the right countries benefit (Kaplinsky et al., 2010).

AGOA's RoO emanate from the Most Favored Nation (MFN) framework which is enshrined in the General Agreement on Trade and Tariffs (GATT) and its successor the World Trade Organization (WTO). This rule compels countries to give their trading partners a non-discriminatory treatment that extends to all World Trade Organization members. However, to curb stiff competition and maintain parity among mostly Least Developed Countries (LDCs), a provision for special treatment of such countries is provided in which AGOA falls (Condon et al., 2011).

AGOA can be said to be providing duty free access to several SSA products coupled with a slightly regulated quota access that is non-binding (McKay, 2012). Literature widely accepts that of all the SSA exports to the US, apparels have been the most favoured under AGOA. To date (as per AGOA IV) the only provision for apparels is that they need to be assembled in the concerned SSA country besides having their yarn and fabric either made in the US or another SSA country. However, apparels made from yarn and fabric of the latter group (another SSA country) are bound to attract a cap of 3.5% on the overall US imports. A regulatory body has also been set up to fully determine the legality of apparel and textile before a country gets the benefits .Perhaps outstanding of all conditions is the Third-Country fabric provision (TCF) or rather the "Special Rule for Apparel" that allowed least developed AGOA members before September 30, 2012 to obtain yarn and fabric from anywhere in the world given that it was fully assembled within their country. This rule had a disclaimer nonetheless that countries that stood to benefit must have had a per capita gross national product of less than $1500 a year in 1998 as measured by the World Bank (Ngulu, 2014; McKay, 2012).

ii. Security of Access

Security of access entails the rules of the house that AGOA has set for current and potential members; standards of eligibility, rules of compliance and removal of countries. As mentioned above, 39 and 47 SSA are currently AGOA and GSP eligible respectively. Conditions from the main AGOA website show that for a country to qualify as a member, it must prove that it has made or is making persistent progress towards the following: establishing market-based economies; adherence to the rule of law and political pluralism; elimination of barriers to US trade and investment; protection of intellectual property; efforts to combat corruption; policies to reduce poverty, increasing availability of health care and educational opportunities; protection of human rights and worker rights; and elimination of certain child labour practices.

This eligibility is not guaranteed and each country's membership is renewed annually as non-compliance can lead to expulsion by the President of the US. A case in point is that of the removal of Central African Republic and Eritrea in 2004 followed by Côte d'Ivoire and Mauritania in 2005 and 2006 respectively. Whereas eligibility of the former two is yet to be renewed, that of the latter two was restored in in 2011. As late as 2014, Madagascar and Mali received their life-line while Swaziland, South Sudan and Gambia's removal was executed on the 1st of January 2015 (Williams, 2015). Eligibility may also be reconsidered if AGOA threatens U.S industries for example; domestic import competing sectors in the US may lobby the government to remove preferences from countries that have utilized them effectively to increase exports to the US (Mueller, 2008).

Nonetheless, the state of affairs of AGOA is heavily determined by timelines, political and commercial conditions besides its one-sided nature.

iii. Returns from preference tariff rents

Tariff rents are the benefits that parties gain from the preferences accorded to them by AGOA. These rents are shared among three major parties; exporters, middlemen and or the US importers. So far, empirical evidence has shown SSA as the least beneficiaries of these parties possibly due to factors like poor negotiation skills and lack of experience in the US market (Ngulu, 2014; Condon et al., 2011).

1.1.0 **Export performance of AGOA in SSA**

The performance of AGOA has attracted widespread research interest in SSA. Studies such as (Staritz, 2010; Kaplinsky et al., 2010 &; Condon et al., 2011) note that the impact of AGOA in the first four years was exceptional as SSA exports to the US increased tremendously. Figure 1 shows that SSA exports under AGOA tripled, from an approximate $7.6 Billion to $22 Billion between 2001 and 2004. Apparel exports[2] were the highest non-oil exports with high incidences in the following non-oil countries; Lesotho, South Africa, Mauritius, Madagascar and Kenya (Condon et al., 2011; Schneidman et al., 2012). However, this superb performance was only momentary as it persistently declined after 2004 due to the abolition of Multi-Fibre Arrangement (MFA)[3]. From figure 1, it can be seen that SSA export trend though above $30 Billion, increased at a sluggish pace to the extent of experiencing a 50% decrease between 2008 and 2009. This has been attributed to the 2008 World Financial crisis (Edwards et al., 2014). This decline has been eminent in recent years, specifically between 2012 and 2014 while the first quarter of 2015 is less than that of 2014 by $0.756 Billion, a one third decrease. Practically, the major negative shocks besides this MFA phase-out have been the anticipated halt of AGOA in 2007and the world financial crisis of 2008 (Edwards et al., 2014; ACTIF, 2010). The effect of AGOA's extension for another decade from 2015 remains unknown. It should be noted that extending the agreement for another decade (from 2015) formed one of the major pronouncements of President Obama's visit to Africa in July 2015.

1.1.1 **Export performance of AGOA in Kenya**

The flow of Kenyan exports to the US under the AGOA regime has greatly increased making AGOA the greatest bilateral trade link between Kenya and the USA. Indeed Comtrade data shows a strong growth in overall exports from Kenya to USA between 2000 and 2004, $115 Million to $374 Million. This represents a 224% growth and a more than 400% growth between 2000 and 2014. Figure 1 shows that AGOA exports in Kenya grew from $55Million in 2001 to

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[2] Oil exports accounted for over 89% of total SSA AGOA exports to the US between 2001 and 2011. On average, Apparel exports amounted to $1Billion per annum between 2001 and 2004. Exports of Agricultural products have remained insignificant under AGOA as they account for less than 1% of non-oil exports (Schneidman & Lewis, 2012).

[3] This is a policy that operated between 1974 and 1994 and was later renamed as Agreement on Textile and Clothing (ATC). It selectively imposed a non-quota restriction rule on SSA imports while restricting imports from powerful exporting countries like China prior to its lapse in 2005 (McKay, 2012; Staritz, 2010; Gibbon, 2008).

about $280Million in 2004. The share of AGOA on total Kenyan exports to the US increased by 34% over the same period which was predominantly Apparel exports (see to Table 1). Studies of AGOA in Kenya have shown that this effect also spread to investment as the number of textile firms increased from 10 in 2000 to 25 in 2003, 40 in 2003 and slightly reduced to 36 in 2004. Total investment in the apparel sector grew from Kshs. 1.2 Billion in 2000 to Kshs. 9.710 Billion in 2004 coupled with a 260% increase in number of employees in this sector. To be exact, the number of employees rapidly increased from 10,000 in 2000 to maintain parity at 37,000 in 2003 and 36,600 in 2004 (ACTIF, 2010; Odongo, 2013).

