AN ANALYSIS OF REGIONAL INTEGRATION IN A DEVELOPING ECONOMY.

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ABSTRACT.

The purpose of this study is to find the effect of regional integration in the Kenyan economy with a particular emphasis of determining whether the regional integration has resulted to trade creation or trade diversion. The study adopts an augmented gravity model to determine the effects of the regional integration and the resulting effects either being trade creation or trade diversion. Time series data was used for the period 1980-2015. Using a panel data analysis the results show that there was some trade creation within EAC and COMESA.

LIST OF ABBREVIATIONS.

AGOA-African Growth Opportunity Act.

AMU-Arab Maghreb Union.

ASEAN-Association of South East Asia Nations.

CARIFTA-Caribbean Free Trade Association.

CEMAC-Central Africa Economic and Monetary Community.

CMEA-Council for Mutual Economic Assistance.

COMESA-Common Market for Eastern and Southern Africa.

EAC-East African Community.

ECCAS-Economic Community of Central African States.

ECOWAS-Economic Community of West African States.

EFTA-European Free Trade Area.

EIA-Economic Integration Agreement.

EPA-Economic Partnership Agreement.

EU-European Union.

GCC-Gulf Cooperation Council.

GDP-Gross Domestic Product.

LPA-Lagos Plan of Action.

MENA-Middle East and North Africa Area.

MERCOSUR- *Mercado Común del Sur* (Southern Cone Common Market.)

NAFTA-North Atlantic Free Trade Area.

PARFTA-Pacific Rim Free Trade Area.

RPTAs-Regional Preferential Trade Agreement.

RTA-Regional Trade Agreement.

SADC-Southern Africa Development Community.

SADCC-Southern Africa Development Coordinating Conference.

SAFTA-Sothern Asia Free Trade Area.

SEZ-Special Economic Zone.

Contents

1. INTRODUCTION.

1.1 Background to the study.

Economic performance in the African continent has been below par as evidenced by the numerous reports by world financial authorities like the World Bank and the IMF. A number of factors have been advanced to explain this phenomena but key among them has been the small markets due to low per capita income and small populations (Hartzenberg, 2011) that African countries offer, prohibitive trading costs among neighbors usually as a result of poor connectivity. It is against these background that African countries have been at the fore-front of forming regional integration. It was hoped that the regional bodies will accelerate economic growth and development. This will also give African nations a chance to negotiate amongst themselves rather than face the powerful trading blocs often at a disadvantageous position.

Integrations have evolved over the years into:

Free Trade Area (FTA): members of a free trade area usually agree to eliminate all the import duties that levied on goods that originate from member countries however each member state is allowed to retain or impose its own import duties on goods originating from countries that are not member of the FTA. The duties may be different from those levied by the other member countries. A good example would be the European Free Trade Association (EFTA) that included The UK, Switzerland, Norway and Sweden among others. However it was dissolved when The UK joined the European Economic Community.

Customs Union: members of a customs union agree to eliminate duties on imports from member countries but on top of that they also maintain a common tariff rate against non-member countries. Example the Customs union of West African states that is made up of French speaking West African countries. The East African Community also has a customs union.

Common market: a common market has no duties imposed on goods imported from member countries, common tariff levied on imports from non-member countries and finally it provides for movement of labor and capital between the member countries. A good example would be COMESA.

Economic Union: an economic union has all the characteristics of a common market but goes a step further to integrate coordination and harmonization of policy in areas like industrialization, exchange rate determination and even economic planning.an economic union may also adopt a common currency with a good example being the European Union.

However for an economic integration to be successful there needs to be substantial trade amongst the partners, efficient producers will capture the market as more and more countries keep on producing the same goods and finally the prospective governments should ensure ownership of the economy.

The world over has witnessed a surge in the number of regional integrations in the last two decades. The European Union (EU) was formed in 1999,North American Free Trade Area (NAFTA) in 1993,the Common Market for South (MERCOSUR) was formed in 1991 it is an integration on the Latin Americas.in South East Asia Association of South East Asian Nations (ASEAN) was formed in 1992.Africa has also been involved in the formation of regional integration bodies. The Common Market for Eastern and Southern Africa (COMESA) was formed in 1994, the Economic Community of Central

African States (ECCAS) was formed in 1992 and The Economic Community of West African States came into existence in the 1990s.

Africa has also benefited from the economic integrations.

Common Market for Eastern and Southern Africa. It has 20 member countries and is one of the largest trading bloc on the African continent. COMESA came to existence in 1994 replacing the then Preferential Trade Area that was formed in 1981. It has a market size of about 400 million people and a combined GDP of 360 billion dollars.

The Southern Africa Development Community. It started off as a strategy by a number of countries in south Africa that wanted to reduce their economic dependence on the then South Africa under the apartheid rule. Initially it was known as The Southern African Development coordinating Conference (SADCC). In the year 1992 it was formally changed to South Africa Development Community with South Africa joining the bloc in 1994.

The Economic Community of West African States. The union was established on 28th May 1975. It is one of the pillar of the Africa wide African Economic Community. It has an estimated market size of 350 million. It is estimated to have a combined GDP of about $734.8 billion making it a key economic bloc in the region.

The Economic Community of Central African States. ECCAS was established on 18 October 1983 by Central African and Great Lakes nations. The bloc has been inactive for a number of years due to financial difficulties like non-payment of membership fees by the member countries and the numerous conflicts experienced in the Central Africa region particularly in the Democratic Republic of Congo.

