AN ANALYSIS OF THE EFFECTS OF ACP-EU TRADE RELATION ON KENYA’S EXPORTS BETWEEN 1960 AND 2010

BY

OKUMU BOSCOW ODHIAMBO

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SUPERVISORS: DR. DANIEL O. ABALA

DR. KIRITI NG’ANG’A

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OCTOBER 2011
DECLARATION

This Research Paper is my original work and has not been presented for a degree in any other university.

Date 22nd August 2011

Boscow Odhiambo Okumu

This Research paper has been submitted for examination with our approval as University supervisors.

Date 1st Sept 2011

Dr. Daniel Abala

Date 29th August 2011

Dr. Kiriti Ng’ang’a
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A lot of gratitude goes to my friends and colleagues at work. Not less deserving appreciation are my late parents Josiah Okumu and Pamela Okumu for their wisdom, encouragement and financial support through my education process. May the Lord rest your souls in peace.

However, I am responsible for errors, omission and views expressed in this paper.
ABSTRACT

Despite the long relationship between the EU and the African, Caribbean and Pacific (ACP) countries aimed at encouraging their exports while stimulating growth and investment, the ACP states still face difficulties in integrating into the world economy. This paper examines the effect of this trade relation on Kenya's exports since 1960 through determining the effect of reciprocity on Kenya's real export values. The objective was to determine the effect of the trade relation on exports and to identify the determinants of Kenya's exports to the EU. The study used two stage least square regression and ordinary least square regression method to determine the effect using exports values as the dependent variable and other independent variables were foreign aid, real gross fixed capital formation, terms of trade, consumption which was used as a proxy for real gross domestic product and a dummy variable capturing the effect of reciprocity as a proxy for assessing the effect of the trade relation. The results showed that during periods when there was reciprocity, Kenyan export values were more stagnant and low, unlike periods when ACP states were given preferential treatment i.e. when there was no reciprocity. It is therefore evident that the proposed EPAs may worsen the current situation of Kenya's exports. Similarly consumption, foreign aid, terms of trade and the dummy variable for reciprocity were found to be very significant in determining Kenya's exports to the EU.
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Export earnings assume vital importance not only for developing, but also for developed countries. Developed countries mainly export capital and final goods, while the main part of export of developing countries consists of commodities and mining industry goods especially natural resources. According to Export-Led Growth Hypothesis (ELGH) increased export can perform the role of “engine of economic growth” because it can increase employment, create profit, trigger greater productivity and lead to rise in accumulation of reserves allowing a country to balance their finances (Emilio (2001), Goldstein and Pevehouse (2008), Gibson and Michael (1992), McCombie and Thirlwall (1994)).

Ideally, export activities stimulate growth in a number of ways including production and demand linkages, economies of scale due to larger international markets, increased efficiency, adoption of superior technologies embodied in foreign-produced capital goods, learning effects and improvement of human resources, increased productivity through specialization (Basu, et al., 2000; Fosu, 1990; Santos, 2000; and Giles and Williams, 2000) and creation of employment.

While practical evidence in support of ELGH may not be universal, rapid export growth has been an important feature of East Asia’s remarkable record of high and sustained growth. In particular, the wave of growth in the four Asian tigers Hong Kong, South Korea, Singapore and Taiwan) and the Newly Industrialized Countries such as Malaysia, Indonesia and Thailand has been used to support the argument that carefully managed openness to trade through an ELGH is a mechanism for achieving rapid growth (Giles and Williams, 2000).

The experiences of these countries have provided impetus to the neoclassical economists’ view that ELGH strategy can lead to growth. The subject of ELGH can also be approached from the wider debate on openness (or trade) and growth. What appears to be gaining currency in recent years from cross-country growth differences is that most of the countries pursuing export growth successfully are also the ones that have taken most advantage of international trade (Martin, 2001; Masson, 2001). These countries have experienced high rates of economic growth in the
context of rapidly expanding exports and imports. The supportive evidence in favour of ELGH and global trend towards trade liberalization appears to have influenced Kenya to adopt an export-led growth strategy. ELGH is envisaged in Kenya’s Vision 2030.

Although Kenya was once viewed as being among the African countries with the most favorable growth prospects, the last two decades witnessed significant declines in many measures of economic performance and social standards as a result of numerous socio-economic hurdles such as post-election violence, draught shocks and global recession. For example, the annual growth in gross domestic product per capita averaged 2.3% over 1960-1990, went down to an average of 2.1 % over 1991-2000 turned negative in the year 2000. It averaged 3.6 % over 2001-2009 (Republic of Kenya, Economic Surveys various issues). Similarly the ratio of trade to Gross Domestic Product (GDP) also fell sharply, from about 63 % in 1995 to 56 % level in 2009. As a result, Kenya’s share of world trade is now less than one-half its average level in the early-1980s. This deterioration in economic and social standards raises a question of major importance. How can Kenya halt, and then reverse, these negative trends?

While the answer to this question clearly has multiple dimensions, trade policy certainly can have an important positive role. The experience of other countries clearly shows a vigorous expansion of exports can be an important catalyst in raising incomes and living standards. This has been well documented in the case of East Asia, as well as in other regions. From 1975 to 2001, East Asia’s share of global exports expanded more than three-fold (to just under) 19 % and doubled between 1985 and 2001. Intra-regional Asian exports, expressed as a share of world trade, experienced and even sharper expansion rising more than six-fold during 1975-2001 (Ng and Yeats 2003). In this dynamic environment per capita income for countries like Malaysia, Singapore, Hong Kong, Republic of Korea and Thailand grew at rates more than double that of the global average. The reasons for East Asia’s success are complex, but the regions general adoption of relatively open export oriented growth strategies are often cited as playing an important positive role. These strategies focus on the creation of a domestic commercial environment that helps national enterprises capitalize on opportunities in foreign markets.

Kenya has made tremendous progress in instituting trade and related reforms since the 1990s. After a rather slow start in the late 1980s, the country moved fast since the 1990s to implement
far reaching reforms. The policy reforms were aimed at reducing the involvement of government in economic activities and therefore moving the country towards a free market economy. The reforms were first detailed in the Sessional Paper No. 1 of 1986 on Economic Management for Renewed Growth. However it was not until 1993 that serious commitment in implementation of policy reforms started. The reforms included monetary and fiscal policy reforms, price decontrol on all commodities, removal of import licensing and foreign exchange controls, abandonment of foreign import substitution, adoption of outward oriented policies and privatization of some public enterprises.

Kenya also dismantled quantitative import restrictions and price controls on major products, with tariffs remaining as the main trade policy instrument. The tariff structure was rationalized and incentive schemes instituted. Several public enterprises were restructured and the influence of most agricultural boards reduced. Further, various export promotion measures were instituted, among them: Manufacturing Under Bond (MUB), which was established in 1988; and Export Processing Zones (EPZs), which started in early 1991. Other export incentive schemes were Green Channel, Export Guarantee and Credit Scheme, the revival of the Kenya Export Trade Authority (KETA), Export Promotion Council and the Export Promotion Programmes Office (EPPO) for tax rebates on imported inputs for exporters. The export promotion programmes were mainly geared towards promoting manufactured exports mainly labour-intensive manufactures such as clothing and textiles. MUB and EPZs targeted new investments while others like duty and VAT exemption schemes targeted existing manufacturers (Glenday and Ndii, 2000). The MUB/EPZs were aimed at using the abundant semi-skilled labour to produce labour-intensive manufactures, notably garments and foot wear for overseas market perhaps something similar to 'sweat shops’ in Asia (Glenday and Ndii, 2000).

1.2 Kenya-EU/ACP Trade Relations

Kenya has a long history of cooperation with the European Union (EU) which has proceeded within four successive Lome conventions prior to signing of Cotonou Protocol in 2000. These include: Lome I (1976-1980), Lome II (1981-1984), Lome III (1985-1990), and Lome IV (1991-2000). These conventions adopted both aid and trade as key instruments of achieving economic transformation of the Africa Caribbean and the Pacific (ACP) countries. For example since Lome
The trade provisions under the Lome conventions, which were in place between 1975 and 2000 (and continued in the transition period up to the end of 2007 provided for in the Cotonou Agreement) allowed for duty-free and non tariff barrier (NTB) free ACP exports of industrial, most processed, and agricultural commodities into the EU market. The value of these trade preferences was enhanced by the fact that they were non-reciprocal meaning that the ACP countries are not obliged to offer similar preferences to EU exports, stable since they were offered in 5 year periods and for 10 years in Lome IV and predictable because they are contractually binding to the partners. Kenya, being a member of the ACP group, benefited from these trade preferences.

Each of the Lome Conventions focused on specific areas, Lome I convention included preferential trade agreements on most ACP products, developmental aid and the introduction of STABEX system for stabilization on agricultural export earnings as well as directed development aid, Lome II SYSMIN system providing stabilization aid to mining industries in ACP countries, loans, grants and risk capital were also provided. Lome III (1984-1990); the specific objectives of the Lome III were the promotion and advancement of economic, cultural and social development of the ACP states and was mainly focused on food security and self reliance. (ACP Group, 2000). Similarly Lome IV focused mainly on structural adjustment in the ACP states, developing, diversifying and increasing trade of the ACP and improving competitiveness in domestic, regional and international markets as a response to debt crisis and famines. It was also an intricate combination of several arrangements such as price stabilization, direct development assistance, non reciprocal tariff concessions as well as a protocol on bananas. Lome IV was therefore both a trade and aid agreement. There was also Lome IV rev 1995 which underlined the importance of human rights, democracy and good governance, as well as regional cooperation.

Finally, the Cotonou Partnership Agreement 2000, focused on removal of most tariffs on imports from ACP groups with sugar and beef and veal to be covered by proposed REPAs. i.e. shift
towards participatory development paradigm. The Cotonou Agreement builds on the achievements of the four Lomé Conventions, which for more than 25 years and forms the basis of cooperation between the EU and ACP countries. Due to major upheavals on the international stage, socio-economic and political changes in the ACP countries, and the spread of poverty, with instability and potential conflict as its consequences, a rethinking of cooperation became necessary. Eighteen months of negotiations culminated in June 2000 with the signing of a new aid and trade agreement between the 15 EU Member States and 77 ACP countries in Cotonou, Benin. The Cotonou Agreement was signed in 2000 and was expected to remain in force for 20 years with allowance for revision every five years, and a financial protocol for each five-year period. It contained a completed reformed aid package to support development and poverty reduction policies, plans for new economic partnerships to harness regional growth and a political commitment to promote democratic principles and good governance. The Everything but Arms (EBAs) focused on immediate removal of all tariffs on all imports from LDCs except arms, with three stage removal of tariff and quotas on sugar rice and bananas. (Denis P. and Roger H., 2004).

The current trade relations with the European Union are based on the Framework Economic Partnership Agreement (FEPA) which was initialled by the member states of the East African Community (EAC) and the European Commission in November 2007. This Agreement is a stepping stone towards a comprehensive Economic Partnership Agreement, for which negotiations are ongoing.

The Framework Economic Partnership Agreement (FEPA) provides the EAC member states duty free, quota free access to the European Union market as of 1 January 2008, with transitional phases only for rice and sugar until January 2010 and September 2015 respectively. These provisions effectively grant Kenya an access to the European Union equal to Least Developed Countries (LDCs), with a bonus of this being based on a negotiated legally binding agreement, rather than a unilaterally granted preference subject to review and possible withdrawal by the granting party. In addition, the FEPA provides for improved and more development friendly provisions for determining the origin of products such as textiles and fisheries.
The FEPA is a World Trade Organization (WTO) compliant agreement and hence is based on principle of reciprocity. While the EU opens its markets to EAC products in full from the start (apart from sugar and rice), the EAC liberalizes 82.5% of current trade over a period of 25 years. In fact, already 65.4% of this trade is already entering into the EAC at zero duty given the EAC Common External Tariff is set at 0% for raw materials and capital goods. Thus, effective liberalization is on products that account for 17.2% of current total trade with the EU. Further, 15.2% of these products. The advantage in liberalization of these products is that reduction in cost of obtaining intermediate products due to gradual phasing down of the current 10% tariff to zero, will enhance the agricultural and industrial competitiveness of the EAC countries.

Up to 17.2% of current EU import trade to Kenya (1400 tariff lines) is excluded from any liberalization and hence these sensitive sectors will remain sheltered from EU competition. Among the products on sensitive list are: meat, fish, dairy, vegetables, fruits, cereals, coffee, tea, juices, jams, canned fruit & vegetables, ham, cheese, wines & spirits, chemicals, plastics, car parts, wood, textiles & clothing, footwear etc.

The list of sensitive products (non-liberalized) was arrived through a consultative process among Kenyan stakeholders, including private sector and civil society. In addition, the FEPA also caters for measures to address possible adverse effects of liberalization to any specific sector in the economy by including clauses for safeguards. These can be evoked to reintroduce tariffs or/and quantities restrictions should “injury” to an EAC industry be experienced.

1.3 The Nature of Economic Partnership Agreements (EPAs)

The Cotonou Partnership Agreement (CPA), which was signed in 2000, provided for the negotiation of EPAs between EU and ACP countries. The Cotonou Agreement states that the objective of EPAs is “to reduce poverty by supporting the sustainable development and the gradual integration of ACP countries into the world economy, with due regard to their political choices and development priorities”. In the agreement, the EU and ACP countries agreed (Art. 36.1) “to conclude new World Trade Organization (WTO) compatible trading arrangements, removing progressively barriers to trade between them and enhancing cooperation in all areas relevant to trade”. In article 37.1, it is stated that such cooperation will take the form of an EPA.
For non-Least Developed Countries (LDC), which would not like to be part of the EPA, the alternative, though not the only one, would be to take advantage of the EU Generalized System of Preferences (GSP). As for the LDCs, which Kenya is not, they are already taking advantage of the almost free access to the EU market through Everything But Arms (EBA). It would appear from the above that the Cotonou Agreements provides for ACP member states to not only decide for themselves whether or not to enter into an EPA with the EU but also to decide on the configuration of the EPA they want with the EU.

According to CPA, negotiations for EPAs should have been finalized by 31st December 2007. On this day, the waiver granted by WTO for the continuation of Cotonou preferences expired and was to be replaced by a WTO compatible regime starting 1st January 2008. By the deadline of 31st December 2007, none of the African Negotiating groups was able to conclude a full EPA. Most non-LDC countries in Africa initiated interim EPAs with EU to avoid trade disruption. Exports from non-LDC countries faced the potential of higher tariffs in the Euro zone if no agreement had been signed to replace the Cotonou preferences (Judith, 2002).