Figure 1: SSA and Kenya AGOA exports to the US (SSA in $Billions and Kenya in $Millions)
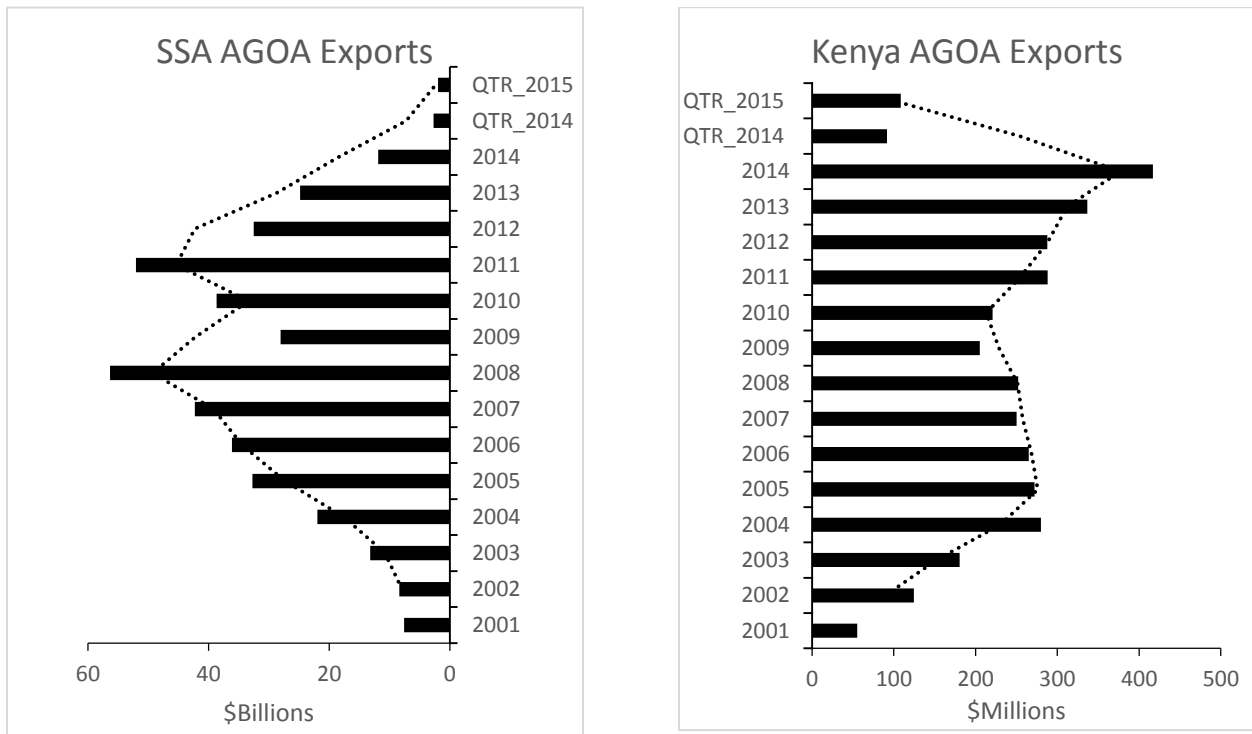
Source: [4]Author's computation with data from U.S. International Trade Commission Trade and Tariff Data web for AGOA (excluding GSP).

However, similar to SSA, this trend has been waning past 2004 mainly because of increased competition from Asian countries like China and India after the removal of MFA besides reasons

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4 These data were compiled from the U.S. International Trade Commission Tariff and Trade's Data Web. The data at this Web site are compiled using tariff and trade data from the U.S. Department of Commerce and the U.S. International Trade Commission. Unless otherwise noted, import data are categorized as U.S. imports for consumption.

mentioned under SSA. To be explicit, the stable 70% AGOA share on overall exports was overshadowed by a series of consistent decline to a tune of $220 Million in 2010 only to recover in the 2013-2014 period (a 24% increase). Later years from 2010 onwards have also witnessed declined shares of below 95% in shares of Apparel Exports on overall Kenyan AGOA exports as per Table 1. The number of firms in the Apparel sector have gradually reduced from 2005 and have seldom reached 20 as from 2008. Capital investments in the Apparel sector declined by 19%, 9% and 28% respectively from 2007 to 2009. Synonymously, the number of employees has been on the decline with about 9,886 people losing their jobs between 2005 and 2010. However, this number decreased by 3,189 between 2011 and 2012 to stand at 28,298 (EPZ, 2012; Onyango et al., 2011; & Odongo, 2013). Thus it can generally be concluded that with a decline on all the previous outstanding indicators a lot is at stake with the extension of the current AGOA term by ten years (from 2015).

Table 1: Share of Kenyan AGOA Exports to Total Kenyan Exports to USA and share of Kenyan Apparel Exports to Total Kenyan AGOA Exports

Year	Share of AGOA exports on Total Kenyan Exports to USA (percentage)	Share of Kenyan Apparel Exports to Total Kenyan AGOA Exports (percentage)
2001	40	117
2002	62	101
2003	68	104
2004	75	99
2005	74	99
2006	71	99
2007	73	99
2008	70	98
2009	70	95
2010	68	91
2011	73	90
2012	71	88
2013	72	92
2014	71	91
Average	68	97

Source: Own Computation with Comtrade data and US International Trade Commission (USITC) data (Note that between 2000 and 2003, the amount Apparel exports exceeded total exports from Kenya under AGOA reason shares are above 100%).

This study alongside this descriptive background would also like to improve on the nature of literature in Kenya on AGOA. Though it might seem surprising, many studies on AGOA in Kenya have overwhelmingly confined themselves to the sectorial impact of the agreement on the textile industry. Probably, this might be due to Kenya's sterling performance as a top five apparel exporter among SSA countries. Another distinct aspect of these studies on AGOA in Kenya is that they have majorly been qualitative coupled with the use of case studies and/or secondary data without econometric modeling. For instance, pioneering studies of (Ikiara & Ndirangu, 2003) and (McCormick, Kamau & Ligulu, 2006) both reviewed the possible impact of post MFA abolition and limited themselves to using case studies (interviews) and secondary data with the overall report being purely qualitative. Phelps, Stillwell and Wanjiru (2009) also assessed the local development impact of the Kenyan AGOA Apparel industry using data from interviews in 23 manufacturing establishments. Ngulu (2014) also used both primary and secondary data in a purely qualitative study to compressively evaluate AGOA in Kenya since inception and recommend corrective policies to guide the future[5]. Nevertheless, a number of panel data studies that have used models like gravity model have included Kenya in their analysis. For instance, Nouve (2005) assessed the impact of AGOA on aggregate exports from SSA to the US from 1996-2004 among 46 countries, Kenya included, using a gravity model. A recent study, Zappile (2011), also used a gravity model to review the impact of AGOA on SSA trade between 1995 and 2005 with Kenya included[6].