The East African Community. It was initially established in 1967 but was later dissolved in 1977 then re-established in 2000 as the current EAC. It is a regional integration of 5 countries and offers a market size of close to 150 million. It has a GDP of about $147.5 billion.

The Arab Maghreb Union. The AMU was established on 17 February 1989 in Marrakech, Morocco. It is made up of 5 North African countries; Algeria, Libya, Mauritania, Morocco and Tunisia. It offers a market size of about 98 million and a GDP of $400 billion. The bloc has been inactive due to the tensions between Algeria and Morocco largely over the independence of West Sahara.

Regional Integration and the Kenyan economy.

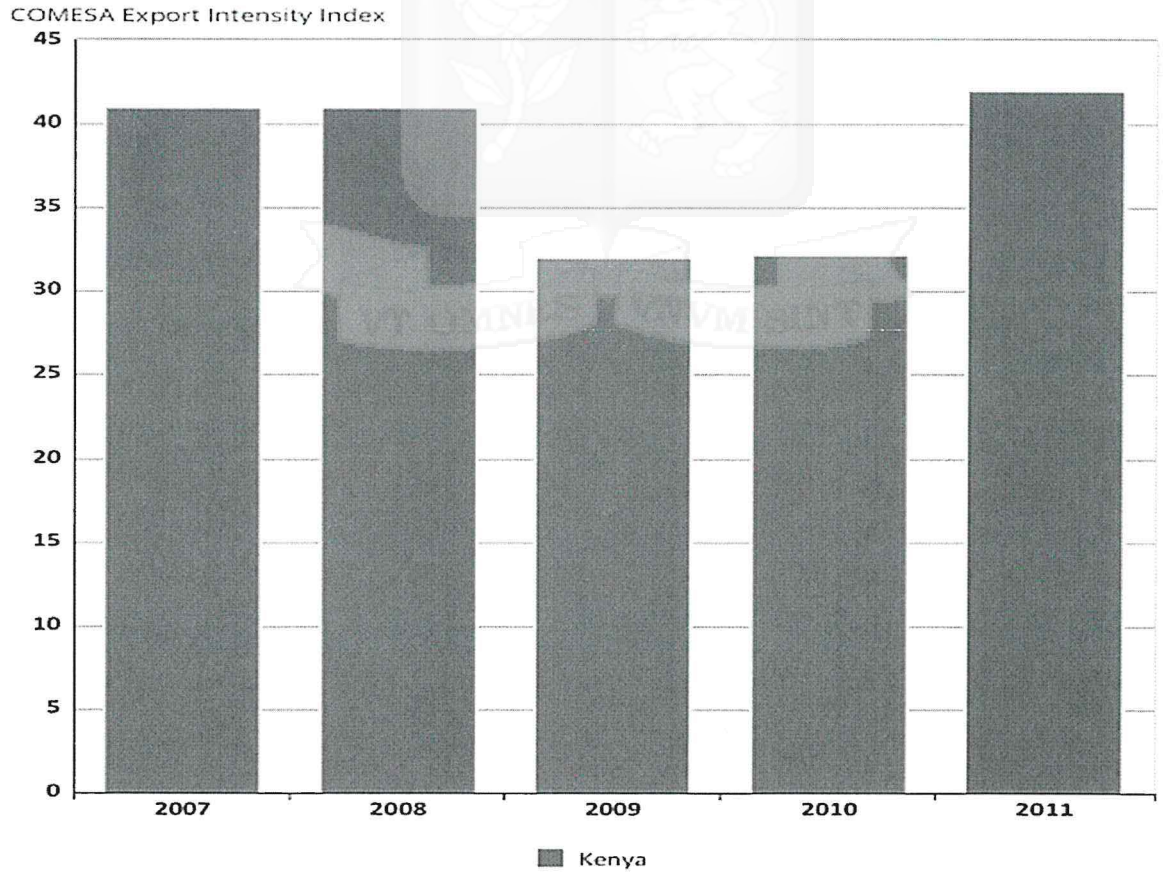
As from 1977 Kenya was a member of the East African Community (EAC) alongside Uganda and Tanzania. The community however collapsed and property was shared amongst the three countries.it main aim was to bolster trade amongst the three countries.it was revived in the year 2000.As of now the community benefits by giving member countries an access to a market of over 160 million people including new members like Rwanda and Burundi. South Sudan has also expressed interest in joining the community. The EAC also been accorded preferential treatment in the European Union market whereby horticulture and agricultural produce from EAC are given preferential treatment in terms of taxes and levies imposed on them. Intra-regional trade within the EAC has been on the rise with Kenya being at the forefront;

Total Intra-EAC Trade, 2005-2010 (US$ million)

Country/Year	2005	2006	2007	2008	2009	2010
Uganda	696.2	583.2	805.9	948.0	945.7	1,005.1
Tanzania	289.4	292.1	279.7	520.3	574.3	735.2
Kenya	1,035.9	819.9	1,114.1	1,395.4	1,331.9	1,534.0
Rwanda	134.0	176.4	247.1	440.4	456.6	-
Burundi	63.1	66.4	84.8	90.7	-	-

Source: EAC Facts and Figures 2013.