Faced with the potential of trade disruption, all African non-LDCs except Nigeria signed interim Economic Partnership Agreements with EU. EU exerted pressure on the governments to sign the agreements or exports from these countries would face higher tariffs under the Generalized System of Preferences (GSP). The fear of losing markets to other countries and the difficulties of regaining these markets presented enormous difficulties for non-LDCs and they ended up signing Interim Agreements. There was also the fear that the loss of export markets in EU could lead to company closures, which in turn could lead to increased unemployment, which is already a problem in Africa. However, if the impact analysis work with respect to potential social and economic effects of EPAs is recalled, it is clear that this fear of industry closure and costly adjustments in the job market emerged as a major issue. In this case, signing the interim EPAs to avoid labour market adjustments due to de-industrialization can only be viewed as a short-term solution (Lars 2002).
1.3.1 Objectives of the EPAs

The overall objective of the EPAs is to foster sustainable development, smooth and gradual integration of ACP countries into the global economy and eradication of poverty. The specific objectives are; to promote sustained growth, strengthen the economic development of ACP countries by strengthening the trade policy environment and supporting poverty reduction programmes, increase the production and supply capacity of the ACP countries; foster the structural transformation of these economies and their diversification to allow them to be more competitive in a global environment, and reduce the economic vulnerability of the regions through; support of regional integration and promotion and enhancement of co-operation in trade-related areas, including Rules of Origin, Technical Barriers to Trade (TBTs) and Sanitary and Phytosanitary (SPS) issues. (Meyn, M., 2004).

1.4 Kenya Trade direction

Kenya trades with both developed and developing countries, especially the latter because of the country’s strategic position as a regional industrial hub with access to the sea. The geographical distribution of her trade shows that COMESA has been the dominant market for Kenyan exports since 1993 followed closely by EU then the EAC as shown in the table 1.0.

Between 1997 and 2002, both Kenyan exports and imports to and from the EU, COMESA and EAC showed some fluctuation. The trend changed with the inception of new government in 2003 when both exports and imports started to show growth, similarly exports to the EAC started to show a steady rise in 2004 with the exception of 2006 when there was a slight drop. This is as reflected in table 1.
Table 1: Kenya's Exports and Imports to and from the EU, COMESA and EAC, between 1997-2010 in Kshs. “000”

<table>
<thead>
<tr>
<th>YEAR</th>
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<td></td>
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<td>1997</td>
<td>39,423,600</td>
<td>61,988,800</td>
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<td>1998</td>
<td>36,475,600</td>
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<td>1999</td>
<td>38,209,200</td>
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<td>40,120,174</td>
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<td>2002</td>
<td>45,137,641</td>
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<td>2003</td>
<td>52,159,000</td>
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<td>2004</td>
<td>56,773,000</td>
<td>87,159,000</td>
<td>54,980,398</td>
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<td>2005</td>
<td>62,591,000</td>
<td>93,228,000</td>
<td>73,629,791</td>
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<td>2006</td>
<td>65,542,000</td>
<td>116,351,000</td>
<td>53,050,032</td>
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<td>2007</td>
<td>72,662,000</td>
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<td>2008</td>
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<td>83,941,972</td>
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<td>2009</td>
<td>88,110,000</td>
<td>140,846,000</td>
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<td>2010</td>
<td>109,422,000</td>
<td>203,914,000</td>
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Source: KNBS Economic Surveys and COMSTAT Database

The share of Kenya’s exports going to the EU over the period (1997-2002) grew by about 7.2% annually. This trend changed in 2003 when the value of exports started to rise with the coming in of the new NARC government that created investor confidence and stable macroeconomic environment, this was then followed by a decline of 1.3% in 2009, mainly due to the aftermath of the post-election violence. Similarly, the share of exports to the EU reduced slightly from 25.9% in 2008 to 25.5% in 2009. The share of exports to the rest of COMESA (excluding the EAC) has shown an increasing trend over time, with the share of exports to the rest of Africa being more or less constant. The share of exports to EAC has been on the rise from the year 2004 increasing at an impressive rate of about 14.5% annually from a drop of 0.5% in 2003. The significant
increase in exports to the EAC began in 1993, the year when Kenya made significant liberalization of her trade regime under the structural adjustment programme and the signing of a Declaration on closer East Africa cooperation and the subsequent joining of EAC by Burundi and Rwanda in 2007. This trend for Kenya's exports is shown in figure 1.0.

Figure 1: Kenya's exports to EU, COMESA and EAC in Kshs "000" from 1997-2010

Source: KNBS Economic Surveys and COMSTAT database

Although as a share of total exports, exports to the EU have been on a steady growth since the 1990s, the EU still remains a significant destination for Kenyan goods, mainly agricultural exports. The Common Market for Eastern and Southern Africa (COMESA) regional market is the key destination for Kenyan manufactured exports and has displaced the EU as the number one destination for Kenya's exports. It would appear that a market with such growth prospects needs to be safeguarded yet the proposed EPAs may likely compromise that. This point is best illustrated by comparing the relative growth of Kenyan exports in COMESA and the EU. From
the 1990s to date exports to the EU have been surpassed by exports to COMESA which have been on a steady rise.

If the steady rise in Kenyan imports from the EU is an indication of future trends of imports from the EU to the region, then competing Kenyan exports to the region may face significant adverse competition. Imports from EU increased by 4.3% in 2009 compared to a 10% increase recorded in 2008. Despite the increase in value of imports from Tanzania, Rwanda and Burundi, the overall value of imports from the EAC region declined due to reduced value of imports from Uganda. Similarly the share of imports from COMESA decreased from 32.9% in 2008 to 24.2%. Figure 2 shows the trend of Kenya's imports from EU, COMESA and (EAC).
Figure 2: Kenya's imports from EU, COMESA and EAC in kshs. "000" from 1997-2010

It is quite clear that a higher percentage of Kenya's imports come from the EU. A high dependence by the ACP Group on the EU market is also interpreted as indicating a lack of market diversification compared to other developing countries, with adverse effects on the growth of exports. The problem is not one of an absence of structural change, but that this needs to be both broadened and deepened. Preferences have been of some use in stimulating export diversification, but will be of limited value in the next century and a new agreement needs to concentrate on a coordinated strategy to reduce the variability of existing production for export and support further export diversification by product and by market.

By eliminating trade barriers, EPAs are likely to increase the competitiveness of imports from EU to the region. In sum the strong growth in exports to the region in the 1990s is likely to be reversed due to the increased competition to the manufacturing sector, resulting from the EPAs.
1.4.1 Structure and Composition of Exports
Like most sub-Saharan Africa countries, Kenya’s export structure is predominately composed of primary commodities mainly, tea, coffee and horticulture-besides tourism. The share of manufactured exports has not only remained small but has been declining. The decline in Kenya’s export performance is mainly attributed to past policies that produced an anti-export bias (Wagacha. 2000). Consequently, export growth has been erratic, based on fluctuations in earnings from a few traditional primary exports and the tourism sector. This over reliance on primary commodities exposes the export sector to external shocks such as fluctuations of world market price and vagaries of weather. An export growth strategy that is based solely on the exploitation of agricultural resources is not good for long-term development due to limited scope for technological improvements and skill developments offered by such a strategy. Table 2.0 shows the composition of Kenya’s exports from the year 1999 to 2008.
Table 2: Principle commodities as a percentage of total Exports, 1999-2008

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</thead>
<tbody>
<tr>
<td>Petroleum products</td>
<td>6.36</td>
<td>7.85</td>
<td>10.13</td>
<td>2.97</td>
<td>0.05</td>
<td>0.71</td>
<td>3.08</td>
<td>1.88</td>
<td>2.95</td>
<td>1.31</td>
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<tr>
<td>Coffee</td>
<td>8.34</td>
<td>9.77</td>
<td>6.18</td>
<td>4.98</td>
<td>4.6</td>
<td>4.45</td>
<td>4.32</td>
<td>4.00</td>
<td>3.98</td>
<td>3.14</td>
</tr>
<tr>
<td>Cocoa Ash</td>
<td>0.91</td>
<td>1.17</td>
<td>1.65</td>
<td>1.62</td>
<td>1.75</td>
<td>2.03</td>
<td>1.84</td>
<td>1.74</td>
<td>2.07</td>
<td>4.09</td>
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<tr>
<td>Cement</td>
<td>0.87</td>
<td>1.17</td>
<td>0.82</td>
<td>1.13</td>
<td>1.45</td>
<td>1.26</td>
<td>1.36</td>
<td>1.69</td>
<td>1.76</td>
<td>2.25</td>
</tr>
<tr>
<td>Petroleum extract</td>
<td>0.46</td>
<td>0.58</td>
<td>0.82</td>
<td>0.61</td>
<td>0.59</td>
<td>0.60</td>
<td>0.53</td>
<td>0.48</td>
<td>0.06</td>
<td>0</td>
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<tr>
<td>Salt</td>
<td>0.44</td>
<td>0.51</td>
<td>0.60</td>
<td>0.60</td>
<td>0.66</td>
<td>0.72</td>
<td>0.56</td>
<td>0.55</td>
<td>0.53</td>
<td>0.46</td>
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<tr>
<td>Phosphorus</td>
<td>0.36</td>
<td>0.54</td>
<td>0.54</td>
<td>0.56</td>
<td>0.49</td>
<td>0.57</td>
<td>0.58</td>
<td>0.50</td>
<td>0.37</td>
<td>0.67</td>
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<tr>
<td>Alumina</td>
<td>0.22</td>
<td>0.41</td>
<td>0.52</td>
<td>0.34</td>
<td>0.40</td>
<td>0.61</td>
<td>0.41</td>
<td>0.27</td>
<td>0.05</td>
<td>0.01</td>
</tr>
<tr>
<td>All Other</td>
<td>31.37</td>
<td>12.44</td>
<td>13.51</td>
<td>16.9</td>
<td>18.53</td>
<td>20.07</td>
<td>26.18</td>
<td>24.98</td>
<td>26.72</td>
<td>25.06</td>
</tr>
<tr>
<td>Total Exports</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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Source: Ministry of Trade Strategic Plan.

The emerging pattern is one of a highly concentrated export structure; an export destination of a few traditional and dominant markets and an insignificant share of processed products in the export basket. This calls for increasing the product range, moving up the ladder in agro-processing and expanding exports within regional markets. A more diversified export structure reduces vulnerability to external shocks.
1.5 Problem Statement

The ACP, of which Kenya is a member and EU countries have engaged in trade agreements for the past twenty five years, from the Lome I of 1975 to the Cotonou agreement of 2000 and now the EPAs. The major objective of these early agreements was to reduce poverty, establish a fair and equitable trading order between them (Lome I-IV, 1975, Cotonou Partnership Agreement, 2000). Evidence indicates that many of the ACP countries have remained marginalized in global trade terms, and poverty levels on average have increased across many ACP countries over the years, (Manchin, 2005).

However, despite benefiting from one of the most generous trade preference scheme of the EU providing free access (subject to rules of origin) for 95% of their exports, it is a generally accepted view that the ACP countries have been unsuccessful in taking advantage of their preferential status and, indeed, performed poorly in comparison with other developing countries (McQueen, et al. 1997). For instance, the share of world exports of ACP countries fell from 3.4% in 1976 to 1.9% in 2000 and their share in developing countries exports fell from 13.3% in 1976 to 3.7% in 2000. Their trade patterns with the EU have followed a similar evolution.

The share of EU imports from the ACP in total EU imports has decreased, falling from 6.7% in 1976 to 3.11% in 2002 and 4.5% in 2009, and the share of imports from the ACP in total imports from developing countries excluding countries in transition has fallen from 14.8% in 1976 to 6% in 2000 and 5.2% in 2009 (Eurostat, 52/2010). Davenport, Hewitt and Koning (1995) also point out that, despite the number of Lomé beneficiaries increasing from 46 to 69 countries over the period 1975-92, the share of ACP non-oil exports in EU imports declined from 6.1% to 2.9%, and compared to other developing countries with less preferential access to the European market, the deterioration in the ACP performance is even more pronounced.

Moreover, 40 out of 79 ACP countries are still categorized as LDC’s and 34 of them are in Africa. Similarly, exports have remained undiversified. ACP countries have become increasingly marginalized in global trade due to a number of factors such as supply constraints, reliance on a few traditional agricultural commodities for export with declining real prices of some primary commodities and restrictive trade regimes with the EU, which include, tariff escalation, tariff peaks and stringent Sanitary and Phyto-Sanitary standards requirements and Rules of Origin
Consequently, there has been little transformation of the ACP countries’ economies contrary to the initial aims of these past ACP-EU agreements.

But according to the Kenya’s Vision 2030 economic strategy, the government has emphasized the need for increased contribution of exports to the GDP by 2012 through increased capacity utilization and elimination of impediments like non-tariff measures to Kenya’s competitiveness in the world market and product diversification.

Since 2002, the EU and ACP countries have been engaged in negotiating EPAs. These negotiations are based on the Cotonou Agreement, which inter alia defines the framework and modalities for the coming trade regime between the parties. According to the Cotonou Agreement, the negotiations were to be concluded by 31 December 2007. From this date, the existing non-reciprocal trade relation between the EU and ACP countries were supposed to be replaced with reciprocal trade relations in the form of free trade areas. In other words, in return for retaining preferential access to the EU market, ACP countries have to gradually open their own markets to the EU.

This paper therefore sought to determine factors that influence Kenya’s export to the EU through determining the effect of reciprocity on Kenya’s exports to the EU as well as the consequences of ACP countries opening their markets to the EU and whether the past ACP-EU trade agreements have been of economic benefit to Kenya through expansion of exports into the EU markets and if we should continue to pursue the new EPAs.

The research question answered at the end of the study is whether Kenya should refocus its export strategy from the EU into the regional markets in spite of the new trade arrangement.
1.6 Objectives of the Study

The main objective of the study is to analyze the effects of ACP-EU trade relation on Kenya’s exports between 1960 and 2010 and propose policy recommendations based on the findings.

The specific objectives include:

- To determine factors that influence Kenya’s exports to the EU.
- To analyze the effects of ACP-EU trade relation on Kenya’s exports through determining the effect of reciprocity on Kenya’s exports to the EU.
- To make appropriate policy recommendations based on study findings.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This section reviews the various studies on ACP-EU trade relations with a view to highlighting what other researchers have found out. In essence, this chapter's objective is to review what others have said for the necessary linkage and focus on the aspect of what Kenya needs to undertake in the ongoing EPAs negotiations.

In the realm of international trade, trade barriers are the norm most governments are erecting for the purpose of achieving certain economic objectives or for appeasing certain political constituencies. There are two kinds of barriers to trade that are commonly used by governments. These are first, tariff barriers which are essentially commodity taxes levied on imports and second, non-tariff barriers which can be quantitative or administrative restrictions on imports or other policies pursued by governments which have the effect of restricting the quantity of imports. The overall effect of tariff and non-tariff barriers to trade is that they restrict trade, raise import prices and redistribute income. However it is apparent that Non-Tariff Barriers (NTBs) have a more adverse effect on national welfare than tariff barriers. It is interesting that despite the foregoing most governments are increasingly making use of Non-Tariff Barriers to trade as an instrument of trade policy.