This study, therefore, proposes to add to this huge qualitative literature by using a gravity model in its reflection of Kenya's export experiences under AGOA. This model has been criticized in the past for lacking a proper theoretical framework but continuous theoretical development over time has made it one of the most successful empirical models in Economics (Anderson, 2011). Hence, using it will empirically determine the dilemma of whether AGOA has been instrumental or not in increasing Kenya's exports. Additionally, the study seeks to extend this analysis to exports of other sectors of the economy that have been widely ignored by Kenyan literature, such as agricultural exports. Nouve (2005) in this regard showed that apparels had a negative impact on overall SSA exports indicating the possibility of reallocation of resources towards apparels

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[5] Also Onyango and Ikiara (2011) conduced a purely qualitative study on AGOA in Kenya using secondary data.
6 Also see Fayissa &   (2008), Seyoum (2007), and Mueller (2008). All reviewed AGOA in SSA using gravity model with Kenya included in the panel.

sector at the expense of other sectors. This in turn points to the need of reviewing the effects of AGOA on the compositions of aggregate exports. In general, this study seeks to use the most recent available data in its analysis, an addition to existing literature.

1.2 Statement of the problem

The effect of AGOA on Kenya's exports to the USA especially within the first four years has been commendable. This trade liberalization[7] initiative has been credited to have led to increased apparel exports, increased FDI, increased apparel sector investment and increased employment (Ikiara et al., 2003; McCormick et al., 2006; Phelps et al., 2009; Kamau, 2009; Kaplinsky et al. 2010; ACTIF, 2010; & Ngulu, 2014). As a result, many studies on AGOA in Kenya have inherently focused on employment creation, magnitude of investment, and nature of FDI alongside magnitude of exports. Literature beyond 2004 shows that these benefits have been on a decline and are often susceptible to shocks such as the removal of MFA in 2004, purported end of AGOA in 2007 and the World financial crisis of 2008. In the same line, numerous remedies have been suggested which can be grouped as supply capacity remedies (infrastructural development, institutional reforms, domestic value chain promotion *inter alia*) and US specific remedies (extension of timelines and arguably extension of coverage of sectors).

Despite the important role played by AGOA in Kenya, none of the studies so far have used an econometric model in their analysis[8]. Qualitative reviews based on interviews and secondary data have been dominant in Kenyan literature. Hence this study in spirit of the recommendations of the comprehensive study by Condon et al. (2011)[9] wishes to add a methodical approach by using the gravity model. Only panel studies with Kenya included have made this attempt, Nouve (2005), Fayissa et al. (2007), Seyoum, 2007, Mueller (2008) and Zappile (2011).

Another oversight in Kenyan literature is the concentration of their analysis in the apparel sector at the expense of other sectors. This has been a question in some studies and in Kenya, only

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[7] Trade liberalization is the opening-up of a market to the rest of the world. In the case of Kenya, this move started with export promotion policies under Structural Adjustment Programs in the early 1980s (ROK, 2015).
8 Even the latest of reviewed study i.e. Ngulu (2014).
[9] "Quantitative studies assessing the effect of membership in PTAs on trade between member countries are less common, have mixed results, and rarely address the category of nonreciprocal agreements or specific agreements" (Zappile, 2011).

Özden (2005) in a panel study[10] reviewed this question and found that it was insignifcant to extend preferences to non-apparels. However, this is not obvious as a number of studies recommend the extension of preferences to other products (Condon et al., 2011). Thus, neither the empirical effect of AGOA on other products nor its effect on overall Kenyan exports is clear. These factors present a gap in knowledge which this study bridges by examining the performance of Kenyan exports as a whole to the US under AGOA.

1.3 Objectives of the study

The main objective of this study is to empirically examine the determinants of the performance of Kenyan exports to the US under AGOA. This is complimented by the following specific objectives;

   i.   To analyze the factors that determine the performance of Kenya's exports under AGOA.

  ii.   To suggest policy options that can be used to enhance performance of AGOA and other present and future non-reciprocal agreements.

1.4 Justification and significance of the study

The key contributions of this study on the performance of Kenya under AGOA are threefold. First it proposes an econometric approach which is in line with other recent studies on the same subject and as (Condon et al. 2011) states, an analytical case study gives an ideal documentation of a country's experience. A gravity model as the proposed model has been widely tested in International Trade because of its traceable empirical appeal and robustness (Tadesse et al., 2008; & Nouve, 2005). Secondly, an empirical review and quantification of factors that influence AGOA will be critical in decision making by both the US and Kenyan government in the post-2015 AGOA tenure. This will besides addressing the question of whether AGOA has been beneficial or not, it will also inform policies on whether to extend preferences to other products or not. Finally, this study will offer insights to policy makers and stakeholders on other non-reciprocal agreements whether they are forthcoming or already in existence.

1.5 Organization of the paper

The rest of this project is organized as follows. Following this introduction section, the next section will briefly review both the theoretical and empirical literature on AGOA and this will be

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[10] Including Kenya, Uganda and Tanzania.

followed by a discussion of the methodology to be used for the study in Chapter three. Chapter three will also discuss data to be used and its sources. Chapter four gives the Gravity model results and other diagnostic tests while Chapter three concludes the paper with policy recommendations.

CHAPTER TWO
LITERERATURE REVIEW

This section briefly reviews some of the theoretical and empirical literature on Non-reciprocal preference agreements with the main focus on AGOA. The section is divided into the theoretical literature review, empirical literature review and an overview of the literature.

2.1 Theoretical literature review

Mainstream economic theory of Absolute Advantage, Comparative Advantage and Hecksher-Ohlin strongly advocate for trade between countries (Geda, 2009). In fact the latter theory advocates for countries to trade based on their resource endowment and in the case of Kenya under AGOA, it would be ideal for Kenya to export a labor-intensive product because it is relatively labour endowed than capital endowed (Didia, Nica & Yu, 2015). Hence, it would make sense for Kenya to trade in apparels which are relatively labour intensive. However, trade between developing countries and developed ones (North-South trade) has faced a myriad of challenges especially with regards to market penetration by Southern countries. A key hindrance has been cost[11] of trading and entry into foreign markets amidst stiff competition. In this regard, preference theory acts as a panacea through enabling market penetration that benefit both the beneficiary and the benefactor (Bhagwati, Greenaway & Panagariya, 1998). To make it more relaxed, non-reciprocal preference theories call for special and preferential treatment of exports from a certain Southern block/country towards a specific Northern country (Goldstein, Rivers & Tomz, 2007). This is the rationale of AGOA, relaxed rules towards SSA exports to the US while hindering exports from the rest of the world. As stated in the introduction, the main benefits expected from such a non-reciprocal agreement is increased trade, investment, employment and ultimately economic growth. By and large, non-preference theory predicts that preferences reduce barriers to trade thereby opening the flooded North markets to Southern nations.