Kenya has also been a member of The Common Market of Eastern and Southern Africa (COMESA). The COMESA block is made up of about 16 countries giving a deep market of about 600 million people. The main aim of COMESA was to try and achieve favorable trading agreements with member states. Goods emanating from a member state would be given preferential treatment as compared to goods from countries that are not member states. The COMESA bloc produces goods like tea from Kenya and Ethiopia, tobacco from Malawi and cement from Egypt. Kenya's share of exports in the market has been increasing over the years as shown by the export intensity index below: the export intensity index measures the ratio of a country's exports to the regional or global export market.



Kenya has gained significantly from these regional bodies. In the EAC there is free movement of capital and labor. This means that people can work anywhere within the region and also to move around you only

need an identification card. From COMESA Kenya has been able to access a wide market for its goods. Kenya exports to a number of countries chief among them Uganda, South Sudan, Egypt, Rwanda, Burundi and the Democratic Republic of Congo. Kenya has been importing cement from Egypt to meet her shortfall whilst exporting tea to the nation.

Through EAC Kenya has been able to get preferential treatments in other more powerful blocs like the EU where she EAC has been given some good terms to export horticultural products to the EU. Kenya being a major producer of horticultural produce such as flowers, gained immensely from this kind gesture.

Kenya also benefited from the African Growth Opportunity Act (AGOA) where she was able to export her textile products to the US at very low tariffs. The AGOA window was extended to African countries by the US as a way to help African economies to spur economic growth. Over the years AGOA has really stimulated exports from Kenya as shown below by the black line:

However regional integrations are dogged with problems of divided interest where a country tries to pursue its national agenda whilst implementing COMESA's policies which sometimes are divergent, double membership whereby a country is a member of other regional blocs and accusations of domineering example Kenya and Egypt have been accused of dominating the bloc.

Whether the regional integrations have been effective is a debatable question and their exact effect is not known. This is what this research project intends to find out.

1.2 RESEARCH PROBLEM.

Most African countries are trying to attract foreign direct investments. This is because the continent has for long been labelled the Dark Continent. Africa is said to be the least developed continent. However in the last decade the continent has been experiencing economic surge and is now implementing development projects like never before. African countries have decided to form integrations in order to have a common platform from where they can discuss and set trade agreements going forward. The regional integrations have also been set up in order to give African countries the ability to negotiate as a bloc. A number of studies have been done in order to establish whether the so-called regional integrations have had any effect. Most of them arrive at the conclusion that regional integrations have been helpful to particular countries while to others it has been a flop. The exact nature of the regional integrations such as trade creation or divergence is not known. Most of the papers also fall short data that only covers up to 2002. This study will therefore seek to examine the exact benefit of the regional integration to the Kenyan economy. The study will try and identify whether regional integrations have had a trade creation or diversion effects on the Kenyan Economy.

Woolfrey (2013) explored the various issues, challenges and opportunities that arise when countries, especially developing countries, use special economic zones while simultaneously pursue regional integration initiatives. The paper based on evidence surveyed found that the performance of the special economic zones have been somewhat below expectations. He pointed out that particular challenges are likely to arise as more countries try to expand their SEZ programs whilst trying to deepen integration with their neighbors under agreement like The Tripartite Free Trade Area (T-FTA) that pits COMESA-EAC-SADC. However there is a way of working round the challenges. Regional cooperation and regional institutions can be used to provide a framework that advocates for coordination between individual countries when it comes to matters of development and administration of special economic zones. Special economic zones could also be placed at the Centre of regional integrations through means such as having a shared (geographical or administrative) special economic zone.

Balassa (1988) examined the experience of Sub-Saharan Africa with economic incentives in general and agricultural incentives in particular. The examination went on further to study the effects of the incentives on economic performance. An econometric model was used to investigate the responsiveness of exports to incentives. The results of the econometric analysis showed that exports in general, in particular

agricultural exports, are highly responsive to changes in real exchange rate. However exports were more responsive to price incentives. The study also made it clear that policies also played a key role for some of the countries under study were classified as market-oriented countries while others were interventionist countries. The market oriented countries gained market share as compared to interventionist countries for they maintained realistic exchange rates. They made little or no changes to the system of incentives against.

1.3 Objective of the study.

To determine the effects of regional integration in the Kenyan economy.

To determine whether regional integration has had any effects in the Kenyan economy with the specific effects being trade creation or trade diversion.

1.4 Research Hypotheses.

The research aims at testing the following hypotheses

- H_o^1- regional integrations have trade creation effects.
- H_o^2-regional integrations have trade diversion effect.

1.5 Value of the study.

To the academia world this research project will add to the existing knowledge in the field of investment incentives and regional intergration.it may also form the basis of future research areas.

2. LITERATURE REVIEW

2.1 Theoretical Literature Review.

There have been an evolution of trade theories over the years. Hereby I will try and highlight some of them.

Mercantilism was a trade theory that was in use in the mid-16th century. Its main proposition was that the amount of treasure that a nation had determined its wealth. During this time gold and silver were the most common forms of currency. The theory advocated for trade surpluses and restrictions of imports through means such as tariffs. However it was later discarded for the restrictions would sometimes inhibit growth.

The theory of absolute advantage was fronted by Adam Smith in the 1770s where it advocated for a country to produce goods that it enjoyed the most efficiency in production and for those goods where the efficiency was lower than trading would be a viable option. The theory disapproved the mercantilist theory by showing that both parties to trading would benefit.