2.2 Theoretical Literature Review

The belief that trade is an engine of growth stems from the notion within export base theory that growth of exports provides externality and productivity benefits to regional economies. In its simplest form, export base theory suggests that regional growth in output and employment is a function of exogenous demand for a region's exports, assuming perfect elasticity of input supply and export demand. Growth is generated not only through direct sales of export goods, but also through a Keynesian income multiplier: income growth associated with the growth of a region's exports results in further increases in demand for local goods, which, in turn, leads to further growth in regional income. (Robin M. L., 2000)
Up to now, research on bilateral economic relationships has mostly followed the lines of a gravity model either in its "classical" (Tinbergen, 1962; Pöyhönen, 1963; Linnemann, 1966) or the now more accepted New Trade Theory-based formulation (Helpman, 1987; Bergstrand, 1985, 1989, 1990; Hummels and Levinsohn, 1995). However, more recent theoretical studies of multinationals and trade (Brainard, 1993; Markusen and Venables, 1998, 2000; and others) have found that the same exogenous factors are at work in determining trade and multinational activities, an aspect that has so far had little impact on the empirical analysis of bilateral economic relationships.

According to the pathbreaking work of Helpman and Krugman (1985) and Helpman (1987) for the 2x2x2 model of trade with product differentiation similar to Dixit and Stiglitz (1977), exports are determined by the bilateral sum of GDP, the relative country size and relative factor endowments. The larger overall bilateral GDP, the more similar the countries in terms of GDP, and/or the more different countries are in terms of relative factor endowments, the larger is the volume of bilateral trade. Transport costs exhibit a negative impact on the volume of trade. The more recent theoretical literature on trade builds on similar model structures and assumes that multinational activity and Foreign Direct Investment (FDI) and exports are determined by the same factors (i.e., the above-mentioned Heckscher-Ohlin variables, transport costs and fixed set-up costs for foreign plants). In contrast to pure New Trade Theory, two different approaches are pursued, which differ in their hypotheses on the impact of the Heckscher-Ohlin variables on multinational activity.

With the extension of the simple version of export base theory, North (1975) pointed out that, whereas the existence of outside demand is a necessary condition for regional growth, sufficient conditions for economic development include locational considerations such as comparative advantage in production and transfer costs. Other supply-side factors, such as development of external economies and improvements in technology, may also enhance the success of a region's export base. The author further argues that, in addition to their role in long-run income determination, exports moderate the cyclical sensitivity of a region's economy and influence the characteristics of a region's labor force.
The case for ACP-EU free trade agreements is essentially a pessimistic one. First, the argument in terms of locking in and enhancing trade liberalization is based on the view that in the absence of Free Trade Agreement (FTA), the ACP countries will engage in little or no trade liberalisation. Second, the argument in terms of guaranteeing access to the EU market is based on the view that the current phase of liberalization of world trade may be reversed at some time in the future, and that World Trade Organization (WTO) membership will not provide adequate protection against discriminatory trade barriers being used by the EU against imports from the ACP countries, MacQueen (1998). The first proposition is possible but does not sufficiently recognise the extent of trade liberalization that has taken place in Africa (albeit, erratic and subject to reversal) and does not adequately take account of the second-best characteristics of an ACP-EU free trade agreement. The second proposition, while not impossible, is contrary to current trends in international trade and ignores the substantial gains to developing countries arising from the strengthening of WTO disciplines in the Uruguay Round and the subsequent Doha round.

In outlining the static theory of regional integration arrangements by abandoning the Vinerian assumption of constant costs of production in trading countries and recognizing the necessity of ensuring equilibrium in international payments balances. Thus, Meade (1955) brought to the fore adjustment in both international and domestic relative prices to achieve general equilibrium under regional integration arrangements. The framework highlights the central role of prices and international terms of trade for achieving and maintaining equilibrium in international trade and payments under preferential trading arrangements. The analysis focused on the economic welfare of the world economy, not simply the countries forming a regional integration arrangement. In going beyond the "small country" perspective, Meade recognized the potential for significant secondary effects of regional integration arrangements on third-countries and the world economy at large owing to adjustments in world markets for traded and non-traded goods.

2.3 Empirical Literature Review

There are few empirical econometric studies on the impact of Lomé preferences. Many authors have analyzed the evolution of EU-ACP trade from a qualitative point of view but only a few have undertaken quantitative analysis.
One of the few is the works of Lars Nilsson (2002) in Trading Relations titled is the roadmap from Lomé to Cotonou correct? (2002), where he uses a series of cross-sectional gravity equations to find a positive impact of both the Lomé Convention and the GSP scheme on exports to the EU. The author uses cross-section estimation for seven different periods between 1973 and 1992. For every regression he takes three year averages in order to minimize the impact of temporary shocks. In view of the descriptive statistics, Nilsson's results obtained are quite surprising, since he finds a very strong influence of the Lomé and GSP preferences on EU-ACP trade. He detects a positive impact of Lomé on EU imports from ACP countries which reaches 70 percent across three-year periods. The impact of the preferences under the GSP is also considerable, rising to 50 percent. These results look unexpected even for Nilsson, who recognizes the contradictory character of the findings with respect to previous studies.

Using a gravity equation for disaggregated data in which Manchin (2005) looked at the determinants of non-LDC ACP exports to the EU and found that preferences for many sectors do have an impact. The larger number of beneficiaries and the fact that almost every developed country has a scheme of its own has made GSP attract much more empirical attention than Lomé. Sapir (1981) and Langhamer (1983) are among the best known studies. Both estimate gravity models with cross-section techniques. The former analyses the effect of GSP in the years 1970-1978, finding a positive and significant impact only in the years 1973 and 1974. When he uses disaggregated impact the coefficients measuring preferences show greater significance. On the other hand, Langhamer's study records a negative impact of preferences for the period 1978-1980. However, one shortcoming of the study is that he only considers ten GSP countries, which considerably limits the capacity to extrapolate the results to the whole scheme.

A much more comprehensive study was conducted by Bormann et al in 1985. Again using cross-sectional gravity equations, they evaluate the impact of GSP preferences by groups of countries and sectors for the years 1967-1982. In most cases they find a positive impact of preferences. More recently, Golhar (1996) found strong negative results for the effectiveness of GSP from a gravity model. Ozden and Reinhardt (2003), also question the validity of the GSP because they find that countries that are dropped from the GSP system actually undertake further liberalization than those remaining in the scheme. However, it must be noted that their study refers just to the
United States’ scheme and, although the authors believe their results can be extrapolated to other GSP schemes from other developed countries, EU’s GSP coverage is larger than any other. Indeed, UNCTAD (1999) states that EU’s GSP covers more products and offers a higher degree of liberalization than any other scheme and should thus be more profitable than them.

A number of empirical studies have also documented a strong and positive relationship between export and economic growth including Michaely (1977), Balassa (1978), Tyler (1981), Balassa (1985), Chow (1987), Darrat (1987), Khan and Saqib (1993), Singupta and Espana (1994), McCarville and Nnadozie (1995), Thornton (1996), Panas and Vamvoukas (2002), Abual-Foul (2004) and Awokuse (2003) among others. The results reveal evidence in support of the export-led growth hypothesis for various countries. Furthermore, various studies have established a unidirectional causality from export to output while other studies as well have established evidence in support of a unidirectional causation from output growth to export.

The early empirical studies of different regional integration arrangements like EU, NAFTA, MERCOSUR, ASEAN focused on explaining past trends in trade flows and related variables, such as prices and national income. By their nature empirical studies involve ex post analysis involving not only formally explaining past trends in trade flows and related variables, such as prices and national income, but also specifying what course trade and other variables would have taken had an extant regional integration arrangement not been established.

The European Union being an early effort on integration has been the subject of many quantitative ex post analysis particularly its impact of trade in manufactures, after the Rome Treaty of 1957, using a variety of ex post approaches. Studies by Truman (1969) and Prewo (1974) using trade share measures, Balassa (1965, 1975) using income elasticities of demand for imports and the assumption that higher (lower) income elasticity values imply trade creation (diversion), and Aitken (1973) using the gravity model method to explain bilateral trade flows between the trading partners, sought to estimate trade diversion as well as trade creation. Despite their different theoretical approaches, these studies concluded that, following creation of the European Community (EC), trade creation in manufactures significantly outweighed trade diversion in manufactures. They also found that formation of the European Community led to significant expansion of manufacturing exports to EC countries by non-member countries.
Similarly, going beyond estimating the impacts of the European Community on trade and further to examine the impact of the new regional integration arrangement on EC welfare. Balassa (1975) using the average EC tariff rate for manufactures and own estimate of trade creation for 1970, the author calculated that EC welfare was improved by about 0.15 percent of EC GDP per annum. Additionally, the author considered the economic cost of trade diversion under the EU Common Agricultural Policy (CAP), which was calculated at $0.3-to-0.4 billion per annum. The analysis arrived at a net welfare gain for the EC customs union of $0.4 billion per annum, or less than one tenth of one percent of EC GDP per annum.

The studies by Gasiorek, Smith, and Venables (1992), and Haaland and Norman (1992) are both based on an analytical model of imperfect competition in the European Community developed by Smith and Venables (1988). These studies examined the implications of reducing intra-union trade costs for manufactures by 2.5 percent, in principle enabling EU firms producing differentiated products under imperfect competition to expand output and reduce costs along declining average cost schedules. Harrison, Rutherford, and Tarr (1994) employed a more extensive model that does not impose uniform pricing by firms across EU markets. The quantitative results indicated that deepening of economic integration in the European Union should be expected to achieve substantial economic gains, of about 1 percent of GDP per annum in several EU countries, owing predominantly to pro-competitive effects of product standardization. The results also suggested the occurrence of appreciable trade diversion under the CAP of 1992, possibly limiting gains in welfare in the European Union and contributing to losses in welfare in other parts of the world. The CGE simulation results indicated that rationalization of production occurred within the European Union, with large numbers of EU firms forced to shut down in the face of declining terms of trade and profit margins.

Testing the Export-led growth hypothesis for Canada for the period 1870-1985 in an annual basis. Serletis' (1992) approach differed from previous work in two ways; the author tested the time series properties to ensure stationarity, and supplemented the causality tests with cointegration tests and further used the Phillips-Perron approach to test for stationarity in the time series and found that the variables (GNP, exports and imports) were integrated of order 1 or in other terms they were I(1). No cointegration was found between the variables, this implies that
Granger causality could be tested by using I(0) variables, which were achieved by using the growth rates of the variables. The Granger causality tests resulted in the acceptance of causality from export growth to GNP growth except for the period after the Second World War, in the 1870-1985 and the 1870-1944 sub sample support for the export-led growth hypothesis was found. Therefore, an expansion in exports promotes an expansion in national income.

Based upon a one country experience, Figueroa de la Barra and Letelier-Saavedra (1994) tested the export-led growth theory for Chile during the period 1979-1993 using quarterly data. They focused on Chile because of the premature opening of the country's economy in the Latin American context. They argued that many investigations examining the causal relationships between exports and economic growth have been done but the techniques have varied over time. There have been many studies on Chile regarding the export-led growth hypothesis but no long-run relationship has been tested due to lack of time series data. The objective of their study was to examine the short-run and long-run relationship between export performance and economic development in Chile for the period 1979-1993. They found that the export-led growth hypothesis was supported by the data and was found to be robust when tested for a smaller sample size, specifically 1980-1993 and 1981-1993.

In examining the export-led growth hypothesis for the "Four Little Dragons" (Hong Kong, Singapore, South Korea and Taiwan), Jin (1995) used a five-variable VAR and the relationship between exports and economic growth was analyzed through Variance Decompositions (VDCs), Impulse Response Functions (IRF's) and cointegration. For each country, the author analyzed quarterly data for the period 1973:1-1993:2. The period 1973:1-1976:1 was used to generate the lags in the VAR, and the VAR was estimated using the period 1976:2-1993:2. All variables were found to be non-stationary, and stationary when using the growth rates, that is, all variables were found to be I(1), and no cointegration was found in the system variables for all countries. Since no cointegration was found, no error correction terms were needed to be included in the VAR model. The VDCs indicate that exports have a significant effect on the growth of the economy for all four countries, and feedback from economic growth to export growth was found significant in all countries except Taiwan. Bidirectionality from export growth to economic
growth and vice versa was found through the IRFs in all four countries. In conclusion, the results provided support for the export-led growth hypothesis.

Studies on Asean Free Trade Area (FTA) by DeRosa (1995), and Lewis and Robinson (1996), found that AFTA is trade creating. The larger gains in trade and marginally larger gains in welfare obtained by DeRosa are attributed in part to the differences in base periods and simulation scenarios. Nonetheless, both studies conclude that Asean-FTA contributes comparatively little to higher economic welfare in Asean countries, except possibly the two highest-incomes and particularly open Asean countries, Malaysia and Singapore. This seems counterintuitive in light of the static economic theory which indicates that relatively open economies should be expected to experience limited if not negative gains from regional integration arrangements. However, as DeRosa (1995), explains, both Malaysia and Singapore benefit principally from the diversion of trade by other Asean countries. The two countries supply the largest proportion of the increased intraregional demand for manufactures previously supplied by advanced countries outside the region.

In investigating the export-led growth hypothesis for Canada by using a VAR model to test Granger causality. Using the period 1870-1991 on an annual basis and using three variables namely, exports, terms of trade and GDP. The series were tested with the Augmented Dickey-Fuller method and with the Phillips-Perron method for stationarity and the variables were found to be I(1). Cointegration was found between the three variables using the Johansen method. This implies a long-run relationship between them. No evidence supporting export-led growth was found but the growth driven exports hypothesis was supported by the data, Henriques and Sadorsky (1996).

Based on four Arab Gulf oil-producing countries, namely, Saudi Arabia, Kuwait, United Arab Emirates and Oman for the period 1973-1993. The Al-Yousif (1997) used two models to examine the relationship between exports and economic growth. One is a production function-type framework and the second involves a sector analysis, which reflects the “externality effect” of the export sector towards the non-export sector. No long-run relationship between exports and economic growth in the four countries at hand (i.e. no cointegration) was found. The empirical results obtained indicated that exports have a positive and significant impact on economic
growth in the four Arab countries, a result that agrees with a large body of previous research on both the industrial and developing countries. The author also stated that the Durbin-Watson and Bruesch-Godfrey statistics suggested absence of serial correlation. When tested for structural stability with the Farely-Hininch test, it was found that the growth equations for the four countries were structurally stable. The author also tested specification of both models with White's specification test and Hausman's specification test where the author failed to reject the null hypothesis of correct model specification using both tests.