Similar to any trade relation, theoretic analysis of its performance is important but the appropriateness of a model remains inconclusive[12]. The select model of this study, gravity model, postulates that trade volume between partners is positively impacted by economic size (GDP) and negatively by trading cost often proxied by distance and barriers there[13]in (Nouve, 2005; Anderson, 2011; Didia et al., 2015). In the case of equation 1, GDP would be represented by the Xs while distance by the D, all impacting Y which is the value of trade between the two countries.

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[11] Cost struggling results from meet stringent Rules of Origin and other tariff and non-tariff barriers.
[12] Condon et al. (2011) notes different econometric models have been used to empirically determine the performance of AGOA: Gravity Model, Partial Equilibrium, Computable General Equilibrium and Triple difference-in-difference model, regression model *inter alia*.
[13] The gravity model draws its logic from Newton's Law of Gravity which explains the gravitational attraction between objects as a result of their mass and the distance between them (Zenebe, Wamisho & Peterson, 2015).

Z represents miscellaneous factors that could affect trade flow Y. As additions to the primary variables of GDP and distance, there impact on trade flows can either be negative or positive. For instance common language, high population and bilateral agreements such as AGOA could be expected to increase trade flows while weak institutional factors, poor infrastructure and appreciated exchange rates could be expected to decrease trade flows. Nonetheless, it should be noted is that since the early applications of this model by Tinbergen (1962), several improvements have been made towards establishing a theoretical foundation for this model by among others (Anderson, 1979, 2011; Bergstrand, 1985; Egger, 2002; Feenstra, 2004).

$$Y_{ij} = \beta_0 (X_{ij})^{\beta_1} (X_j)^{\beta_2} (D_{ij})^{\beta_3} (Z_{ij})^{\beta_4} U_{ij} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \quad (1)$$

Theory argues that non-reciprocal agreements such as AGOA can either positively or negatively affect the volume of trade from exporters. The gravity model by Zappile (2011) denotes that this might be narrowed to supply-side factors and importer factors. The supply factors are related to exporters and gauge their ability of exploiting the benefits of free trade under AGOA. In SSA, such factors will include the level of infrastructure (road network, shipping and air facilities and communication facilities), production capacities, institutional reforms (on corruption and ease of trading), and domestic value chain promotion among other factors. Importer's factors which in the case of AGOA is USA will include the rules of operation and timelines. Indeed the different expected halts have had a correlation with some poor AGOA export performances from Kenya and SSA. Hence, largely both the supply and US factors have been critical in forming recommendations by studies on AGOA.

Literature also indicates that there is no conclusive argument on eligibility and in this case eligibility of products and trade. It is generally expected that once preferences are extended, all exported products with a comparative advantage and a certain factor intensity will increase. For the case of Kenya and SSA at large, it might be expected that Agricultural/primary products and other lobour-intensive exports will suffice. Studies by (Zapille, 2011; Nouve, 2005; Seyoum, 2007; Mueller, 2008) have empirically predicted that AGOA has been selectively beneficial to apparel sector in SSA other than other sectors such as Agriculture. The theoretical argument by Nouve (2005) was that AGOA could be misleading as it leads to selective concentration in

Apparels and textiles at the expense of agricultural products which receive little resources. The gravity model used by (Goldstein et al., 2007) postulates that such non-reciprocal agreements might be trade-diverting and not trade-creating. Thus, it is generally believed that AGOA provides net benefits to exporters. This explains the reason why the performance of AGOA in different countries is still a critical topic.

2.3 Empirical Literature Review

A number of studies have empirically analysed the performance of AGOA in SSA with a handful of country specific studies. Some of these studies have shown that AGOA led to increased exports to the US. Nouve (2005) estimated the effects of AGOA on 46 SSA countries (Kenya included) between 1996 and 2004 found that AGOA a dollar increase in AGOA increased SSA exports by 16% to 20%. These results were confirmed by (Tadesse et al., 2008) who used a gravity model alike the aforesaid study and found AGOA to have significantly increased exports of new products to the US between 1991 and 2006. Recently, (Didia et al., 2015) used a gravity model on 36 SSA countries between 1989 and 2012 and proved that the impact of AGOA on overall SSA exports was positive and significant. Other studies that did not use a gravity model also affirm this result; (Frazer & Van Biesebroeck, 2010; & Ombuki, 2011) using difference-in-difference approach.

This positive effects are only by a handful of studies. A number of studies have equally shown that AGOA has had little or no effect in SSA. Using an ARIMA gravity model on 36 AGOA beneficiaries between 1997 and 2004, Seyoum, 2007) concluded that though the coefficient was positive, it was insignificant on overall impacts. (Mueller, 2008) used two versions of the gravity model, one focusing on all AGOA exports except oil while and the second focused on the impact of AGOA on apparel exports. Data ranged between 2000 and 2004. Results of the first model indicate that AGOA not only reduced non-oil exports from eligible countries to the US but it was also insignificant in these countries. Results of the second model resembled those of Seyoum i.e. positive but insignificant on apparel exports. This insignificance of AGOA was confirmed (Zappile, 2011) where their gravity model found the agreement to have neither lacked statistical significance on aggregate merchandise nor textile exports from SSA to USA.

The literature on AGOA identifies apparels and textiles as the main beneficiary of the agreement. Studies by (Seyoum, 2007; & Fayissa et al., 2007) widely applaud AGOA's positive and significant impact on textile and apparel exports. (Collier & Venables, 2007) in their comparison of exports under AGOA and EBA[14] found that AGOA's impact on apparel exports was positive and significant. Conversely, little support has been hailed on AGOA's positive impact on non-apparel products such as agricultural products or other manufactured products. (Nouve & Staatz, 2003) confined themselves to studying the impact of AGOA on agricultural products between 2000 and 2003. A gravity model was used on a panel of 46 SSA countries to test three key objectives; impact of AGOA on total exports from the 46 countries, impact of AGOA on exports from the top 27 agricultural exporters; and the impact of AGOA on exports from the top eight SSA agricultural exporters. Unexpected results were found in all the three cases as AGOA's impact was declared insignificant across board. Even after modifying their gravity model to use a Hackman and Poisson model, (Zenebe et al., 2015)[15] found that AGOA has not only been insignificant on improving agricultural exports but it shows no hope of increasing it in future.

This last point confirms the findings of (Fayissa et al., 2007) that AGOA was only useful in initiating new exports but meek on intensifying existing exports which are most likely primary products. Findings by (Nouve, 2005) established that AGOA textile exports had a negative effect on total SSA exports to the US. This indicated that the initial positive apparel exports might have been achieved at the expense of exports from other sectors. Ideally, resources are reallocated to apparel and textile sector, ignoring other sectors.