Then the theory of comparative advantage also surfaced. It was brought forward by David Ricardo in his publication Principles of Political Economy in 1817. Ricardo was for free trade agreements and increase in productivity by efficient use of resources. He also supported the idea of a country importing if it efficiency was only comparative. However the theory had its shortcomings in that it was based on production and consumption maximization only. The two countries in the theory produced and consumed only two goods.

It was against this backdrop that the factor proportions theory came to be. It was for the idea of exporting goods that intensively used production factors that were in abundance locally. Goods to be imported were only those that their factors of production were scarce locally. It went further to assert that the endowments of the production factors were to explain for the patterns of trade and not productivity as earlier reasoned.

The product life cycle theory was then thought of in 1966 by Raymond Vernon. It stated that a company, during the early stages of a products life, will first export it to other countries then as product keeps on moving to other stages in its lifecycle, then the company will deem it fit to have a foreign direct investment. Maturity of a product leads to changes in the sales location and production. The theory emphasized on the technological costs of production. However it is made less valid by globalization and regional integration agreements. Also the theory is fit for technological based goods. Other products cannot be characterized by their life cycle easily.

The new trade theory came about and places emphasis on specialization and learning effects. Specialization can easily lead to economies of scale while the learning effects comes from doing. The theory seemed fit to explain industries with high fixed costs. The first mover advantage in such an industry would encourage competitors but economies of scale would inhibit new entrants into the industry. With this in mind then it is clear that government intervention is necessary and one of the shortcomings of the theory is that the government intervention may be inhibitory or leading to a strategic trade policy that may be limiting.

The theory of national competitive advantage was then brought by Michael Porter. It is also known as Porter's Diamond and it tries to analyze what could be the reasons that particular nations enjoy success in

particular industries. Michael Porter then narrowed down to four factors which are factor endowments, demand conditions, existence of related and supporting industries and finally firm strategy, structure and rivalry. Factor endowments are a nation's resource capability such as labor and infrastructure that would enable it to compete favorably in a particular industry. Endowments could be basic factor endowments or advanced factor endowments. The basic factor endowments includes things like climate, population and geographical location. They do provide some level of advantage which should be sustained by the advanced factors. The advanced factors result from investments from the labor population, firms and the government and can easily lead to competitive advantage. Examples of advanced factors include technology, communications, education system and availability of skilled labor.

The demand conditions are responsible for primary growth and local innovation. Strong domestic market helps a firm to grow rapidly. The local demand conditions could also be sophisticated local market that may give firms from a particular country and edge when it comes to the international trade.

Related and supporting industries do provide inputs that are helpful to other major firms e.g. in Silicon Valley some firms specialize in hardware and others in software creating a self-sustaining technological industry.

Firm strategy, structure and rivalry also plays a big role in determining the national advantage of particular countries. It could be that the firms have better strategy and also local rivalry makes them to be more innovative and hence perform better in the international markets. A good example would be the Japanese Automobile industry with Toyota, Honda and Suzuki as the major local players that are also dominating the international markets.

The main forms of competitive advantage are:

Absolute advantage where a particular country has the ability to produce a given good at a level of efficiency that no other country can match. Comparative advantage is the ability to produce a given product more efficiently than other products while national competitive advantage is the culmination of a number of factors most of which have been described above by the Porters Diamond

2.2 Empirical Literature Review.

Numerous studies have been done across the globe in order to establish the effects of regional integrations on particular economies.

Koo,Kennedy and Skripnitchenko,(2006) analyzed the effect of Preferential Trade arrangements on agricultural industry in NAFTA countries. The paper used a standard gravity model in its study. The overall results were Regional preferential trade agreements (RPTAs) are significant and increases the volume of trade amongst countries through boosting of inter and extra industry trade. The model's analysis proved that NAFTA's trade creation effects were not significant perhaps due to the fact that a close relationship between US and Mexico existed before for they share a border. Overally trade diverting effects were found to be positive showing that the agreement did not displace trade with non-NAFTA countries. The paper finally concludes by proving that RPTAs are not harmful to nonmember countries but improves welfare globally by increasing the volume of agricultural trade.

Busse and Lüehje, (2007) did an assessment of the impact of a proposed Economic Partnership Agreement (EPA) between the EU and the Caribbean countries. The paper narrowed its study to trade flows and government revenues earned by the Caribbean countries. They adopted the Verdoon (1960) model of partial equilibrium model in order to analyze the trade effects. This was so due to unavailability of complete data for some of the Caribbean countries. The results proved that the decline in import duties due to the preferential trade agreement may make some countries to be uncomfortable. The most urgent factors to work on were fiscal and economic policies before the EPA could come into effects.

(Basnet & Sharma, 2013) Examined the feasibility of an economic integration in Latin America. They analyzed the existence of long-term and short-term common movements among key macro variables; real GDP, intra-regional trade, private investment and consumption. Their study was based on the seven largest economies in Latin America; Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. They were able to determine that the macro variables of these countries do move together to a common pattern in the long run and they also experience same cycles in the short run. The results were suggesting that the economies were the major players of the Latin America bloc and suffer common trade shocks and also mitigate these shocks in an almost similar manner. This pointed out to the possibility of the seven economies initiating an economic union for the macroeconomic conditions can allow them to do so. For their macro-economic variables and have the same trend in both the long and short runs it is advisable to have a similar policy response to the shocks. Their results also pointed out to Chile showing some form of difference in the macroeconomic variables being investigated. However because of her small size, this cannot be a hindrance to the union. The findings concluded that an economic union would be a good and feasible idea for the macro economies are exhibiting similar trends and secondly this bloc of countries can readily issue a common currency.