Testing the export-led growth hypothesis for China during the period 1987-1996 with monthly data. The works of Shan and Sun (1998) stands out from other studies done before because of three reasons. They used a six-variable VAR model in a production function context to avoid possible specification errors; they controlled for the growth of imports to avoid producing a spurious causality report and finally, they tested the sensibility of the causality using different lag lengths as well as the optimal lag. They used a modified Wald test procedure (MWALD). This procedure was chosen because it has an asymptotic $\chi^2$ distribution and because of its comparable performance in size and power to the Likelihood Ratio (LR) and Wald tests when the correct number of lags have been estimated. They used the MWALD procedure in a Seemingly Unrelated Regression (SUR), which simplifies Granger noncausality testing because it does not require the knowledge of cointegration properties in the equation system. The authors found bidirectional causality between growth and exports in the case of China; however, since they used a SUR system, they did not establish short-run or long-run causality.

Similarly a multivariate error-correction model was developed to test causality between exports and economic growth in 15 Asian countries for the period 1967-1991. The objectives of the study by Islam (1998) were to include a third variable and not just use a bivariate model, evaluate the presence of a common stochastic trend in the data, define properly the definitions of export expansion and economic growth, and finally, re-examine the issue of causal links between exports and growth. The author tested Granger causality with an ECM for Bangladesh, Fiji, India, Nepal and Sri Lanka for which a cointegrating relation between the causal factors was found. A multivariate Granger causal model was used for the remaining countries. It was found that the error-correction model showed that export expansion caused economic growth in all of
the countries where a cointegrating relationship was found. The author found bi-directionality in Nepal, and the same thing for Sri Lanka and Fiji but the causal impact was negative. Overall, with the multivariate VAR model, evidence supporting that exports causes economic growth in eleven out of the 15 countries analyzed was found.

An investigation of the effect of exports on economic growth in Bangladesh based in a two-sector growth model. Begum and Shamsuddin (1998) analyzed the period 1961-1992 on an annual basis. They used an Autoregressive Conditional Heteroskedastic (ARCH) model. They assumed a two-sector economy, the non-export and the export sectors, and there are four sources of GDP growth; input growth, changes in allocation of resources between sectors, changes in the institutional characteristics of the economy, and the technological progress. To examine the effect of exports on economic growth they focused in the second source of GDP growth. They first used OLS to estimate their model but through a Lagrange Multiplier (LM) test for the first-order ARCH process they found that suggestion that the classical linear regression model was incompatible with the data and that OLS was not the best estimator. Therefore, the authors used a Maximum Likelihood Estimation on an Autoregressive Conditional Heteroskedastic process. The Durbin-Watson (DW) and Ljung-Box-Pierce (Q-statistics) statistics suggested the lack of autocorrelation problems, implying that the results obtained were more efficient than those of OLS, suggesting that the weighted growth of exports has a positive effect on economic growth. Granger Causality was tested using the maximum likelihood method, where support for the Export-led growth hypothesis was found with a 2.5% level of significance but no feedback was found complementing the structural model.

In Malaysia; where the export-led growth theory was tested for the period 1966-1996. The study used total exports and manufactured exports to test for causality, Siddique and Selvanathan (1999). In order to test this hypothesis, the first step they did was to run an Augmented Dickey Fuller (ADF) unit root test on the three variables, total real exports, real manufactured exports and real GDP to investigate whether they were stationary or not. The data were collected from the World tables published in 1998 by the World Bank. The second step was to test the first difference series with the ADF. Since the individual time series were integrated of order one, the third step was to test if the series were cointegrated, where a linear combination of GDP and
Exports is integrated of order one, this was done by using the Engle-Granger test on the OLS residual series of the cointegrating regression which is exactly the same as doing a Dickey Fuller test to test the stationarity of the residuals. The causality using Granger’s causality test was used for the first differences of the series because the series we found to be not cointegrated where the lag lengths were obtained using various criteria, including Akaike’s (1969) and Schwartz’s (1978). Finally, the Wald test was used to test the Granger Causality hypothesis. They found that export-led economic growth hypothesis was not supported by the data; however, they did find the economic growth-led manufactured export hypothesis to be supported by the data.

Based on a one country study for Costa Rica. Medina-Smith (2000) analyzed the period 1950-1997 using a Cobb-Douglas production function. The variables used were real gross domestic product (GDP), real exports of goods and services, real gross domestic investment (GDI) as well as gross fixed capital formation (GFCF) as proxies for investment, and population was used as a proxy for labor force. The author first tested for unit-roots using the DF and ADF tests on the variables mentioned above. Then tested for cointegration using the Cointegration Regression Durbin-Watson (CRDW) and the Engle-Granger Method, as well as the Johansen Maximum Likelihood approach. To estimate the ECM model, there were two approaches, first, to use the Engle-Granger two-step method, and the ECM test (a one-step method), also known as an unrestricted ECM. The author found support for the ELG hypothesis, in other words, exports can not only explain the short-term changes in economic growth but it can also explain the long-term change in output, even though the long-term effects of exports on economic growth were smaller in comparison to the effects of the traditional factors of production (investment and labor).

Other studies have used gravity models to assess the impact of regional agreements on trade flows. Based on the law of gravity, the gravity model equations predict that the volume of trade between two economies should increase with their size (proxied by real GDP) and decrease in transaction costs (measured as bilateral distance). The standard gravity model predicts that the volume of trade \( (F_{ij}) \) between any two countries \( i \) and \( j \), \( (i: \text{exporting country } j: \text{importing country}) \) is a function of the country’s GDP \( (M_i, M_j) \), distance between \( i \) and \( j(D) \) and gravitational constant\( (G) \). Such that
\[ F_{ij} = G \frac{M_i^\beta M_j^\alpha}{D^{\delta_{ij}}} \]

That is if \( \beta \) and \( \alpha = 1 \) and \( \delta = 2 \) to give the Newton's Law which the gravity model is anchored on.

Appleyard and Files (2001) note that the gravity model provides a multivariate framework for assessing the impact of Regional Trade Agreements (RTAs) on the level in terms of volume rather than composition and what drives one country to export to another. The model predicts that a country's absolute trade potential depends on its total economic size as well as other factors such as land area, population, geographical distance, cultural similarities, policy and political ties (Kirkpatrick and Watanabe, 2005). These studies showed that the volume of trade is positively related to the national incomes of trading partners, and a decreasing function of the distance between them. The assumption being that, in the absence of a regional trade agreement, members' trade will be proportional to the gross domestic product (GDP) and the distance between them.

An examination of the ELG hypothesis by testing for causality and auto-correlation (Box-Pierce statistics to test for general auto-regression on the residuals) on a bi-variate autoregressive process for the period 1950-1981 for 37 countries. Jung and Marshall (1985) found that the ELG hypothesis was not supported in most of the countries except for Indonesia, Egypt, Ecuador, and Costa Rica. The export reduction hypothesis was supported in South Africa, Korea, Pakistan, Israel, Bolivia, and Peru. Unidirectional causation from growth to exports was found in three countries (Iran, Kenya, and Thailand), supporting the growth-led export hypothesis. Evidence of growth reducing export was found in Greece and Israel. The authors did not test for stationarity and cointegration. Fosu (1990) investigated the role of export growth in less developed African countries. Using a pooled time-series for the period of 1960-1970 and 1970-1980, the author found that exports have a positive and significant effect on economic growth in 28 African LDCs. However, in comparing the non-African LDCs with African LDCs, the study concluded that the impact of exports on economic growth is comparatively smaller in the African sample.
In looking into the causal relationship of exports and economic growth in 47 countries in Africa by Ahmad and Kwan (1991). The authors utilized pooled time series and cross sectional data from 1981-1987, the study tested Granger causality based on an error correction model. The results generally supported the notion that no causation exists between exports and economic growth or vice versa in the African countries. However, the authors showed that in some low-income African countries, weak causality runs from economic growth to exports.

A study on the linkage of export and economic growth using eight low income African countries over the period 1969-1988. Based on the time-series regression results, Ukpolo (1994) concluded that there is a positive relationship between non-fuel primary exports and economic growth. However, the regression results (including Kenya) present some inconclusive outcome on the positive role of manufactured exports on economic growth. Similarly, Amoateng and Amoako-Adu (1996) used the trivariate causality analysis by including the external debt into the export-economic growth Granger causality regression. Using data for Low-Income Africa, Middle-Income Africa, Africa - south of Sahara, and the entire sample for the period of 1971-1990, 1971-82 and 1983-90, the relationships among GDP growth, export revenue growth and foreign debt service was examined in the study. The authors found bidirectional causality between external debt servicing, economic growth and exports.

A comprehensive review of literature of about 150 applied papers on ELG from 1963-1998 was done by Giles and Williams (2000). The literature was divided into three groups: cross-country correlation coefficients, cross sectional, and individual country-specific time-series. Two-third of the papers under review used time series, and about 70 of them focused on the dynamic relationship of exports and economic growth using the concept of Granger causality. The authors presented somewhat mixed results of ELG studies done so far with diverse and contradicting conclusions.

The performance of a country's exports is highly dependent on its exchange rate regime and more specifically the real exchange rate. Various studies have shown that the demand for a country's exports increases when its export prices fall in relation to the world prices. The depreciation of its currency compared to other currencies particularly the dollar, makes its exports cheaper on the international market. For example, Sharma (2001) found that the demand
for Indian exports increased when its export prices fell. He also said that the appreciation of the Indian rupee at one time adversely affected Indian exports. In Uganda, an investigation of the impact of trade liberalization on export volumes by Kasekende and Atingi-Ego (1999) found no significant relationship between real exchange rates and export volumes. It further argued that a competitive exchange rate is associated with export growth. In Tanzania, a time series study on Non Traditional Exports (NTE) found a statistically significant relationship between real devaluation and export growth of NTEs.

Previous studies on determinants of export performance in developing countries show that FDI has a significant positive impact on export structure. Van Dijk (2002) conducted a similar study on Indonesia and concluded that FDI was very significant on explaining export performance. Analogously, Amelia and Santos, (2000) while studying effects of trade liberalization in selected 48 developing countries found that FDI significantly impacts on export volumes. A study on relative performance in Eastern Europe suggested that lack of changes in export structure and FDI had significant effects on export performance. The study revealed that FDI sometimes chooses sectors in the economy where a country may not have relatively specialized and that this also affects export performance. Also, the study suggested that imports of intermediate inputs and machinery are important determinants of changes in the export structure.

On regression of export growth on real exchange rate, terms of trade and lagged export growth, Musinguzi and Obwona (2000), found that the terms of trade had a marginal but statistically significant impact on export growth. Parimal (2006) also associated deteriorating terms of trade with contraction of export earnings. He cited an example of Burundi which is dependent on coffee and tea like Kenya to an extent of 87%. When Burundi’s coffee and tea prices fell by 37% and 20% respectively, its annual exports fell from $154 million to 90 million.

Kimura and Kiyota (2006), in their paper Exports, FDI, and productivity: examined the relationship between exports, foreign direct investment, and firm productivity. Using longitudinal panel data on Japanese firms, it is found that the most productive firms engage in exports and foreign direct investment, medium productive firms engage in either exports or foreign direct investment, and the least productive firms focus only on the domestic market. Moreover, exports and foreign direct investment appear to improve firm productivity once the
productivity convergence effect is controlled for. Firms that retain a presence in foreign markets, either by exports or foreign direct investment, show the highest productivity growth, which contributes to improvements in national productivity.

In a study of demand for British exports, Musinguzi and Obwona (2000) used an econometric examination of the demand for British exports over the period 1870-1913. The author specified an equation for the rest of the world's demand for British exports in the following logarithmic form.

$$\ln X_t = a_0 + a_1 \ln WT_t + a_2 \ln (P_x/P_w)_t + a_3 \Delta \ln CIP_t + a_4 \ln OSI_t + a_5 \ln X_{t-1} \ldots \ldots (1)$$

Where \( X \) is the volume index of visible exports. \( WT \) is an index of the volume of world trade and its coefficient is expected to be positive and \( t \) is the time. The term \( P_x/P_w \) is the price index of British exports relative to the export prices of three major competitors exporting manufactured goods: France, Germany, and the United States.

Three other variables are added to the standard export demand equation. The term \( \Delta \ln CIP \) is an index of the growth of industrial production in 'core' industrial economies (excluding the UK) and was derived from data on industrial production for five European countries and the US. Following Lewis, this is intended to reflect the stimulus to British exports arising from changes in the pace of growth in major industrial markets. In so far as growth of industrial production has both competitive and complementary effects, its sign would be uncertain but competitiveness would be captured mainly in the price term so that complementarity might be expected to dominate. \( OSI \) is a measure of overseas issues or ex ante capital exports and is deflated by an index of foreign GDP deflators. If lending stimulated exports directly then this term should take a positive coefficient. Finally, he included the lagged dependent variable to allow for a geometric lag between the determinants of demand and actual exports which would be expected to arise through the time taken to communicate demand and ship goods to the docks.

2.4 Literature Overview

Export instability affects the general performance of the general economy. Kenya being a primary commodity exporting country is susceptible to price fluctuation in the world market, which justifies the government's effort to promote the sector since the early 1990's. Determining factors influencing exports to the EU and the effect of reciprocity on Kenya's exports to the EU
will help provide information to the policy makers to enable them come up with the appropriate policies regarding the growth of the sector and the economy as a whole and will help broaden the understanding of consequences of ACP countries opening their markets to the EU as well as provide an incite why Kenya has been unable to benefit from the EU-ACP trade preferences. This will also give policy direction in the signing of the EPAs.

Two caveats can be raised from an econometric point of view with respect to the results of most of the available empirical analyses on bilateral economic relations. First, only a few of the studies made use of the information in every available dimension of variation (i.e., cross-section and time, at the aggregate level). Country-specific effects could have had a major influence, but were not tested for in many cases. Secondly, only static specifications have been estimated. A dynamic treatment of the bilateral economic relationships, however, would allow a useful distinction between short-run and long-run relationships.

Even though the gravity model has gained wide application, a number of fundamental issues have been raised on its usage. The model appears to exist in a vacuum due to its lack of solid theoretical micro-economic underpinnings. The postulation that bilateral trade between countries is dependent of the size of their GDP and distance between them is not embedded on any theoretical literature of international trade. Equally, the model ignores the role of technology, factor endowments and demand functions or structural differences that are known to influence international trade. In addition some econometric issues still remain unresolved. The use of total trade (imports and exports) as dependent variable and the other standard variable with proxies to test the effects of membership of an RTA is in dispute. The use of total trade as dependent variable imposes equality of coefficients between exports and imports. It is suggested that these should be estimated separately.