The performance of AGOA in Kenya has widely been covered in a descriptive and qualitative way. Pioneering studies in Kenya have outlined that whereas AGOA led to increased Kenyan exports to the US, it was widely dependent on policies. Both (Ikiara & Ndirangu, 2003) and (McCormick, Kamau & Ligulu, 2006) reviewed the possible impact of post MFA abolition using primary data (interviews) and secondary data. Their finding was that the good AGOA performance between 2000 and 2004 was mainly due to favorable RoO whose abolition in 2004 would immensely hurt apparel exports. Apart from policy, they indicate that performance in

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[14] EBA stands for Everything But Arms and is a non-reciprocal preference agreement granted by the EU to SSA.
[15] Was conducted among 35 SSA countries from 1990 to 2013.

Kenya was to be guided by government support of the export sector, improvement of infrastructure and strengthening of local value chains. A study by (Odongo, 2013) extends what has been the common characteristic of Kenyan studies, confining themselves to apparel sector, and descriptively reviewing performance in terms of employment and investment. This literature notes that the first four years of AGOA led to increased employment and investment by firms but the trend has been dwindling following major shocks such as removal of MFAs. Secondary data from Kenya was also used by (Onyango & Ikiara, 2011) who confirmed the apparel sector as the main beneficiary of AGAO but other product lines remain wanting.

The local impact of AGAO on Kenya's Apparel industry was also assessed by (Phelps, Stillwell & Wanjiru, 2009) using data from interviews in 23 manufacturing establishments. They found that the performance of Kenya was widely affected by weak value chains that undermined the basic players and embedded foreign ownership of apparel firms by Asians who lacked goodwill. Although AGOA created employment, expatriates were mainly foreigners from head offices of firms as local labour widely remained unskilled. Lately, Ngulu (2014) used primary and secondary data in a purely qualitative study to evaluate AGOA in Kenya since inception. Results concur with all the above mentioned findings that Kenya's performance is determined by her capacity to exploit the opportunity offered by AGOA. Clearly, poor infrastructure, weak value chains, weak backward linkages (integration) and limited government support (to farmers and sector).

2.3 Overview of literature

It is clear from this brief literature review that the additional factors[16] of the Gravity model highly determine the performance of preferential agreements like AGOA. Evidence from SSA shows conflicting results as far as AGOA's objective of increasing trade is concerned. AGOA has been beneficial in some countries and totally non-beneficial some. There is a general agreement that the apparel and textile sector has benefited most not only in SSA but also in Kenya. However, the performance of eligible non-apparel exports which are non-petroleum has been very dismal and often negative. For instance though a few studies have covered agricultural

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[16] They are additional factors apart from the primary GDP and distance.

products and other manufactured products, the impact of AGOA on them has been widely trivial. This result may be widely attributed to problems of the capacity to supply inherent in countries i.e. weak government support, weak value chains/fragmentation, weak backward/local integration and poor infrastructure.

A salient observation on Kenya-specific studies is that they are mostly qualitative studies. This insufficiency of applying an econometric model is a gap that this study covers. Subsequently, this study also extends these Kenya-specific studies to other sectors of the economy that are eligible under AGOA other than the current confinement to apparel and textile sector.

CHAPTER THREE
METHODOLOGY
3.1 Theoretical framework
The Gravity model is founded on Newton's law of gravitation where by the gravitational force between two objects is determined by their masses and the distance between them. In International trade, the gravitational force is replaced by the volume of trade flows while masses are replaced by Gross Domestic Products (GDP) or sometimes Per Capita GDP of the two

countries while distance between the two countries is maintained. This can formally be shown that volume of trade flow Y_{ij} is function of GDP of the countries involved and distance i.e.

$$Y_{ij} = F(GDP_i, GDP_j, D_{ij}, \dots)\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (2)$$

GDP is for both the importer and exporter. It should be noted that the GDP of the importer is included to indicate their market absorption power of goods and services from the other country. Equally, the GDP of the exporter is included to show their potential to export and produce. Distance indicates the cost of trading between the parties.

In this study, trade flows (Y_{ij}) are the exports from Kenya (represented by i) to USA (represented by j) in US Dollars. This is expected to have a positive relationship with the GDPs (in purchasing power parity[17]) of the two countries in that when USA's GDP (X_j) increases indicates improved absorption in market power and an increase in Kenya's GDP (X_i) indicates an increase in production capacity. Distance (D_{ij},) is expected to increase the cost of trading as a higher distance indicates high costs of trading. However this study does not include distance given that it is constant over time between Kenya and USA. Part of the theoretical development of the gravity model involves addition of other factors that affect bilateral trade such as trade agreements, and exchange rates among others.

Trade agreement in this case AGOA is reviewed in three ways in this study. First, the overall Impact of AGOA ($AGOA_{ij}$) as a trade agreement is proxied in a dummy form. Meaning that a year[18] when AGOA was active in Kenya is given 1 and 0 for a year when AGOA was not active. This approach has been used by a number of studies, (Didia et al., 2015; Tadesse et al., 2008; Seyoum, 2007; & Frazer et al., 2010). Secondly, exports of HS-6 digit Apparels and Textiles ($A\&TEx_{ij}$) from Kenya to USA are expected to increase trade flows because of the widespread notation of this sector as a major beneficiary of AGOA in Kenya (Condon et al., 2011). It should be noted that GSP data will be used for years before 2001 when concrete data on AGOA was collected. Thirdly, exports of HS-6 digit Agricultural products ($AgrEx_{ij}$) are expected to be

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[17] Purchasing power parity terms is often cited as more accurate long-run measures of wealth for countries (Zappile, 2010).

[18] It should be noted that a full year is considered and Kenya must have been operational under AGOA for more than six months (Zappile, 2010).

positive but there is a possibility of being negative. Studies by (Nouve et al., 2003; & Zenebe et al., 2015) have already shown that AGOA has not been important in increasing exports of Agricultural products. In our case, agricultural products will include an aggregate of tea and coffee (all HS-6 digit). This data will also include GSP data for years preceding 2001.

The relationship between real exchange rates and trade flows is expected to be positive when exchange rates depreciate and negative when they appreciate. Real exchange rate (Exr_{ij}) is calculated as an annual average based on monthly averages (Kenyan currency units relative to the U.S. dollar). Kenya's exchange rate has cumulatively depreciated by 36% between 2000 and 2012 (World Bank, 2013) which indicates a possible positive affect on trade flows.