Ismail,Smith and Kugler, (2009) introduced a new perspective by studying the effect of ASEAN integration on Foreign Direct Investment (FDI). The time period for the study was 1995-2003.they used the gravity model in the study whose analysis is based on cross section and panel data analysis. The gravity estimations pointed out that factors like market size, income per capita were positively related with the FDI in both panel and cross section analysis. This was attributed to the fact that the market availed more opportunities. The paper then narrowed down to two effects i.e. intra-ASEAN FDI and extra-ASEAN FDI. Initially the results showed that the founding members of ASEAN invested less in each other but invested more in other members like Myanmar, Brunei, Vietnam and Laos. On extra-ASEAN FDI it was noted that economic groups like North America, with the exception of European Countries, invested less in ASEAN. This was however attributed to the 1997 Financial Crisis that may have diverted investments elsewhere. Further analysis however showed that Japan and the US maintained their investments in ASEAN.in conclusion it was clear that regional economic integrations can be used to attract more FDI into a particular country, however it is up to that particular country to have favorable national investment policy and have competitive and also attractive environment for the foreign companies.

Ekanayake, Mukherjee and Veeramacheneni, (2010) investigated further on the relationship between trade creation, trade diversion and their effects on intra-regional trade flows in Asia between the period 1980-2009.a sample of 19 countries were chosen for the study. They used the gravity model to determine the trade creation and trade diversion effects of the regional trade agreements on trade flows within and across the members of the RTA. They also measured the effect of the RTAs on trading activities between

the members and other Asian countries. The results of their analysis were somehow consistent with theory in that they found out that real GDP of both exporters and importers had a positive influence on the bilateral trade. They also noted that population size had a negative influence on the bilateral trade. They concluded by stating that distance had a negative effect on Asian exports.

Akhter and Ghani,(2010) analyzed the effects of South Asia Free Trade Agreement (SAFTA) in terms of trading potential and benefits accrued to its member countries. SAFTA came from South Asian Association for Regional Cooperation (SAARC) as they saw a need for a free trade agreement. The study used the gravity model in assessing the trade flows and potential that exists among the SAARC countries. The analysis of the study indicates that there exists a trading potential for some countries like Indonesia and Sri Lanka within the free trade agreement framework. The results went on further to show that there will be little trade creation in the region if all the countries are included and trade diversion from non-member countries would certainly occur. The study concluded by stating that SAFTA could not be beneficial in the short run but it may be of more benefits in the long run.

Kabir and Salim,(2011) investigated further on ASEAN by empirically assessing the integration of ASEAN with the EU. They were studying the ASEAN-EU trade model and their potential to trade which was largely untapped. They set their observation period from 1996 to 2008.in their analysis they used the coefficients of the gravity model to calculate the potential trade for the selected ASEAN-EU pairs of country. Empirical results showed that there existed a substantial potential to trade between ASEAN and the EU however the gap has been decreasing over time. Trade integration between ASEAN and EU would also achieve a higher level of success. The paper however suggested that extension of the observation period would be better in order to provide a deeper analytical review of the potential to trade between ASEAN and EU.

(Choo, 2012) Was basically giving a historical perspective of regional integration. He based his study on Korea and China studying the past 5,000 years of Korea's and China's past. He speaks of how Korea had only trade partner, China, who was more powerful and forced her to paying royalties. However things changed when Korea was assisted by Japan to break free from China. She tried to get help from US and Russia to keep China in check but none was interested.to establish her own identity she had to seek other trade partners .the government played a key role by giving financial assistance to certain companies in order to access the export markets and introduce Korean goods. He however points out that small businesses in Korea that account for almost 87 percent of employment are suffering from unfair labor-management relations, rise in production costs and high exchange rates.in conclusion he notes integration should promote the global agenda of a country but not at the expense of the national agenda.

(Velde, 2011) Did a study as to whether and how regional integration leads to convergence or growth amongst developing countries. The paper applied standard growth models for nearly 100 developing countries over the period from 1970-2004.he reported that he was able to find robust growth effects of regional integration at the aggregated level of analysis even after using alternative measures of regional integration. The study also pointed out that regional integration itself cannot be associated with faster macro-economic growth. However it has positive effects that on trade and investment. The paper pointed out that trade and FDI promote growth and for regional integration increases trade and FDI it has an impact on the members that are transmitted through increased trade and investment. On further country specific

studies it was noted that regional integration can help in addressing crucial rail, road, air and energy links amongst countries.

Konig, (2015) went on further and did an investigation into the effects of country size on growth basing his study on the European Integration. Theoretically the scale effect favors large countries over small countries. For the small countries to overcome this challenge they thus needed to be part of regional economic integrations. Indeed the study shows that country size does correlate with economic growth. β-convergence and σ-convergence models were used in their analysis. This showed that countries with lower initial income grew faster than the more advanced countries however the income levels tended to converge in the long-run. Furthermore, ceteris paribus, a smaller population tended to affects economic growth positively. This confirmed the theory that to overcome smallness all a country needed was to have access to the EU single market. Introduction of control variables in the model, however, eliminates the effect of population.in conclusion an economic union would be best suited to eliminate the size of a country effect.