Polak (1996) points out that using constant distance between trading partners is problematic, because the absolute distance of some countries from their trading partners is much lower than others. Polak gives the example of the EU (and their dependent on adjacent trading partners) as more favorably located in these terms in contrast to the South-East Asia countries (with higher dependence on the more distant European countries and other OECD markets), in addition the
use of dummy variables to capture additional effects of an RTA may lead to incorrect inference, especially where there is multiplicity of membership to various trade arrangements.

However, from these literatures there is no uniform approach on the methodology. The researchers have employed different methods depending on the study objectives and resource requirements. Since most of the empirical studies have used the gravity model whose weaknesses have been outlined above, this study will employ a modified Ordinary Least Square (OLS) to establish the effect of ACP-EU trade relations on Kenya’s exports since independence. It is expected that the results from the study will add to the empirical literature on EU-ACP trade relations and its effects on exports from developing countries (ACP).
CHAPTER THREE

3.0 METHODOLOGY

3.1 Theoretical Framework

Following the partial equilibrium model outlined in Goldstein and Kahn (1985) and discussed further in Edwards and Wilcox (2003) the specification of the export model differs between studies, particularly with respect to the variables included. But the core of the underlying (long-run) framework is usually a system of equations for export supply \((X_s)\) and export demand \((X_d)\), for country’s exports in a given commodity or commodities, which simultaneously determine the export price and the export quantity.

Although literature on commodity export functions starts from structural equations, which accommodate a number of factors, the estimated reduced form equations are generally price-focused; they include either current or lagged (relative) prices. Therefore conventional commodity export models usually incorporate the real foreign income of trading partners and real exchange rate as a proxy for relative prices as explanatory variables in estimation of export functions in general (Ogun, 1998, Klaasssen, 1999, Ndung’u and Ngugi, 1999).

Usually, in the conventional export function, exports are related to incomes of foreign importing countries. Given that a small country’s exports constitute a very small proportion of the world supply, Musinguzi argued that the external element is not a limiting factor to a small country’s exports, thus used the model:

\[
\ln x_s = f_0 + f_1 \ln TOT + f_2 \ln RER + f_3 \ln Y + \mu_t
\]

\[
................................. (2)
\]

\(f_1, f_2, f_3 > 0\)

Where \(Y\) is real income. In the actual estimation, the author used the index of industrial production instead of \(Y\). \(TOT\) is terms of trade, export price and import price indices were also used to derive \(TOT\) since they were more appropriate deflators for exports and import values than the domestic price indices. \(RER\) is the real exchange rate and \(\mu\), the error term Musinguzi et al (2000).
This study adopts a similar approach as Musinguzi (2000) and Hatton (1990), but the explanatory variables for Export value which is the dependent variable are, Foreign direct Investment, Gross Domestic Product, Terms of Trade, Real Exchange Rate and Foreign Aid. To examine the effect of the EU-ACP trade relations the study introduced a dummy (PTR); where a dummy value of (1) represents existence of a preferential EU trade relation with ACP countries (Kenya) i.e. existence of reciprocity and (0) when there is no preferential trade relation (i.e. 1960-1974 and after 2008 when the EPAs should have taken effect), that is non-existence of reciprocity.

To analyze the effect of the trade relation on Kenya’s exports to the EU, the study used a dummy variable to capture the effect of reciprocity on Kenya’s exports to the EU. This was used as a proxy to check whether the trade relation has had any effect on exports since it started by checking the exports performance to the EU when ACP states were given preferential treatment and when they were not. The study also looked at the various trade agreements from Lome I-IV to Cotonou partnership agreement and the EBAs focusing on their objectives. The EU-ACP trade relation was geared towards; stabilization of exports earnings, foreign aid agreement, removal of tariffs on imports, regional cooperation, increasing trade of the ACP and improve competitiveness in domestic regional and international markets as a response to debt crisis and famines.

The trade relation also aimed at promotion and advancement of economic, cultural and social development of the ACP states and was mainly focused on food security and self-reliance as well as poverty eradication, ACP Group, (2000), loans, grants and risk capital were also provided. To exhaustively capture these factors the study used proxies like, real Gross domestic product, Foreign aid from the EU, Real exchange rates, foreign direct investment and terms of trade. This helped determine whether these factors had either a positive or negative effect on Kenya’s exports to the EU.
3.2 Stationarity, Cointegration and Diagnostic Testing

For estimation purposes, time series data covering the period 1960-2010 was used. Prior to testing for a causal relationship between the time series, the first step is to check the stationarity of the variables used as regressors in the models to be estimated. Stationary series have finite variance, transitory innovations from the mean and a tendency to return to its mean value as opposed to non-stationary series. Therefore we need to ensure that the variables we want to estimate have their means and variance well defined, constant and independent of time. The aim is to verify whether the series have a stationary trend, and, if non-stationary, to establish orders of integration.

For this purpose, Augmented Dickey-Fuller (ADF) was used to test for stationarity of the data and all the explanatory variables were examined. The variables were real gross domestic product (GDP), real exchange rate (RER), Export value (X), foreign direct investment (FDI), Foreign Aid (ODA) and terms of trade (TOT). To test the level of integration of the variables, the well-known Dickey Fuller (DF) and the augmented Dickey Fuller (ADF) tests were used. If the series are non-stationary the use of classical methods of estimation such as OLS could lead us to mistakenly accept spurious relationships, and thus their results would be meaningless. Second, in cases where the series are non-stationary around their mean, the traditional suggestion is to difference the series. This usually leads to stationarity, hence allowing the application of conventional econometrics (Granger and Newbold, 1974). However, first differencing is certainly not an appropriate solution to the above problem and has a major disadvantage of preventing the detection of long-run relationship that may be present in the data, i.e. the long-run information is lost, which is precisely the main question being addressed.

The standard ADF procedure was based on the following equation (Dickey and Fuller, 1979).

\[ \Delta y_t = \beta_1 + \beta_2 y_{t-1} + \sum_{i=1}^{p} d_i \Delta y_{t-i} + \nu_t \]  

where \( y \) = is the variable of interest = \{GDP, TOT, FDI, ODA, RER,\} and \( \nu_t \) is the white noise residual of zero mean and constant variance. \( \Delta \) is a first-difference operator, \( p \) is the number of optimal lags, \( t \) = time

\( \{\beta_1, \beta_2, d_1... d_p\} \) is a set of parameters to be estimated.
Both of the null and alternative hypotheses in unit root tests are:

H₀: \( \beta_2 = 0 \) (\( y \) is non-stationary/a unit root process)
H₁: \( \beta_2 \neq 0 \) (\( y \) is stationary)

The unit root hypothesis of the Dickey-Fuller can be rejected if the t-test statistic from these tests is less than the critical value tabulated. In other words, by the Augmented Dickey Fuller (ADF) test, a unit root exists in the series \( y \) (implies non-stationary) if the null hypothesis of \( \beta_2 \) equals zero is not rejected (Gujarati, 1995).

On the evidence of non stationarity in each variable and the same order of integration of all the variables, the study pursued the cointegration methodology and the subsequent estimation of the associated error correction model (Engle and Granger, 1987). The absence of a cointegrating relationship (long-run equilibrium) among the variables allows the application of simple Ordinary Least Squares (OLS) to estimate the model without risking misleading inferences stemming from spurious correlations.

RER and TOT, GDP and FDI, and FDI and ODA could be highly correlated. A correlation matrix for the variables was run. If there is a strong correlation between any two variables (i.e. 0.6 and above), then there could be a problem of multicollinearity. Similarly a high \( R^2 \) with low values of t statistic, high F-value for a group of coefficients that are individually insignificant and when the coefficient change with inclusion of a new variable, then this could also be a sign of multicollinearity. Multicollinearity is a situation where the measured variables (independent variables) are too highly correlated to allow precise estimation of their individual effects.

Multicollinearity may lead to a large \( R^2 \), that is, if the coefficients on the right hand side are important. It may also lead to inconsistent results in terms of size and sign. In addition it also becomes difficult to identify separate effects of variables involved. To solve the problem of multicollinearity, a correlation matrix was generated. since there was a strong correlation between most of the variables, they were differenced to eliminate the problem of high correlation among variables and this solved the problem of multicollinearity. The study also applied OLS when the Durbin Watson statistic did not indicate any problem with serial correlation.
3.3 The Model

The study employed the Musinguzi (2000) and Hatton (1990), fully modified OLS (FM-OLS) procedure to obtain the long run estimates for the variables. The fully modified OLS produces asymptotically unbiased estimates.

3.3.1 Model Specification

An empirical model along the standard export trade model is thus specified as;

\[ X = f(GDP^{\beta_1}, TOT^{\beta_2}, FDI^{\beta_3}, ODA^{\beta_4}, PTR^{\beta_5}, RER^{\beta_6}, \epsilon) \] ................................. (4)

Where:

- **X** = Export Value
- **GDP** = Real Gross Domestic Product
- **TOT** = Terms of Trade
- **FDI** = Foreign Direct Investment inflow
- **RER** = Real exchange rate
- **ODA** = Foreign Aid
- **PTR** = Existence of a preferential trade relation between EU and ACP (1= there exist reciprocity, 0 = reciprocity doesn’t exist.)
- **\( \beta \)'s** = Coefficients to be estimated
- **\( \epsilon \)** = Error Term

The above equation (3) will be transformed into a logarithmic form for estimation purposes;

\[ \ln X = \beta_0 + \beta_1 \ln GDP + \beta_2 \ln TOT + \beta_3 \ln FDI + \beta_4 \ln ODA + \beta_5 \ln RER + \beta_6 PTR + \epsilon \] ................................. (5)
3.4 Definition of the Variables and Expected Signs

The variables under study were exports measured as the value of exports in US dollars, foreign aid in US dollars at current prices, FDI inflow from the EU in US dollars that is directed towards exports sector, terms of trade (the ratio price of exports to price of imports), Kenya’s real GDP in US dollars and The real exchange rate which was calculated by the formula:

\[ \text{RER} = \frac{\text{CPI(USA)}}{\text{CPI(Kenya)}} \times \text{Official Exchange Rate (Local Currency Unit (LCU) per US dollar; period average)} \]

Official exchange rate refers to the exchange rate determined by national authorities or to the rate determined in the legally sanctioned exchange market i.e nominal exchange rate. It is calculated as an annual average based on monthly averages (LCU relative to the U.S. dollar) and where CPI is the Consumer Price Index. The US CPI is calculated by observing price changes among a range of products in urban areas and weighting the price changes by the share of income consumers spend purchasing them. Whereas the Kenyan CPI is a measure of the weighted aggregate change in retail prices paid by consumers for a given basket of goods and services and the prices changes are measured by repricing the same basket of goods at regular intervals. The ratios are more of similar in definition hence the use in calculation of RER.

The model was estimated in natural logarithms to make it less sensitive to extreme observations when applying OLS estimation and so that the estimated parameters could be interpreted as elasticities. This would further ensure normality of the residuals. The transformation is justified because it ensures that the errors are both homoskedastic and normally distributed and also ensure that the OLS yields best linear unbiased estimators.

The error term should be identically independent and normally distributed with zero mean and constant variance. We introduced the error term because we believe that X is not an exact linear combination of the independent variables (ODA, GDP, FDI, TOT, RER, and PTR). The error term captures sources of error that are not captured by other variables. The error term therefore represents the combined effect of omitted variables assuming that; the combined effect of the omitted variables is independent of each variable included in the equation, the combined effect of the omitted variables is independent across subjects and that the combined effect of the omitted variables has expectation zero. This is because the observed variables in the real world
are very sensitive to a large number of other factors and would therefore likely need a very large number of independent variables to complete all of the factors that influence the value of exports. 
If we fail to include even one such variable then our independent variables will not completely predict the values of exports, hence model misspecification.

FDI was expected to have a significant positive impact on export values, similarly FDI sometimes chooses sectors in the economy, where a country may not have relatively specialized and that this also affects export performance. Real GDP values was also postulated to have a positive impact on exports values, further export growth is positively related to output level since higher production leads to increased export volumes. Favorable terms of trade are associated with increased export growth rate and unfavorable terms with low export growth rate. As for Real Exchange Rate, studies have shown that demand for a country’s exports increase when its exports prices fall in relation to world prices. The depreciation of its currency compared to other currencies like the dollar makes its exports cheaper in the international market. Foreign aid was expected to have a positive impact on exports since it supplements domestic savings, export earnings and government revenue hence increasing investment, imports and government expenditure. Similarly a large inflow of foreign aid also results in a loss of competitiveness of exports, counteracting other efforts to increase exports. Finally, for the dummy variable PTR we expected that with the existence of a preferential trade relation the value of exports should be higher and lower with the absence of preferential trade relation.

3.5 Sources of Data
The data used in this study was time series data consisting of annual observations on real GDP values, real export values to the EU, Terms of Trade, real exchange rate, foreign direct investment and foreign aid from the EU and covered the period 1960 to 2010. The data on real GDP values, exports values and Terms of Trade were collected from the various Economic Surveys and World Bank Development Indicators. Foreign aid data was collected from international development statistics online and foreign direct investment was collected from the UNCTAD statistical database. For computation of RER for the various years, CPI for Kenya was got from the various issues of Economic Surveys whereas the United States CPI was got from
International Monetary Fund (IMF) international statistics. The dummy variable that reflects preferential trade relation was the author's elaborated data.

The data used in this analysis had a number of limitations that should be highlighted. First, the sample period is limited to 1960-2010 because of the non-availability of official national account data prior to this period. Consequently, the estimates obtained using some of the current econometric techniques have some limitations that must be taken into account an example is differencing of the time series data to make them stationary. This technique prevents the detection of long run relationship that may be present in the data. Similarly since disaggregated data for FDI and foreign aid that shows the ones directed towards exports sectors was not available, the study assumed that the foreign aid and FDI from the EU are directed towards export sectors.

Second, owing to the unavailability of reliable quarterly data for most of the variables under consideration for the entire period, the periodicity of all the data used in this investigation was annual. Despite some these shortcomings, it is hoped that the data acted as a guide in ensuring that we obtain reasonable results for the purpose of this paper.

As long as the Ordinary Least Squares (OLS) assumptions i.e. linearity of the model, no multicollinearity, homoskedasticity e.t.c, remain intact, time series models present nothing different or unusual. However, time series data is quite likely in practice to violate a few of the standard assumptions. Therefore it was important to examine the likely scenarios and how to deal with them. The study took care of multicollinearity issues by differencing. Furthermore, all of the series are transformed into log form. Log transformation can reduce the problem such as heteroscedasticity because it compresses the scale in which the variables are measured, thereby reducing a tenfold difference between two values to a twofold difference (Gujarati 1995).
CHAPTER FOUR

4.0 DATA ANALYSIS AND RESULTS

4.1 Descriptive Statistics

Table 3 gives the descriptive statistics of the variable series. Statistical analysis is carried out using STATA 10 software. The mean and median locate the center of the relative frequency distribution. Mean is the average value of the series, obtained by adding up the series and dividing by the number of observations. Median is the middle value (or average of the two middle values) of the series when the values are ordered from the smallest to the largest. The median is a robust measure of the center of distribution that is less sensitive to outliers than the mean. As shown in the table 3 the mean and median are very close implying that the data doesn’t suffer from the outlier problem.