3.2 Econometric Model

The econometric model used in this study builds on the traditional gravity model in equation (2). It can formally be derived as:

Taking trade flows as a function of GDP for the two bilateral trading partners and distance, equation (2) can be algebraically modified to equation (3) as follows:

$$Y_{ij} = \beta_0 \frac{X_i^{\beta_1} X_j^{\beta_2}}{D_{ij}^{\beta_3}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{ (3)}$$

Y_{ij} represents trade flows between exporter i and importer j). In this study, i is Kenya while j is USA. X_i and X_j are GDP levels of the two countries. D_{ij} is distance between country i and j while β_0 is a constant term. β_1 to β_3 represent the specific coefficients of variables.

Equation (3) can further be modified to include other factors that affect bilateral trade other than the traditional GDPs and distance. This can be re-written as follows:

$$Y_{ij} = \beta_0 \frac{X_i^{\beta_1} X_j^{\beta_2} Z_{ij}^{\beta_3}}{D_{ij}^{\beta_4}} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots . \text{ (4)}$$

The additional variable, Z_{ij} represents other factors affecting bilateral trade such as cost of trade infrastructure, regional trade agreements, and trade barriers among others. The relationship between these additional variables and trade flow is either positive or negative, depending on how they are used in the model.

In order to estimate equation 4, natural logarithm is introduced on all variables except for dummies to form a log-linear function such as equation 4 below[19];

$$lnY_{ij} = \beta_0 + \beta_1 lnX_i + \beta_2 lnX_j + \beta_3 lnZ_{ij} - \beta_4 lnD_{ij} + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(5)}$$

However, it should be noted that the term Z_{ij} can still be represented without a natural logarithm when the variable (s) in question is a dummy.

This study proposes to proxy Z_{ij} with exchange rates, a dummy of AGOA, AGOA exports of apparel and textile, AGOA exports of eligible agricultural products, AGOA exports of eligible manufactured goods other than apparel and textile. This can be shown in Equation 6 below;

$$lnY_{ij} = \beta_0 + \beta_1 lnX_i + \beta_2 X_j + \beta_3 lnExr_{ij} + \beta_4 A\&TEx_{ij} + \beta_5 AgrEx_{ij} + \beta_6 AGOA_{ij} +$$
$$\varepsilon\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\text{(6)}$$

Where:

Y_{ij} = total Exports from Kenya *(i)* to the United States *(j)* in US Dollars in year *t*.

X_i = GDP levels of Kenya (in US Dollars)

X_i = GDP levels of USA (in US Dollars)

Exr_{ij}= Real exchange rate between Kenya and US.

$A\&TEx_{ij}$= Apparels and textile exports (HS-6 digit)

$AgrEx_{ij}$= Agricultural product exports (HS-6 digit for tea, coffee and pyrethrum)

$AGOA_{ij}$ = Dummy of AGOA from Kenya to USA (1 for year when AGOA is active, 0 otherwise)

ε = The error term

β_0 is the constant term. β_1 to β_7 are respective coefficients for the variables.

3.3 Data sources, types and measurement

This study uses quarterly time series data ranging from 1995 to 2014. This covers the period before AGOA to a later year, 2014, when AGOA is in operation. Data for trade flows which is

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[19] A log-linear function is also critical in reducing heteroscedasticity (Didia et al., 2015)

the dependent variable and textile and agricultural products is obtained from the US International Trade Commission (USITC). Data for the remaining variables is obtained from the World Development Indicators database (2015). Table 2 below elaborates on these variables.

Table 2: Variable description, definition and sources

Variable name	Variable proxy	Description	Source
Trade flow	lnY_{ij}	Exports from Kenya to US in US Dollars	US International Trade Commission (USITC)
GDP	lnX_i and lnX_j	GDP for Kenya and USA respectively in US Dollars	World Development Indicators (2015)
Exchange rate	Exr_{ij}	Real Exchange rates in US Dollars	World Development Indicators (2015)
Apparels and Textile	$A\&TEx_{ij}$	Apparel and Textile Exports from Kenya to US (without GSP) in US Dollars (HS-6 digit)	USITC
Agricultural Products	$AgrEx_{ij}$	Agricultural Product Exports from Kenya to US (without GSP) i.e. coffee and tea in US Dollars (all HS-6 digit)	USITC
AGOA	$AGOA_{ij}$	Dummy of AGOA with 1 for a year when AGOA was active and 0 otherwise	Author's own computation

The log-likelihood nature of equation one indicates that coefficients are interpreted as elasticities i.e. a percentage increase in a covariate increases the dependent variable by the percentage of the coefficient.

Time series properties and estimation tests

Given that the nature of data used in this study is time series, it is critical to carry out tests to ensur results are unbiased. Key tests included heteroscedasticity and autocorrelation. The former basically indicates that the error term ε_{ij} does not have a constant variance while the latter indicates that there is a relationship between the error terms of covariates (Gujarati, 2004).

Another problem is that of non-stationarity. Non-stationarity is a case where the mean, variance and autocovariances are not the same at different points of measure.

Zero or missing observations is also a likely problem especially with data on agricultural products. There has been a proposal of truncating the zero values by adding a small positive value as a remedy. However this approach lacks theoretical backing and some studies have used a Heckman selection model, Poisson regression and Tobit model in their analysis (Zenebe et al., 2015; Tadesse et al., 2008).

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Summary Statistics

This section contains a representation of the measures of central tendency i.e. mean, median and the standard deviation and the confidence interval.

Table 3: Descriptive statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
Trade flow	80	67	36	21	157
Apparels and textiles	56	58	21	2	103
Agricultural Products	52	25	12	1	56
GDP (Kenya)	80	6609	4018	2262	15234
GDP (USA)	80	3127367	744351	1916015	4354750
Exchange rate	80	74	10	51	89
AGOA	80	0.75	0.44	0	1

The average value of trade flows between Kenya and USA is about US$ 67 million with a standard deviation of US$36 million and a maximum and a minimum of US$ 157 million and US$21 million respectively. Apparel and textile exports have a mean of about US$ 58 million with a standard deviation of US$21 million and a minimum of US$2 million and maximum of US$103 million. Exports of agricultural products (coffee and tea) had an average of about US$ 25 million with a standard deviation of US$ 12 million coupled with US$ 1million and US$ 56 million minimum and maximum respectively. The average of GDP for Kenya was US$ 6,609 million with respective standard deviation, minimum and maximum of US$ 4018, US$ 2262 million and US$ 15234 million. The mean US GDP was US$ 3127367 with a standard deviation of US$744351, minimum of US$ 1916015 and maximum of US$ 4354750. The average exchange rate over the period was 73 with a standard deviation of 10 and a minimum of 51 and a maximum of 89. On average, AGOA was present over the period with a mean of 0.75. Its standard deviation was 0.4 and a respective minimum and maximum of 0 and 1.