Roy and Mathur, (2016) took a very different approach when studying the effects of regional integration. They investigated the impact in trade flows when a country applies to leave an integration bloc. They based their case on The United Kingdom (UK) when it applied to leave the European Union (Brexit) and the effects on trade flows with India. The UK has always been India's largest trading partner and so has been the European Union. They did scenario analysis of possible actions e.g. when choosing to either completely remove or reduce the obstacles in their trading agreements. The implications of these actions were then compared when the UK was and when it was not a member of the EU. The results clearly show that when the UK is a member of the EU India and EU stand to gain from better terms welfare from the FTA as compared to when the UK is not a member.it was evident that the FTA between India and EU loses its significance when the UK leaves the EU.

Soete and Van Hove, (2017) did a systematic study of trade effects of Economic Integration Agreements involving the European Union. The paper tried to point heterogeneous factors that have an effect on the general macro indicators. Their evidence is based on trade impact of Economic Integration Agreements (EIA) that the EU has negotiated with their numerous trading partners since 1988 to 2013.they had a number of findings after their study. First EIAs have trade creation effects but their effect depends on the degree of integration implied by the agreement. Customs Union generally generate more trade effects than Preferential Trade Areas. This means that effective trade integration requires very deep economic integration. They also pointed it out that EIAs have boosted product differentiation in exports and imports though their effect may materialize later on. EIAs enabled more products to be traded rather than focusing on the previously exported goods. They concluded by stating that the findings of one state or agreement cannot be generalized for all states or agreements for the impact across EU member states differ.

Focusing on regional integrations in the African continent:

Cieślik and Hagemejer, (2009) did evaluate empirically the effects of the new EU agreements with the MENA countries. The model of choice was the augmented gravity equation. The paper used panel data with the time period being from 1980 to 2004.the study was able to find that trade liberalization in the European Union was effective in raising the bilateral imports from the EU but did not raise the level of exports to the same. This was as a result of restriction on the exports from MENA to EU.it also pointed it out that EU members states were the main beneficiaries of the new trade agreements for MENA markets were opened to them where they were able to export industrial products. On the other hand the

MENA countries were the losers for they imported from the EU but their products were especially agricultural were not being exported to the EU. The new agreements did not bring any trade liberalization in agricultural goods where MENA countries have an advantage. The EU countries also do subsidize their agricultural sector thereby giving agricultural products from MENA an uneven playing field. The paper finally encourages the MENA countries to implement industrial policies amongst themselves in order to solve unemployment and development issues.

Chauffour,(2011) studied how the Arab world countries could open up there market, promote growth and create a competent workforce whilst creating an enabling environment especially after the turmoil that the region had witnessed.to do this the paper suggest integration amongst the Arab nations themselves and opening up of the MENA region to the world. This will create a better market access, promote reforms, facilitate cooperation on matters affecting the region, create a regional supply chain and have the conditions for a better working environment in place. The paper goes further and suggests creation of a Pan Arab Free Trade Area (PAFTA) that as a good starting point. Some of the suggestions put forward include free movement of goods, business processes liberalization and having the necessary rules and framework for the regional trade and issues of common interest in the PAFTA.

Kahouli and Maktouf,(2015) studied how the free trade areas influenced the economies of the Mediterranean countries.to do so they employed econometric analysis by gravity model and had the Arab Maghreb Union, EU-15 dummy, Agadir Agreement(which is an FTA agreement between Jordan, Egypt, Tunisia and Morocco) and finally Economic and Monetary Union (Eurozone) integrated into the analysis. The regional variables were integrated in order to determine whether the FTAs had any trade creation or diversion effects. The study was done on a cross section and panel data of 27 countries from 1980 to 2011.the study pointed out an untapped potential for export in the region. The results also support the idea of having a FTA that will create employment, increase trade volumes and encourage economic development.it finally concludes by having the government being invited to take the Centre stage in the entire process. This is because creation of an FTA needs a stable economic environment and good governance. These factors are only possible with a government or political goodwill.

Musila, (2005) did a comparative study of the major trading blocs in Africa. He based his study on COMESA, ECCAS and ECOWAS. The paper used the gravity model to estimate the extent of trade diversion and trade creation in the three regional integration bodies. The time period chosen for the study was from 1990 to 1998.the results of the study show that ECOWAS and COMESA do have trade creation effects with no supporting evidence for trade diversion effects. They were also found to have better welfare gains as compared to ECCAS.in ECCAS there was no trade creation effect but also trade diversion was found not to be present. Factors such as nominal GNP and population sizes were found to be important in the export flows in the region while other factors of the Gravity model like distance and border or a common language also played an important role in the export market. The paper also points it out that distance is an important factor in that it increases or reduces the transportation costs that really affects international trade.

Carmignani, (2005) investigated the different aspects of integration process namely: per-capita income catching up, macro-economic policy convergence and shocks symmetry. The paper adopted time-series and panel econometrics to study the above factors and their relationship to the integration process in COMESA. The results of the econometric analysis proved that convergence of some macroeconomic policies took place. Intra-regional trade was still very weak and there are very sharp disparities in terms

of per-capita income distribution across the region. In fact it could be seen that some economies were way ahead while others were falling behind. However this paper was limited in its data collection for it only collected data up to early 2000 i.e. 2001 and 2002.a longer period of study may yield different results.