The mean and the median do not tell us about what the distributions of the values look like and the extent to which values are dispersed or spread out. Measures of dispersion help determine whether the values fall fairly close to the central tendency measure. They measure the spread of the relative frequency distribution. In table 3 several measures are considered, maximum and minimum values (which determine the range), standard deviation, skewness and kurtosis.

Std. Dev. (standard deviation) is a measure of dispersion or spread in the series. When divided by the mean it gives the coefficient of variation which measures relative variability or volatility. Highest coefficient is the most volatile. Skewness is a measure of asymmetry of the distribution of the series around its mean. The skewness of a symmetric distribution such as the normal distribution is zero. Positive skewness means that the distribution has a long right tail and negative skewness implies that the distribution has a long left tail. Table 3 shows that the measure of skewness is in most cases close to zero implying that the distribution of this dataset are normal.
Table 3: Summary Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Std. Dev.</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>CV</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>LnGDP</td>
<td>22.264</td>
<td>22.471</td>
<td>1.088</td>
<td>1.161</td>
<td>-5.97</td>
<td>-0.66</td>
<td>0.048</td>
<td>20.26</td>
<td>24.19</td>
</tr>
<tr>
<td>LnX</td>
<td>20.363</td>
<td>20.394</td>
<td>0.358</td>
<td>0.124</td>
<td>-7.10</td>
<td>-0.19</td>
<td>0.017</td>
<td>19.79</td>
<td>21.31</td>
</tr>
<tr>
<td>LnRER</td>
<td>4.448</td>
<td>4.477</td>
<td>0.126</td>
<td>0.015</td>
<td>-6.84</td>
<td>1.12</td>
<td>0.028</td>
<td>4.14</td>
<td>4.81</td>
</tr>
<tr>
<td>LnTOT</td>
<td>4.457</td>
<td>4.454</td>
<td>0.120</td>
<td>0.014</td>
<td>-6.87</td>
<td>-0.06</td>
<td>0.027</td>
<td>4.25</td>
<td>4.79</td>
</tr>
<tr>
<td>LnODA</td>
<td>19.184</td>
<td>19.493</td>
<td>1.066</td>
<td>1.117</td>
<td>-5.66</td>
<td>-0.91</td>
<td>0.056</td>
<td>16.84</td>
<td>21.04</td>
</tr>
<tr>
<td>LnFDI</td>
<td>16.720</td>
<td>16.163</td>
<td>0.351</td>
<td>0.135</td>
<td>-4.21</td>
<td>0.65</td>
<td>0.080</td>
<td>12.88</td>
<td>20.41</td>
</tr>
<tr>
<td>PTR</td>
<td>0.647</td>
<td>1</td>
<td>0.482</td>
<td>0.231</td>
<td>-0.62</td>
<td>1.66</td>
<td>0.746</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Kurtosis measures the peakedness or flatness of the distribution of the series. The kurtosis of the normal distribution is 3. If the kurtosis exceeds 3 the distribution is peaked (leptokurtic) relative to the normal. If the kurtosis is less than 3, the distribution is flat (platykurtic) relative to the normal. From the kurtosis values it is evident that all variables are normally distributed.

4.2 Autocorrelation Test
The Durbin Watson statistic of 2.228 shows that there is no serial correlation between the dependent variable and the residual of the estimated equations. Hence the residual becomes the Error Correction Term (ECT). The residuals are therefore taken to be independent and identically distributed as N (0,8).

4.3 Correlation of Variables
Correlation matrix is an important indicator that tests the linear relationship between the explanatory variables. It also helps in determining the strengths of the variables in the model. This helps to determine which variables to drop from the equation. For example table 4 shows the correlation matrix of the variables.

Table 4: Correlation of variables

<table>
<thead>
<tr>
<th></th>
<th>lnx</th>
<th>lngdp</th>
<th>lnTot</th>
<th>lnFDI</th>
<th>lnODA</th>
<th>lnRER</th>
<th>PTR</th>
</tr>
</thead>
<tbody>
<tr>
<td>lnx</td>
<td>1.00</td>
<td>0.69</td>
<td>0.20</td>
<td>0.62</td>
<td>0.67</td>
<td>-0.21</td>
<td>0.52</td>
</tr>
<tr>
<td>lngdp</td>
<td>0.69</td>
<td>1.00</td>
<td>-0.20</td>
<td>0.62</td>
<td>0.67</td>
<td>-0.21</td>
<td>0.52</td>
</tr>
<tr>
<td>lnTot</td>
<td>0.20</td>
<td>-0.20</td>
<td>1.00</td>
<td>-0.09</td>
<td>0.51</td>
<td>-0.12</td>
<td>0.28</td>
</tr>
<tr>
<td>lnFDI</td>
<td>0.62</td>
<td>0.62</td>
<td>-0.09</td>
<td>1.00</td>
<td>1.00</td>
<td>0.10</td>
<td>0.28</td>
</tr>
<tr>
<td>lnODA</td>
<td>0.67</td>
<td>0.67</td>
<td>0.51</td>
<td>1.00</td>
<td>1.00</td>
<td>0.10</td>
<td>0.28</td>
</tr>
<tr>
<td>lnRER</td>
<td>-0.21</td>
<td>0.29</td>
<td>-0.12</td>
<td>0.10</td>
<td>0.10</td>
<td>1.00</td>
<td>0.28</td>
</tr>
<tr>
<td>PTR</td>
<td>0.52</td>
<td>0.59</td>
<td>0.27</td>
<td>0.37</td>
<td>0.37</td>
<td>0.27</td>
<td>1.00</td>
</tr>
</tbody>
</table>
From the table it is clear that GDP is highly correlated with exports and foreign aid and FDI, foreign aid is also highly correlated with exports and GDP, this is also the case between FDI and exports and GDP. This problem of high correlation brings about multicollinearity, to solve this problem, the variables were differenced once and this eliminated the problem of multicollinearity as shown in table 8, the differencing was also done to make the all the variables stationary.

4.4 Stationarity Analysis

4.4.1 Unit Root Tests
To be able to evaluate the effect of a shock to the system and also to avoid a spurious regression associated with non-stationary variables, it is necessary to ensure that the model is in a stable equilibrium. We therefore tested the time series properties of the variable used in the model using the ADF test. In the analysis one lag is chosen since the data is expressed yearly. The variable series are also expressed in logarithms. It follows that all the variables have unit roots i.e. $I(1)$ order of integration. The results are presented in table 5 and 6.

### Table 5: Unit Roots Test Results ($\text{Lag length}=1$)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Test statistic</th>
<th>1% Critical Value</th>
<th>5% Critical value</th>
<th>10% critical value</th>
<th>Stationarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>lnX</td>
<td>-1.778</td>
<td>-3.587</td>
<td>-2.933</td>
<td>-2.601</td>
<td>Non stationary</td>
</tr>
<tr>
<td>lnGDP</td>
<td>-0.829</td>
<td>-3.587</td>
<td>-2.933</td>
<td>-2.601</td>
<td>Non stationary</td>
</tr>
<tr>
<td>lnTOT</td>
<td>-3.521</td>
<td>-3.587</td>
<td>-2.933</td>
<td>-2.601</td>
<td>Non stationary at 1%</td>
</tr>
<tr>
<td>lnFDI</td>
<td>-2.991</td>
<td>-3.587</td>
<td>-2.933</td>
<td>-2.601</td>
<td>Non stationary at 1%</td>
</tr>
<tr>
<td>lnODA</td>
<td>-0.080</td>
<td>-3.587</td>
<td>-2.933</td>
<td>-2.601</td>
<td>Non stationary</td>
</tr>
<tr>
<td>lnRER</td>
<td>-2.218</td>
<td>-3.587</td>
<td>-2.933</td>
<td>-2.601</td>
<td>Non Stationary</td>
</tr>
<tr>
<td>PTR</td>
<td>-1.534</td>
<td>-3.587</td>
<td>-2.933</td>
<td>-2.601</td>
<td>Non stationary</td>
</tr>
</tbody>
</table>

### Table 6: Unit Roots Test Results after Differencing ($\text{Lag Length}=1$)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Test statistic</th>
<th>1% Critical Value</th>
<th>5% Critical value</th>
<th>10% critical value</th>
<th>Stationarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>lnX</td>
<td>-4.732</td>
<td>-3.594</td>
<td>-2.936</td>
<td>-2.602</td>
<td>Stationary $I(1)$</td>
</tr>
<tr>
<td>lnGDP</td>
<td>-3.942</td>
<td>-3.594</td>
<td>-2.936</td>
<td>-2.602</td>
<td>Stationary $I(1)$</td>
</tr>
<tr>
<td>lnTOT</td>
<td>-5.632</td>
<td>-3.594</td>
<td>-2.936</td>
<td>-2.602</td>
<td>Stationary $I(1)$</td>
</tr>
<tr>
<td>lnFDI</td>
<td>-8.768</td>
<td>-3.594</td>
<td>-2.936</td>
<td>-2.602</td>
<td>Stationary $I(1)$</td>
</tr>
<tr>
<td>lnODA</td>
<td>-3.860</td>
<td>-3.594</td>
<td>-2.936</td>
<td>-2.602</td>
<td>Stationary $I(1)$</td>
</tr>
<tr>
<td>lnRER</td>
<td>-5.360</td>
<td>-3.594</td>
<td>-2.936</td>
<td>-2.602</td>
<td>Stationary $I(1)$</td>
</tr>
<tr>
<td>PTR</td>
<td>-4.743</td>
<td>-3.594</td>
<td>-2.936</td>
<td>-2.602</td>
<td>Stationary $I(1)$</td>
</tr>
</tbody>
</table>

45
Since all the variable series have unit roots, it is possible that they are cointegrated thus we move to next stage where we formally test for the possible existence of a cointegrating equation. Before then a correlation matrix was run to check if the variables were still highly correlated. The results are shown in table 7.

Table 7: Correlation of Variables after Differencing

<table>
<thead>
<tr>
<th></th>
<th>dlnx</th>
<th>dlnGDP</th>
<th>dlintot</th>
<th>dlnfdi</th>
<th>dlnoda</th>
<th>dlnrer</th>
<th>dptr</th>
</tr>
</thead>
<tbody>
<tr>
<td>dlnx</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dlnGDP</td>
<td>0.3130</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dlintot</td>
<td>0.4285</td>
<td>-0.0420</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dlnfdi</td>
<td>0.0107</td>
<td>0.1827</td>
<td>-0.0998</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dlnoda</td>
<td>0.0392</td>
<td>0.1681</td>
<td>-0.2301</td>
<td>0.0581</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dlnrer</td>
<td>-0.1380</td>
<td>-0.5493</td>
<td>-0.0136</td>
<td>-0.0477</td>
<td>-0.0276</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>dptr</td>
<td>-0.1803</td>
<td>0.0175</td>
<td>0.0057</td>
<td>0.1209</td>
<td>-0.0379</td>
<td>0.0281</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

From table 7 it is clear that after first differencing none of the variables became highly correlated with the other. Hence this solved the problem of multicollinearity which was evident in the first step.

4.5 Testing for Cointegration

The major concern with time series is that if non stationarity of data series persists then it may lead to spurious relationship. To avoid this problem, it is necessary to use the cointegration methodology. The regression equation can be estimated for the period 1960-2010 using the Engel-Granger two step procedure (Engel and Granger 1987). The first step is to estimate a long run equation using ordinary least squares (OLS) with variables, which are integrated of order one, I(1) in their levels. The results of the OLS are shown in the table 8.

Table 8: OLS Regression Results

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>Number of obs = 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>.549560773</td>
<td>6</td>
<td>.091593462</td>
<td>F(6, 43) = 3.83</td>
</tr>
<tr>
<td>Residual</td>
<td>1.02393628</td>
<td>43</td>
<td>.02393628</td>
<td>Prob &gt; F = 0.0038</td>
</tr>
<tr>
<td>Total</td>
<td>1.57892179</td>
<td>49</td>
<td>.032222894</td>
<td>R-squared = 0.3481</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Adj R-squared = 0.2571</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Root MSE = .15472</td>
</tr>
</tbody>
</table>

| dlnx | Coef. | Std. Err. | t    | P>|t| | [95% Conf. Interval] |
|------|-------|-----------|------|-----|-----------------|
| dlnGDP| .7253483 | .2919694 | 2.48 | 0.017 | .1365359 | 1.314161 |
| dlintot| .7780563 | .2119274 | 3.67 | 0.001 | .3506641 | 1.205449 |
| dlnfdi| .0008629 | .0158733 | 0.05 | 0.957 | -.0311497 | .0328745 |
| dlnoda| .0523859 | .0930411 | 0.56 | 0.576 | -.1352494 | .2400212 |
| dlnrer| .304104 | .3372711 | 0.90 | 0.372 | -.376068 | .9842759 |
| dptr | -.1710167 | .1104482 | -1.55 | 0.129 | -.3937567 | .0517233 |
| cons | -.03914 | .0315594 | -1.24 | 0.222 | -.1027856 | .0245056 |
In order to avoid spurious regression, residual based cointegration test was used, where the stationarity of the residual implies a cointegrating relationship among the variables in the long run equation. The results for the ADF test of the residual are shown in the table 9.

### Table 9: ADF Test for Residual

<table>
<thead>
<tr>
<th>Augmented Dickey-Fuller test for unit root</th>
<th>Number of obs = 48</th>
</tr>
</thead>
<tbody>
<tr>
<td>------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Interpolated Dickey-Fuller</td>
<td></td>
</tr>
<tr>
<td>Test Statistic</td>
<td>Interpolated Dickey-Fuller</td>
</tr>
<tr>
<td>Z(t)</td>
<td>Value</td>
</tr>
<tr>
<td></td>
<td>1% Critical Value</td>
</tr>
<tr>
<td></td>
<td>5% Critical Value</td>
</tr>
<tr>
<td></td>
<td>10% Critical Value</td>
</tr>
<tr>
<td>-5.138</td>
<td>-3.594</td>
</tr>
<tr>
<td>-2.936</td>
<td>-2.602</td>
</tr>
<tr>
<td>MacKinnon approximate p-value for Z(t)</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

| D. resid | Coef. | Std. Err. | t    | P>|t| | [95% Conf. Interval] |
|----------|-------|-----------|------|-----|----------------------|
| resid    | -1.148788 | .22358 | -5.14 | 0.000 | -.1.599101 | -.6984745 |
| L1.      | .0186792  | .1510064 | 0.12  | 0.902 | -.2854633 | .3228218  |
| LD.      | -.0026048 | .0215427 | -0.12 | 0.904 | .0459941  | .0407845  |

Since the test statistic is -5.138 is less than the critical values at 1%, 5%, 10%, it therefore, implies that residual from the regression using the ADF test is stationary. This result indicates that an ECM is a better fit than one without.