4.2 Diagnostic tests

Multicollinearity

This problem arises when independent variables possess an almost perfect linear relationship with one another (Gujarati, 2004). It is called collinearity if the relationship is between two independent variables. This problem needs to be tested in time-series data and corrected if present so as not to affect the accuracy of results (Gujarati, 2004). This study used the Variance Inflation factor (VIF) where the rule of the thumb is that a more than 10 value indicates multicollinearity between variables (Gujarati, 2004).

Table 4: Variance Inflation factor results

Variable	VIF	1/VIF
Log Apparels and textiles	8.57	0.116625
Log Agricultural Products	7.31	0.136813
Log GDP USA	2.76	0.361724
Log GDP Kenya	2.54	0.393270
Log Exchange rate	1.24	0.808540
Mean VIF	4.48	

According to tables 4, none of the variables has a VIF value of more than 10 hence there is no presence of multicollinearity.

Autocorrelation

This is a problem where the disturbance term relating to any observation is influenced by the disturbance term relating to another observation i.e. $E(\mu_i\mu_j) \neq 0$ for $i \neq j$ (Gujarati, 2004). If not corrected, autocorrelation fails to make estimators to have the minimum variance meaning that they are not efficient (Gujarati, 2004). This study uses the Durbin-Watson d statistic to make an inference on autocorrelation. The rule of the thumb is that a d-value of 2 or near it indicates no autocorrelation. Equally, a d-value of zero or next to it indicates presence of positive autocorrelation while a d-value of 4 or next to it indicates negative autocorrelation. Hence, the null hypothesis is that there is no presence of autocorrelation while the alternative assumes its presence.

Running this test with our data, we find d-statistic ((6, 52) =1.9) which indicates that there is no presence of autocorrelation as this value near 2.

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Unit root test for stationary

This study applied the unit root test to test for stationary. A time series dataset is said to be stationary if its mean, variance and autocovariance remain the same regardless of the point of measure. It is important to control for non-stationarity as using it yields spurious results (Gujarati, 2004).

The Phillips-Perron (PP) test was applied to test for stationarity. This test corrects the statistic to conduct for autocorrelation and heteroskedasticity. The null hypothesis is that there is presence of non-stationarity while the alternative is that there is stationarity. The t-statistic is compared with the t-critical to make an inference. If the t-statistic is less than the t-critical, we reject the null hypothesis and therefore the series is stationary. Conversely, if the t-statistic is greater than the t-critical, we accept the null hypothesis and conclude that there is non-stationarity.

Table 5: Unit Root Test Using PP

Variable	Test statistic – Z(t)	5% critical values	Nature	Newey-West lags
Log Trade flow	-3.478	-3.471	Stationary	6
Log Apparels and textiles	-8.536	-3.495	Stationary	0
Log Agricultural Products	-7.489	-3.499	Stationary	0
Log GDP USA	-3.644	-3.471	Stationary	0
Log GDP Kenya	-3.531	-3.471	Stationary	1
Log Exchange rate	-9.652	-3.471	Stationary	35

From table 5, all variables are stationary though at different lag levels. Hence, there is no need for testing for co-integration.

4.3 Regression Results

Table 6: Determinants of trade flow

Variables	Coefficient	t-values	P-values
Log apparel and textile	0.936	9.62	0.000
Log agricultural exports (coffee and tea)	-0.0737	-1.77	0.084
Log GDP (USA)	-0.365	-0.50	0.623
Log GDP (Kenya)	0.219	1.14	0.260
Log exchange rate	0.456	3.33	0.002
AGOA dummy	0.080	0.71	0.480
_constant	2.410	0.26	0.794
No. of obs=52; F(5, 46)= 159.42; Prob > F= 0.0000; R-squared= 0.9454; Adj R-squared= 0.9395 Root MSE=0 .14922; t-critical= 2.0129; F-critical=2.41736			

From our results in Table 6, we see that a percentage growth in apparels and textiles increases trade flow between Kenya and USA by about 1%. This variable is significant at the 5% level (t-value=9.62) and a p-value=0.000. This is in line with our prediction in Chapter three and reiterates the importance of AGOA in enhancing apparel and textile exports in Kenya.

The results also show that a percentage increase in agricultural products (coffee and tea) exports reduces trade flow by 0.07%. However, this variable is not a significant determinant of trade flow at 5% level of significance with a (t-value=|1.77|) and a p-value=0.084. These results are in line with the findings of (Nouve et al., 2003; & Zenebe et al., 2015) who have shown that AGOA has not been important in increasing exports of agricultural products.

A percentage increase in the GDP of USA decreases trade flow by 0.4% although this variable is not significant at 5% level with a (t-value=|0.50|) and a p-value=0.623. These results contradict economic theory and predictions in Chapter Three. The reason could be because AGOA in non-reciprocal and preferential, the size of the economy of USA may not have a significant effect on trade flows with Kenya. Conversely, a percentage increase in Kenya's GDP increases trade flow by 0.2%. However, similar to USA's GDP, this variable is not a significant determinant of trade flows with a (t-value=1.14) and p-value of 0.26.

The results also indicate that a percentage increase in exchange rates increases trade flow by 0.5% and the variable is significant at 5% level with (t-value=3.33) and a p-value=0.002. This

indicates that a depreciation in currency as predicted by theory increases trade flows. The variable of AGOA dummy indicates that the presence of the agreement in Kenya increases trade flows. That is, presence of AGOA increases trade flows by 0.08% though it is not significant at 5% level (t-value=0.71).

The variables used explain about 95% of the variations in trade flow between Kenya and USA. Additionally, the overall model seems to be well specified with an F-statistic of 159.42. The p-value for the whole model also indicates that it is fairly specified.

CHAPTER FIVE
CONCLUSION AND POLICY IMPLICATIONS

This study set out to establish the main determinants of Kenya's export performance under AGOA between 1995 and 2014. The realization that Kenya has been one of the main beneficiaries of this Act motivates this study. By establishing which factors have driven the performance of AGOA before and after inception, it is possible to design policies that can enhance the current regime that runs up to 2025.

The study has shown that exchange rates and the magnitude of apparel exports are the major determinants of trade flows under AGOA. Therefore, there is need for the Government of Kenya to enhance macro-economic stability through exchange rates. Furthermore, there is need for the US and Kenyan governments to promote apparel and textile exports. The US government has so far extended the duration of the agreement by another decade. There is need to further relax RoO on apparels and textiles. Equally, there is need for the Government of Kenya to promote both domestic and foreign investment in the apparel and textile sector.

REFERENCES

African Cotton & Textile Industries Federation (ACTIF). (2010). Impact of Agoa the Textile and Apparel Industry of Kenya. Available at http://pdf.usaid.gov/pdf_docs/pa00jxxm.pdf.

Anderson, J. E. (1979). A theoretical foundation for the gravity equation. *The American Economic Review*, Vol. 69, No. 1, 106-116.