McIntyre, (2005) analyzed the trade impact within the EAC with the introduction of a customs union by the three member states. He went further to investigate the extent that the introduction of a common external tariff will have on liberalization of the trading regimes. To do so he did simulations for the Kenyan economy. He adopted the SMART model which basically was a simple model, analytical to set up and showed the effects of trade creation and trade diversion. The results showed that the introduction of the common external tariff did not seem to have a potential benefit to Kenyans. A further trade simulation supported the idea of lowering tariffs in order to have a trade creation effect. Further inputs from the simulations show that the region should be after more liberal trade policies and addressing the issue of transitional costs. The paper concluded by supporting the fact that for the regional integration to have more meaning it should then cooperate in public goods that will among others lower the cost of developing infrastructure and promote growth and development.

Rojid,(2006) did a two-fold study with an objective of determining if COMESA has been a stumbling or building economic bloc and two if the bloc has created trade potentials within it. The paper applied the gravity model and used a panel data to estimate the flow of export from 147 exporters the time period from 1980-2001.the equation was further estimated by the Tobit model. The findings were similar to those of Musila, 2005 in that it was found out that COMESA has certainly created trade within the region and very little trade diversion. However it was noted that the region seems to be overtrading with Angola and Uganda the only nations that seem to have more trade potential in the region.

Uexkull, (2011) did an analysis of the impact of regional trade basing his study on the ECOWAS region. He employed two different perspectives in the paper. He adopted the classic trade models for the first part then focused on the differences between the local firms, one that targeted the regional market and finally one that targeted the global market. The paper was trying to assess how ECOWAS has facilitated trade in the region and how it has led to decent employment creation. The results were quite mixed with a particular emphasis on how regional advantage is quite different from global advantage. Agricultural exporting countries like Mali and Niger have low productivity levels but have more strong direct employment effect. For countries that export manufacturing goods like Ghana and Togo they had lower direct employment effects but their potential for growth was higher. Oil exporting countries like Nigeria and Cote d'Ivore had low direct employment effects. Nigeria was the only country that benefited by having a diversified export market as a result of the regional integration. The paper concluded by stating that the regional trade from ECOWAS was quite different from global trade in terms of their impact on employment creation.

CHAPTER 3: METHODOLOGY.

3.1 Introduction.

This chapter deals with the methodology that will be used in this study. The purpose of the study was to: (1) determine the effects of regional integration on the economic performance. (2) Determine whether the regional integrations have had trade creation or trade diversion effects.

3.2 Research Design.

The study will employ a quantitative research approach to test the hypotheses and answer the research questions. Data that will be used will be from 1990 to 2015.The variables of study are the different trade metrics which include: exports value in US dollars, GDP of the exporting and importing country in US dollars, population sizes, distance between the countries under study and membership in the regional integration bodies or agreements. Data will be collected from secondary sources such as the IMF International Trade Statistics, OECD Social Indicators Database and the United Nations Comtrade database. This study utilizes the augmented gravity model in order to analyze the trade flows and their impacts.

3.3 Model specification and estimation.

3.3.1 Theoretical Underpinning.

The gravity model borrows from Newton's Law of Universal Gravitation specified as:

$$F_{ij} = G[(M_i M_j)/D_{ij}^2]$$

Where:

$$F_{ij} = Force\ of\ attraction\ between\ object\ i\ and\ j.$$

$$G = Gravitation\ constant.$$

$$M_i = Mass\ of\ object$$

$$M_{j=}Mass\ of\ object\ j$$

$$D_{ij} = Distance\ between\ object\ i\ and\ j.$$

The equation basically means that larger objects in terms of mass are more likely to attract each other more but that force of attraction decreases as the distance between them increases.

The gravity model was first used to study the effects of trade flows in the 1960s (Tinbergen, 1962). Tinbergen's model was specified as:

$$T_{ij} = A\,[\frac{Y_i^a Y_j^b}{D_{ij.}^c}]$$

The subscripts a and b are assumed to be 0,7 and 1.1 respectively while c usually is 1.

Where:

$$T_{ij} = level\ of\ trade\ between\ country\ i\ and\ j.$$

$$A = constant$$

$$Y_i^a = level\ of\ GDP\ of\ country\ i$$

$$Y_j^b = level\ of\ GDP\ of\ country\ j$$

$$D_{ij}^c = distance\ between\ country\ i\ and\ j.$$

A simple interpretation of the model is larger countries in terms of GDP are more likely to trade with each other but the level of trade decreases as the distance between the countries increase.

The topic of interest has been studied by amongst others Linnemann, 1962 Aitken, 1973 Geroci and Prewo 1977 and Endoh, 1999. However this earlier studies fell short of explaining whether regional integration really resulted to trade creation or not. This is attributed to the fact the models did not incorporate trade creation and trade diversion variables. Over time the model has evolved and other parameters have been included in order to account for emerging factors that encourage or inhibit international trade.

This study borrows some aspects from Endoh (1999) model to estimate trade creation and trade diversion dummies of EAC, COMESA or AGOA.

3.3.2 VARIABLES.

The gravity equation of international trade flows postulates the flow of trade is a function of size of the economies (S_{ij}) and resistance variables (R_{ij}). . The gravity equation hereby becomes:

$$Xij = f(Sij, Rij) \qquad (1)$$

The size of economies variable is a function of; $Sij = [Yi, Yj, Ni, Nj]$ and the Resistance variables factor is a function of; $Rij = [Dij, Aij, Lij, COMESA_{ij,}^k\ EAC_{ij,}^k\ AGOA_{ij}^k]$, for K=1,2,3.