The second step in the Engel Granger procedure is to estimate the corresponding error correction model (ECM), based on the long run cointegrating relationship to observe the short-run dynamics (Engel and Granger, 1987).

The study estimated the ECM using the residual from the long-run equation. The ECM is based on stationary data (as all the I(1) regressors are in first difference form) and includes the residuals of the long-run equation, which is also I(0) when the variables have cointegrating relationship. Since the dummy variable is not continuous, there is no need to worry about the stationarity of the dummy variable. The study ran a short run error correction model (ECM). In the ECM, the residual for annual data acts as the error correction term. The results of the error correction model in this case are presented in the table 10.
Table 10: Error Correction Model Results

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>Number of obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>550087246</td>
<td>7</td>
<td>70583892</td>
<td>50</td>
</tr>
<tr>
<td>Residual</td>
<td>1.02883455</td>
<td>42</td>
<td>0.02496061</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1.57892179</td>
<td>49</td>
<td>0.032222894</td>
<td></td>
</tr>
</tbody>
</table>

| dlnx       | Coef.    | Std. Err. | t       | P>|t|        | [95% Conf. Interval] |
|------------|----------|-----------|---------|------------|---------------------|
| dlnGDP     | 0.7236193 | 0.2955846 | 2.45    | 0.019      | 0.1271055 1.320133 |
| dln tot    | 0.7772613 | 0.2144942 | 3.62    | 0.001      | 0.3444853 1.210037 |
| dlnfdi     | 0.0009604 | 0.0160708 | 0.06    | 0.953      | -0.0314718 0.033927 |
| dlnoda     | 0.0513069 | 0.095455 | 0.54    | 0.590      | -0.1392111 0.248249 |
| dlnrertotal | 0.3017724 | 0.3415458 | 0.88    | 0.382      | -0.3874949 0.9910397 |
| dplntotal  | -0.1749367 | 0.1148819 | -1.52   | 0.135      | -0.4067777 0.0569043 |
| dlnresid   | -0.0002322 | 0.0015841 | -0.15   | 0.884      | -0.0034291 0.0029647 |
| d_lcons    | -0.0329984 | 0.0526708 | -0.63   | 0.534      | -0.1392925 0.0732956 |

4.6 Estimation Results

4.6.1 General Model

The dynamic interaction between the variables will be quantified using an error correction model (ECM); the ECM model allows for the quantification of the short-run and long-run interaction of the variables in the study. The error correction term is a key component of the error correction model and it is the mechanism through which the system of equations corrects the deviations from equilibrium in the long run.

The general error correction model is given by

\[ X_t = \beta_0 + \sum_{i=1}^{p_1} \beta_1 \Delta X_{t-i} + \sum_{i=1}^{p_2} \beta_2 \Delta GDP_{t-i} + \sum_{i=1}^{p_3} \beta_3 \Delta TOT_{t-i} + \sum_{i=1}^{p_4} \beta_4 \Delta FDI_{t-i} + \sum_{i=1}^{p_5} \beta_5 \Delta ODA_{t-i} + \sum_{i=1}^{p_6} \Delta RER_{t-i} + \sum_{i=1}^{p_7} \beta_7 \Delta PTR_{t-i} + \sum_{i=1}^{p_8} \beta_8 \Delta ECT_{t-i} + \epsilon_t \]  \hspace{1cm} (6)

Where ECT\(_{t-i}\) is the error-correction term derived from the long run cointegrating relationship. Therefore, the estimated coefficient of ECT (\(\beta_8\)) measures the long-run equilibrium relationship while \(\beta_1, \ldots, \beta_7\) measure the short-run causal relation. Our model therefore takes the form in equation 7.

\[ d\ln X = \beta_0 + \beta_1 d\ln GDP + \beta_2 d\ln TOT + \beta_3 d\ln FDI + \beta_4 d\ln ODA + \beta_5 d\ln RER + \beta_6 PTR + \beta_7 Resid \]  \hspace{1cm} (7)

Where Resid is the error correction term (ECT) and \(d\) denotes the first differences of the variables.
Table 11: General Model Regression Results (Model 1)

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>Number of obs = 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>.550087246</td>
<td>7</td>
<td>.078583892</td>
<td>F (7, 42) = 3.21</td>
</tr>
<tr>
<td>Residual</td>
<td>1.02883455</td>
<td>42</td>
<td>.024496061</td>
<td>Prob &gt; F = 0.0082</td>
</tr>
<tr>
<td>Total</td>
<td>1.57892179</td>
<td>49</td>
<td>.032222894</td>
<td>R-squared = 0.3484</td>
</tr>
</tbody>
</table>

Adj R-squared = 0.2398
Root MSE = .15651

| dlnx       | Coef.    | Std. Err. | t      | P>|t|   | [95% Conf. Interval] |
|------------|----------|-----------|--------|-------|---------------------|
| dlnGDP     | .7236193 | .2955846  | 2.45   | 0.019 | .1271055 - 1.320133 |
| dlnTOT     | .7772613 | .2144492  | 3.62   | 0.001 | .3444853 - 1.210037 |
| dlnFDI     | .0009604 | .0160708  | 0.06   | 0.953 | -.0314718 - 0.033927 |
| dlnODA     | .0513069 | .0944055  | 0.54   | 0.590 | -.1392111 - 0.241249 |
| dlnRER     | .3017724 | .3415458  | 0.88   | 0.382 | -.3874949 - 0.991039 |
| dlnPTR     | -.1749367 | .1140819 | -1.52  | 0.135 | -.4067777 - 0.056904 |
| resid      | -.0002322 | .0015841 | -0.15  | 0.864 | -.0034291 - 0.002967 |
| _cons      | -.0329984 | .0526708 | -0.63  | 0.534 | -.1392925 - 0.0732956 |

Model 1

dlnX = -0.03299 + 0.72362dlnGDP + 0.77726dlnTOT + 0.00096dlnFDI + 0.05131dlnODA + 0.30177dlnRER - 0.17494PTR - 0.03299resid  \[8\]

Equation 8 is not the best fit model because of possible existence of endogeneity between exports and GDP and between exports and TOT hence cannot give the best estimates. The endogeneity is as a result of simultaneity, the endogenous nature implies that if the equation is estimated by using OLS it gives biased and inconsistent estimates. We therefore need an instrumental variable for GDP and TOT, which is correlated with GDP and TOT respectively but not correlated with the error term and the dependent variable. The use of an instrumental variable will help solve the problem of endogeneity. Moreover only two variables GDP and TOT are statistically significant determinants of exports to the EU, while all the other variables are insignificant.

To solve the problem of endogeneity the study used the lagged values for both GDP and TOT as instruments for GDP and TOT respectively. The other independent variables included are FDI, ODA, RER and the dummy variable (PTR). The results for the two stage least square regression are shown in table 12. Although current values of GDP may be endogenous to exports values it is unlikely that past values of GDP could be endogenous to exports. The two stage least square regression results show that only Terms of trade, foreign aid, and the residual are statistically
significant determinants of Exports to the EU. All the independent variables explain 90% of the variations in export values. This model results can still not give good estimates because most of the variables are statistically insignificant.

Table 12: 2SLS Regression Results (Model 2)

Instrumental variables (2SLS) regression

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>Number of obs = 49</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>1.41559995</td>
<td>7</td>
<td>0.202228564</td>
<td>F( 7, 41) = 45.90</td>
</tr>
<tr>
<td>Residual</td>
<td>0.162894685</td>
<td>41</td>
<td>0.003973041</td>
<td>Prob &gt; F = 0.0000</td>
</tr>
<tr>
<td>Total</td>
<td>1.57849463</td>
<td>48</td>
<td>0.032885305</td>
<td>R-squared = 0.8968</td>
</tr>
</tbody>
</table>

| dlnx  | Coef. | Std. Err. | t  | P>|t| | [95% Conf. Interval] |
|-------|-------|-----------|----|------|---------------------|
| dlngdp| 0.1147479 | 0.4173373 | 0.27| 0.785 | -0.7280819 | 0.9575778 |
| dlnTOT| 0.8732152 | 0.129214 | 6.76| 0.000 | 0.6122623 | 1.134168 |
| dlnFDI| -0.0014485 | 0.0076551 | -0.19| 0.851 | -0.169083 | 0.140113 |
| dlnODA| 0.1765865 | 0.086266 | 2.05| 0.047 | 0.0023688 | 0.3508042 |
| dlnRER| -0.1789843 | 0.3355363 | -0.53| 0.597 | -0.8566136 | 0.498645 |
| dpTR  | -0.0035458 | 0.0476533 | -0.07| 0.941 | -0.097835 | 0.092692 |
| resid | 0.9958031 | 0.0718488 | 13.86| 0.000 | 0.8507015 | 1.140905 |
| cons  | 0.0030771 | 0.0306276 | 0.10| 0.920 | -0.0587766 | 0.0649308 |

Instrumented: dlngdp dlnTOT
Instruments: dlnFDI dlnODA dlnRER dpTR resid lagnlngdp lagdlnTOT

Model 2

\[
\text{dln}X = -0.003077 + 0.114748\text{dlnGDP} + 0.873215\text{dlnTOT} - 0.001449\text{dlnFDI} + 0.176587\text{dlnODA} - 0.178984\text{dlnRER} - 0.003546\text{PTR} + 0.995803\text{resid} \quad (9)
\]

Model 2 does not still give better estimates hence, to get a well specified model, statistically insignificant variables like RER were removed from the model, GDP was also replaced with consumption as a proxy since it was also endogenous and similarly insignificant after being lagged and used as an instrument for GDP. Real Gross fixed capital formation (GFCF) was thought of as a good proxy variable for FDI since FDI was a statistically insignificant determinant of exports. The other independent variables were lagged values of TOT, foreign aid and the dummy variable. All the new variables were tested for stationarity and only became stationary after first differencing. Data for consumption (TC) and real GFCF were obtained from
World Bank Development Indicators. With the new variables the two stage least square regression results are shown in table 13.

Table 13: 2SLS regression results (Model 3)

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>Number of obs = 49</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>1.46780255</td>
<td>6</td>
<td>.244633759</td>
<td>$F( 6, 42) = 83.76$</td>
</tr>
<tr>
<td>Residual</td>
<td>.110692079</td>
<td>42</td>
<td>.002635526</td>
<td>Prob &gt; F = 0.0000</td>
</tr>
<tr>
<td>Total</td>
<td>1.57849463</td>
<td>48</td>
<td>.032885305</td>
<td>R-squared = 0.9299</td>
</tr>
</tbody>
</table>

The 2 SLS regression results show that terms of trade, foreign aid, consumption and the residual are statistically significant determinants of exports. The dummy variable PTR is also a statistically significant determinant of exports at 10% level. The only insignificant determinant of exports is gross fixed capital formation. All the independent variables therefore explain 93% of the variations in exports values to the EU. Given these results, the model was a better fit that gave consistent estimates since most variables are statistically significant determinants of exports and also explain a larger percentage of the variations in export values to the EU. A summary of the three model results are shown in table 14.
<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1 (OLS)</th>
<th>Model 2 (2SLS)</th>
<th>Model 3 (2SLS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.032998 (-0.63)</td>
<td>0.003077 (0.10)</td>
<td>-0.014241 (-1.60)</td>
</tr>
<tr>
<td>dlnGDP</td>
<td>0.723619 (2.45)**</td>
<td>0.114748 (0.27)</td>
<td></td>
</tr>
<tr>
<td>dlnTC</td>
<td></td>
<td></td>
<td>0.381704 (4.54)**</td>
</tr>
<tr>
<td>dlnTOT</td>
<td>0.777261 (3.62)*</td>
<td>0.873222 (6.76)*</td>
<td>0.905425 (9.09)*</td>
</tr>
<tr>
<td>dlnGFCF</td>
<td></td>
<td>-0.025036 (-0.34)</td>
<td></td>
</tr>
<tr>
<td>dlnFDI</td>
<td>0.000960 (0.06)</td>
<td>-0.001449 (-0.19)</td>
<td></td>
</tr>
<tr>
<td>dlnODA</td>
<td>0.051307 (0.54)</td>
<td>0.176587 (2.05)*</td>
<td>0.158185 (3.86)*</td>
</tr>
<tr>
<td>dlnRER</td>
<td>0.301772 (0.88)</td>
<td>-0.178984 (-0.53)</td>
<td></td>
</tr>
<tr>
<td>dPTR</td>
<td>-0.174937 (-1.52)</td>
<td>-0.003546 (-0.07)</td>
<td>-0.027808 (-1.83)**</td>
</tr>
<tr>
<td>Resid</td>
<td>-0.000232 (-0.15)</td>
<td>0.995803 (13.86)</td>
<td>0.999741 (19.22)</td>
</tr>
<tr>
<td>R²</td>
<td>0.3484</td>
<td>0.8968</td>
<td>0.9299</td>
</tr>
<tr>
<td>F</td>
<td>3.21 (0.008)</td>
<td>45.9 (0.00)</td>
<td>83.76 (0.00)</td>
</tr>
<tr>
<td>n</td>
<td>50</td>
<td>49</td>
<td>49</td>
</tr>
</tbody>
</table>

*significance at 1%, ** significance at 5%, *** significance at 10%

Model 3

The third model is therefore the preferred model that gave good estimates. The third model is therefore shown in equation 10 and is what is employed in the study.

\[
dlnX = -0.0142 + 0.9054dlnTOT - 0.0250dlnGFCF + 0.1582dlnODA + 0.3817dlnTC - 0.02781PTR + 0.9997Resid \quad \text{.....(10)}
\]

4.7 Discussion of Results

Since all variables are in logarithmic form, the reported coefficients are elasticities except the dummy variable. The 2SLS regression results show that all the variables have the expected signs. Table 13 shows that 92.99% of the changes in value of real exports are explained by Gross fixed capital formation (GFCF), Terms of Trade, Consumption, Foreign Aid and the dummy variable capturing the effect of reciprocity while other factors not included in the model account for
7.01%. This shows that there are other variables other than the independent variables that need to be captured in the model and have hence been captured by the error term. The negative intercept of 0.0142418 shows that if all variables that influence Kenya’s exports to the EU are zero or constant, then Kenya will have a negative trade balance with the EU i.e. the value of exports to the EU will be negative. The probability of the F statistic is significant which means that the model is well specified.