Anderson, J. E. (2011). *The gravity model* (No. w16576). National Bureau of Economic Research.

Bergstrand, J. H. (1985). The gravity equation in international trade: some microeconomic foundations and empirical evidence. *The review of economics and statistics*, Vol. 67, No. 3, 474-481.

Bhagwati, J., Greenaway, D., & Panagariya, A. (1998). Trading preferentially: Theory and policy. *Economic Journal*, 1128-1148.

Collier, P., & Venables, A. J. (2007). Rethinking Trade Preferences: How Africa Can Diversify Its Exports. *World Economy*, Vol. 30 No. 8, 1326–1345.

Condon, N., & Stern, M. (2011). The effectiveness of African Growth and Opportunity Act (AGOA) in increasing trade from Least Developed Countries. *London: EPPI Centre, Social Science Research Unit, Institute of Education, University of London*.

Didia, D., Nica, M., & Yu, G. (2015). The gravity model, African Growth and Opportunity Act (AGOA) and US trade relations with sub-Saharan Africa. *The Journal of International Trade & Economic Development*: *An International and Comparative Review, DOI: 10.1080/09638199.2014.1000942*

Edwards, L., & Lawrence, R. (2014). AGOA rules: the intended and unintended consequences of special fabric provisions. In *African Successes: Modernization and Development*. University of Chicago Press.

Egger, P. (2002). An econometric view on the estimation of gravity models and the calculation of trade potentials. *The World Economy*, Vol. 25 No. 2, 297-312.

Export Processing Zones of Kenya Annual Performance Report (2012). Retrieved from http://www.epzakenya.com/Annual_Performance_Report_2012.pdf.

Frazer, G., & Biesebroeck, J. V. (2010). Trade Growth under the Africa Growth and Opportunity Act. *The Review of Economics and Statistics*, Vol. 92, No. 1, 128-144.

Feenstra, R. C. (2003). *Advanced international trade: theory and evidence*. Princeton, NJ: Princeton University Press.

Geda, A. (2009). Fundamentals of International Economics for Developing Countries: A Focus on Africa, Volume I: Trade Theory and Policy. Africa Economic Research Consortium, Nairobi, Kenya.

Gibbon, P. (2008). Governance, entry barriers, upgrading: A re-interpretation of some GVC concepts from the experience of African clothing exports. *Competition & Change*, Vol. 12, No. 1, 29-48.

Goldstein, J. L., Rivers, D., & Tomz, M. (2007). Institutions in International Relations: Understanding the Effects of the GATT and the WTO on World Trade. *International Organization*, Vol. 61, No. 01, 37-67.

Gujarati, D.N. (2004).Basic Econometrics (4th Edition). New York, USA, The McGraw-Hill Companies, Chapter 11.

Ikiara, M., & Ndirangu, L. (2003). *Prospects of Kenya's clothing exports under AGOA after 2004* (No. 24). Kenya Institute for Public Policy Research and Analysis.

Kamau, P. K. (2009). *Upgrading and Technical Efficiency In Kenyan Garment Firms: Does Insertion In global Value Chains Matter?* (Doctoral dissertation, University of Nairobi).

Kaplinsky, R., & Wamae, W. (2010). The determinants of upgrading and value added in the African clothing sector: the contrasting experiences of Kenya and Madagascar. *Unpublished draft*.

Krugman, P. (1979). A model of innovation, technology transfer, and the world distribution of income. *Journal of political economy*, Vol. 87, No. 2, 253-266.

McCormick, R. (2006). The Africa Growth and Opportunity Act: The Perils of Pursuing Africa Development through U.S. Trade Law. *Texas International Law Journal*, Vol. 41, No.2 , 339-384.

McKay, M. (2012). Do trade preferences work? African growth and opportunity act and apparel exports from Sub Saharan Africa. Paper presented at the Centre for Study of African Economies 2012 conferences.

Mueller, T. (2008). The effect of the African Growth and Opportunity Act (AGOA) on trade. Paper prepared for the *2008 Annual Meeting of the International Studies Association*, San Francisco, March 2008.

Ngulu, G. (2014). *Competitiveness of Kenyan textile industry at the international markets under the Africa growth and opportunity act (AGOA)* (Doctoral dissertation, University of Nairobi).

Nouve, K. (2005). Estimating the effects of AGOA on African exports using a dynamic panel analysis. *Available at SSRN 1026204*.

Odongo, M. (2013). The Africa Growth and Opportunity Act, Challenges and Opportunities. Institute of Economic Affairs, *Trade Notes issue 39*.

Ombuki, C. N. (2011). *The Effect of African Growth and Opportunity Act (AGOA) on Exports of Eligible Countries: Panel Data Evidence* (Doctoral dissertation, University of Otago).

Onyango, C., & Ikiara, M. (2011). *Reflections on Kenya's Experience Under AGOA: Opportunities and Challenges* in *Improving AGOA: Toward a New Framework for US-Africa Commercial Engagement*. Brookings Institution, Africa Growth Initiative, 2011.

Phelps, N.A., Stillwell, J.C.H., & Wanjiru, R. (2009). Broken Chain? AGOA and Foreign Direct Investment in Kenyan Clothing Industry. *World Development*, Vol. 37, No.2, 314-325.

Seyoum, B. (2007). Export Performance of Developing Countries under the Africa Growth and Opportunity Act Experience from Us Trade with Sub-Saharan Africa. *Journal of Economic Studies*, Vol. 34, No 6, 515 – 533.

Schneidman, W., & Lewis, Z. A. (2012). *The African growth and opportunity Act: Looking back, looking forward*. Brookings Institution.

Staritz, C. (2010). *Making the cut? low-income countries and the global clothing value chain in a post-quota and post-crisis world*. World Bank Publications.

Tadesse, B. & Fayissa, B. (2008). The Impact of African Growth and Opportunity Act (AGOA) on U.S. Imports from Sub-Saharan Africa (SSA). *Journal of International Development*, Vol. 20, No. 7, 920–941.

Vernon, R. (1966). International trade, international investment and the product cycle. *Quarterly Journal of Economics*, Vol. 80, No. 2, 190–207.

Williams, B. R. (2015). African Growth and Opportunity Act (AGOA): Background and Reauthorization. Congressional Research Service Report R43173.

World Bank. (2013). Achieving shared prosperity in Kenya.

Zappile, T. M. (2011). Non-reciprocal trade agreements and trade: Does the African Growth and Opportunity Act (AGOA) increase trade? *International Studies Perspectives*, Vol. 12, No. 1, 46–67.

Zenebe, A., Wamisho, K., & Peterson, E. W. F. (2015). The impact of the African Growth and Opportunity Act (AGOA): an empirical analysis of Sub-Saharan African agricultural exports to the United States. *Journal of international agricultural trade and development*, *1556*, 165.