Consumption is statistically significant in determining the value of exports, the results indicates that holding other independent variables constant, a 1% increase in consumption (TC) will lead to an increase in the value of exports by 0.3817%. This can be explained by the fact that consumption being a greater component of GDP, an increase in consumption would lead to an increase in GDP which in turn leads to higher production hence increased exports volume. Similarly, higher levels of production are the main cause of export expansion since surplus output can be exhausted in the international market.

The study showed that TOT is a statistically significant determinant of export values and that that holding other independent variables constant, a 1% increase in TOT will lead to an increase in value of exports to the EU by 0.9054%. This is because favorable terms of trade are associated with increased exports growth rate. The terms of trade (TOT), the ratio of the export unit value index to the import unit value index, is often used to determine whether foreign trade increases or reduces a country’s welfare. While a rise in the TOT is associated with an increase in a country’s welfare, a decline has been considered as a reduction in its welfare. Since the pioneering research by Prebisch (1950) and Singer (1950), which projected a worsening TOT for primary products with respect to manufactured goods, many advocates of unequal trade have used the term “worsening TOT” to point out the structural asymmetries in trade between developed and developing countries. However, Baldwin (1955) questioned the validity of the TOT in studying the distribution of gains from trade. According to their view, it is possible that a developing country’s TOT may worsen because of the fact that increased productivity has led to a decline in cost and, therefore, to a decline in export prices. One can argue that the country is better off with a worsening TOT caused by an increase in productivity, because the country is now able to allocate its scarce resources more efficiently.
Kenya has been losing its competitiveness in attracting investment and retaining the stock of investment over the last decade. According to Kenya’s Vision 2030, Kenya’s performance in attracting FDI has been marginally better at nearly US$6 per US$1,000 of GDP (US $82 million in total) since 2003. This is partly explained by factors such as negative perception by investors about corruption, inadequate infrastructure, political instability, among other reasons. The net stock of foreign direct investment was 15% during the first half of the 1990s decade but plunged to less than 6% compared with Uganda’s meteoric rise from 8% to 50% (Mullei, 2003). This translates to an annual average of US$ 59 million in FDI or 25.7% of what was received by Uganda or 18.7% of the FDI that went to Tanzania between 1997 and 2002. The government therefore needs to invest more on its economic infrastructure in order to promote inflow of FDI. The results show that despite real gross fixed capital formation being a statistically insignificant determinant of exports to the EU, an increase in real fixed capital formation by 15 would lead to a decrease in exports to the EU by 0.03% holding other independent variables constant.

The study also identified foreign aid as statistically significant in determining exports to the EU and that holding other independent variables constant, a 1% increase in ODA will lead to 0.15819% increase in the value of exports. This is mainly attributed to the fact that foreign aid supplements domestic savings, exports earnings and government revenue hence increasing investment, imports and government expenditure. Foreign aid is expected to promote exports through, promotion of a conducive policy environment, financing infrastructure development and support to export promotion.

The reciprocity dummy variable was not transformed into a logarithmic form, but to show its effect on exports a graphical trend analysis was performed showing the years when the reciprocity was in existence (1975-2007) and when ACP-EU trade relation was nonexistent. The coefficient of the dummy variable PTR is -0.0028. The dummy variable was also found to be a statistically significant determinant of exports value to the EU. To estimate the percentage effect of a dummy variable regressor on the level of the dependent variable we use the (Gardener and Shah 2002) exact interpretation of dummy variable given by the equation

\[ g = 100(\exp\left(\frac{u - \varphi(w)}{2}\right) - 1) \]  

(11)
\( g \): gives an estimate of the percentage impact of the dummy variable on the variable being explained

\( u \): is the estimated coefficient on a dummy variable

\( v(u) \): is the estimated variance of \( u \)

\[
g = 100(\exp\left(-0.0028 - \frac{0.230769}{2}\right) - 1) 
\]

\( g = -11.15\% \)

The negative coefficient of the dummy shows that reciprocity has a negative effect on exports from ACP countries. Similarly when there is reciprocity between the ACP and the EU states the value of exports from Kenya to the EU will be reduced by 11.15%.

Similarly the graphical analysis shows the effect of the trade relation on Kenyan exports as shown by the difference in the value of exports in the two periods, before the start of ACP-EU trade relation when there was no reciprocity and after 2007 when the EPAs were to take effect (reciprocity). The graph therefore shows that without reciprocity Kenya used to export more to the EU than when reciprocity came into effect.

The error correction term is significant and positive with a relatively high speed of adjustment of about 1% suggesting that about 1% of deviations from long run equation are made up within one time period.

**4.8 Export Trends**

Graphical analysis was also used to show the effect of trade relation on Kenya’s exports to the EU and this also shows the existence or non-existence of the reciprocity in the ACP-EU trade relation on Kenya’s exports in absolute values, to the EU in the periods under study i.e.1960 to 1974 and 2008-2010 when there was no reciprocity and from 1975-2007 when there was reciprocity. This is reflected in figure 3.
Figure 3: Effects of existence of ACP-EU trade relation

Therefore does the study analyze the effect of ACP-EU trade relation on Kenya’s exports? This is the question that the study was set to answer. Fig 3 shows Kenya’s exports to the EU in the period when there was reciprocity (1960-1974 and 2008-2010) and in the period when there was no reciprocity (1975-2007).

From the graph it is clear that from 1960 to 1974, the value of Kenyan exports to the EU was constant and quite low. It started to rise when the ACP states of which Kenya is a member formed a trade agreement with the EU. This was mainly due to the nature of the trade agreement that allowed for free entry of certain goods from ACP states into the EU market without any restriction as well as free entry of EU goods into ACP states without any restrictions. Thereafter were the LOME agreements which exhibited a series of ups and downs in the value of exports. It then started to rise again steadily with the signing of the Cotonou agreement in the year 2000. The Cotonou agreement went up to the end of 2007, thereafter the EPAs were to take effect. With
the EPAs there was to be reciprocity i.e. whereas the EU states open their markets for goods from ACP states, ACP states were also to give same preference to the EU goods. After the EPAs took effect the graph presents the decline in value of exports from Kenya to the EU that followed thereafter. This was mainly due to supply constraints and lack of competitiveness of Kenyan products in the world market.
CHAPTER FIVE

5.0 CONCLUSION AND POLICY IMPLICATIONS

5.1 Conclusion

Kenya has reduced its dependence on traditional major export commodities (mainly tea and coffee) by introducing non-traditional exports such as horticulture. That notwithstanding, the share of commodity exports is still relatively high in sharp contrast with developments in South East Asia where the share of primary commodities has fallen considerably (Ndung’u, et al. 2002). The objective of the study was to determine factors that influence Kenya’s exports to the EU and also determine the effect of reciprocity on Kenya’s exports to the EU. The study conducted an analysis of the various factors which helped in identifying the following variables as having a significant effect on Kenya’s exports to the EU; consumption (TC) which was used as a proxy for Real Gross Domestic Product (GDP), foreign aid (ODA), Terms of Trade (TOT) and a dummy variable (PTR) which was used to capture the effect of reciprocity on exports as a proxy for determining the effect of the trade relation on Kenya’s exports to the EU. Real Gross Fixed Capital Formation (GFCF) which was a proxy for Foreign Direct Investment (FDI) was found not to be a statistically significant determinant of Kenya’s exports to the EU.

Empirical results and analysis presented in the previous sections suggest that TC, TOT and ODA have significant positive relationship with exports values. Whereas real GFCF has an insignificant negative effect on exports to the EU. Kasekende and Atigi-Ego (1999) while studying the impact of trade liberalization on key markets in sub Saharan Africa discovered that there is a significant correlation between export performance and terms of trade which is consistent with the findings of our study.

The shifting markets for Kenyan exports, especially with the rising economic integration, may also be used to explain the decline in exports to the EU. Kenya’s export markets have also expanded to other countries including African countries and COMESA. With trade liberalization, some sub-sectors (horticulture and to some extent tourism and manufacturing) seem to have thrived while others such as the coffee sub-sector have suffocated, partly because of increased costs of inputs following the liberalization of the market. However, the problem might have been
worsened by the rigidity of the institutions that serve the traditional commodity export sub-sectors, making them slow to effectively respond to the wave of liberalization. Some of these institutions have been characterized by mismanagement and inefficiency, therefore affecting production for the export market.

The impact of non-reciprocity and effect of ACP-EU trade relation in general as captured by a dummy (1975-2007) on exports to the EU is evident. The results indicate that the period had profound positive effects on real exports values. The liberalization of the exchange market played a significant role. These measures especially the steep devaluation of the Kenya shilling and removal of trade restrictions in the early 1990s boosted exports especially manufactured exports.

Nonetheless, the results of this study are quite informative and arguably point out several issues of policy concern. Potential for export supply response exists, even for sub-sectors like coffee where performance has been dismal. The positive response to a price incentive (depreciation of real exchange rate) could be taken as an indication of the type of policies that could boost exports.

The demand for Kenyan exports may increase too but if Kenyan exporters cannot increase capacity to supply the additional demand, then exports may decline. Policy makers therefore need to address these issues by supporting capacity building efforts as well as diversification of exports.
5.2 Policy Recommendations

Exports instability affects the general performance of the economy. Kenya being a primary commodity exporting country is susceptible to price fluctuations in the world market. This justifies the government’s effort to promote the sector since early 1990’s. Identifying the determinants of Kenya’s exports to the EU and the effect of ACP-EU trade relation on Kenya’s exports will help provide policy makers with information that will enable them come up with appropriate policies regarding the growth of the sector and the economy as a whole. It will also help broaden the understanding of the effects of Kenya opening its market to the EU hence help in deciding whether to sign the EPAs or shift to other trade agreements.

With advances in economic integration, particularly the EAC and COMESA, together with African Growth Opportunity Act (AGOA), there are potential export opportunities that can be explored to Kenya’s advantage, including promotion of the non-traditional exports. Similarly, since the previous trade agreements with EU have not benefited the ACP states Kenya could consider shifting to other trading blocs like COMESA and EAC or even SADC.

Since COMESA and EAC have become a major export destination for Kenyan exports with COMESA surpassing the EU, the government should enhance policies geared towards enhancing exports to these trading blocks. Similarly since signing of the EPAs would mean Kenya opening its market to the EU to ensure reciprocity, and since Kenyan products cannot compete with products from the EU market, this would lead to a collapse of local industries and loss of employment. The government should consider shifting to producing and exporting more to COMESA and EAC markets or else initiate policies to ensure Kenyan products are competitive in the global market by giving local producers incentives, encouraging value addition and even subsidies or tax waivers in certain instances.

While maintaining a stable exchange rate is important, strategies that lead to a relatively overvalued exchange rate could be a disincentive to export, implying that flexibility in the exchange rate movements, in line with the fundamentals of the economy might be beneficial. Often, it is noted that a depreciation of a country’s real exchange rate will cause a gain in competitiveness of that country. Despite real exchange rate being a statistically insignificant determinant of exports to the EU, it is evident from the experience of the East Asian countries
that they were able to maintain their export competitiveness by diversifying from products for which world demand was growing only slowly (Mytelka, 1999; Melesse, 2002). In other words, these countries attained competitiveness through their efforts to industrialize their economy. Since the world demand for primary products is not very dynamic, Kenya may not be competitive through exporting primary products according to its existing comparative advantage. In order to guarantee a sustainable and long term competitive position in the global market, it is required to create conducive environment (for instance, regulations for industrialization through sound industrial policy) and generate new capacities in order to diversify the current export structure.

The experience of a number of countries suggests that FDI strongly contributes to the transformation of the composition of exports. The policy environment in a given country is paramount for this strong relationship. In this study, the estimated results indicate that FDI is a statistically insignificant determinant of Kenyan exports to the EU. Nevertheless, policy makers should create such policies for attracting FDI which will focus on the utilization of the potential specific effects of FDI in terms of development of new technologies and improving workers capabilities. Similarly market oriented reforms should be initiated by policy makers. The findings however show that there is room for improvement considering the economic situation in the country. Improving the road network would enable producers especially in the agriculture sector sell their produce in the nearby market hence shift from subsistence production to commercial production. This would lead to a bigger proportion of Gross Domestic Product constituting export volumes. The redirection of Foreign Direct Investment to production for export would improve exports growth rate since this would lead to a change in the structure of exports hence diversification.

Moreover, the role of the government and public agencies in encouraging FDI in Kenya is largely missing. Very few firms seem to have contacted the government for any form of assistance. There appears to be a lost link between the government and its related agencies with the foreign investors. Most foreign investors perceive the government to be unfriendly and hostile to their operations. There is need for a greater government’s appreciation of the
importance of FDI through provision of an avenue for interaction in order to address their concerns. This initiative will in turn boost Kenyan exports.

From a policy perspective, the results reported in the study recommend that the Kenyan economy could enjoy the economic prosperity by implementing major institutional and economic structural changes. Policy-makers can reduce the restriction on profits and capital remittances, encourage domestic private investment and liberalise its trade and investment policies step-by-step in attracting more foreign direct investment (FDI) into the Kenyan economy. FDI inflows can create the spillover effects and technological improvement, as well as human capital development in the domestic economy (Borensztein, et al. 1995). This, in turn, will contribute to the higher productivity of capital and labour, and sustain the stability of exchange rate movements. Nonetheless, policy-makers should liberalise relevant policies carefully in terms of trade and foreign direct investment in attracting multinational corporations (MNCs) to setup their factory in certain resource-abundant and high technology industries locally in order to improve the overall economic prosperity.

Similarly signing of the EPAs with the EU would compromise the future development of Kenya and the East African region at large and jeopardize the potential of regional integration. Since the inherent dangers are higher than the possible benefits, the East African region should concentrate their efforts in consolidating the customs union and putting their energies in elaborating and implementing carefully thought through and robust industrialization, agriculture and services strategies to promote exports rather than exerting energies in negotiating the EPAs.

The Kenya Vision 2030 envisages transforming Kenya into a newly industrialized middle income country providing a high quality of life to all its citizens by the year 2030 in which our predominant exports will be manufactured goods. For this objective to be realized it is imperative for the government to be proactive and make strategic interventions to support production and to protect and nurture the nascent industries. The interim EPA in its current form and the proposal for the comprehensive EPA will invariably circumscribe the policy space for government to carry out such interventions. The Kenyan Government should therefore rethink the EPAs and rethink the development paradigm in the interest of the livelihoods of millions of Kenyans.
Finally, since there are other factors that determine Kenyan exports to the EU but have not been covered in the study, the study recommends further in-depth research on ACP-EU trade relations and determinant of Kenyan exports to the EU.


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