The variables are defined as follows: Xij is the value of exports from country i to country j in dollar values, Yi and $Yj$are nominal GNP of the exporting country i and importing country j in US dollars,Ni and $Nj$are the population sizes of the countries i and j respectively, Dij is the distance between the capital cities of the exporting country i and the importing country j, Aij is a dummy variable that takes the value of 1 if the countries are adjacent to each other (i.e. they share a common border) and 0 otherwise,

Lij is a dummy variable that takes the value of 1 if the countries i and j have a common language and 0 otherwise. $COMESA^1_{ij,}$ $COMESA^2_{IJ}$ And $COMESA^3_{ij}$ are dummy variables that takes on the value 1 if exports originate from a member country to another member country, exports from a member country end at a non-member country and exports from a non-member country to a member country respectively.

EAC^1_{ij}, EAC^2_{ij} and EAC^3_{ij} are dummy variables that similarly account for exports from a member country to another member country, EAC^2_{ij} exports from a member country to a non-member country, exports from a non-member country to an member country.

$AGOA^1_{ij}$, $AGOA^2_{ij}$ and $AGOA^3_{ij}$ are also dummy variables. They account for exports from a member country to another member of AGOA, exports from a member country to a non- AGOA country, exports from a non-member country to an AGOA country.

Variable Y_i has a huge effect on the export capacity of country i and is therefore expected to have a positive effect on the export flow. Variable N_i is expected to have a negative effect on exports from country i to country j. This is because a huge home population provides a large domestic market meaning less dependence on the export trade. $Y_j$and $N_j$have a huge influence on the import capacity of country j. $Y_j$is expected to show positive effect on export of country i. N_j on the other hand can exhibit both positive and negative effects on the exports of country i. it can enable imports from country i to compete with the domestic goods of country j while on the other hand the same N_j can pose a large domestic market for goods from country j thereby enabling economies of scale in production leading to less dependence on the need for the export market. However many studies have shown that $N_j$assumes negative values (Endoh, 1999). D_{ij} is expected to have a negative impact on trade for longer distances increases transportation costs e.g. shipping costs. A_{ij} is expected to take positive values for adjacent countries experience lower trading costs and more contact. L_{ij} is a proxy for cultural similarity and is expected to have a positive impact on trading between country i and j.

The regional integration bodies can influence trade either positively or negatively. The variables $COMESA^1_{ij}$, EAC^1_{ij}, and $AGOA^1_{ij}$ variables representing trade creation effects and should their coefficients be positive then it is concluded that these regional integrations and agreements have trade creation effects but should they take negative values then it is concluded that the same regional integration and agreements have a negative effect on trade creation. The dummy variables $COMESA^2_{ij}$, EAC^2_{ij} and $AGOA^2_{ij}$ represent trade diversion effects. If their coefficients are negative then it is concluded that the regional bodies have indeed diverted the export trade i.e. integration has caused the member countries to prefer other member countries in their trading activities. And finally the dummy variables $COMESA^3_{ij}$,EAC^3_{ij} and $AGOA^3_{ij}$ represent import trade diversion with respect to the named regional integration bodies. If they assume negative then it can be concluded that the named regional integration bodies do divert import trade i.e. members of these regional bodies have switched their imports from non-member countries are now importing from member countries.

Annual data from 10 African countries for the period 1990-2015 are used to estimate the augmented gravity equation. Exports from the 10 countries are destined for both the African and international markets. GNP figures are obtained from the IMF's World Economic Outlook Database. The export data is obtained from the IMF's direction of trade statistics. Population data is obtained from the United Nation's Demographic Yearbook. Data on distance is obtained from world Atlas.com.

The author of the study created the variables L_{ij}, A_{ij} and the dummy variables for the regional integrations.

3.3.3 EMPIRICAL MODEL.

Endoh, (1999) proposed introduction of dummy variables in order to estimate the trade creation or diversion effects. In the new approach he had three dummy variables to account for exports from a non-member state to a member state, exports from one member state to another member state and finally a dummy variable to account for exports from a member state to a non-member state. The dummy variables were to be interpreted as follows; an increase in intra-group trade would mean trade creation has occurred, a decrease in imports from a regional grouping member state to a non-member state proves trade diversion and finally a decrease in exports from a regional member state to a non-member state also proves trade diversion.

The econometric model to be estimated in this study is of the form:

$$\ln(1+Xij)=\propto_0+\propto_1 \ln(y1)+\propto_2 \ln(Ni)+\propto_3 \ln(Yi)+\propto_4 \ln(Nj)+\propto_5 \ln(D_{ij})+\propto_6 \ln(L_{ij})+\propto_7 \ln(A_{ij})+\propto_8 \ln(COMESA_{ij}^1)+\propto_9 \ln(COMESA_{ij}^2)+\propto_{10} \ln(COMESA_{ij}^3)+\propto_{11} \ln(EAC_{ij}^1)+\propto_{12} \ln(EAC_{ij}^2)+\propto_{13} \ln(EAC_{ij}^3)+\propto_{14} \ln(AGOA_{ij}^1)+\propto_{15} \ln(AGOA_{ij}^2)+\propto_{16} \ln(AGOA_{ij}^3)+e_{ij}$$

The e_{ij} is the error term while $\ln(1+X_{ij})$is preferred to $\ln(X_{ij})$ to include the observations of zero trade into the model. The log-linear specification makes the dummy variables to assume values 10 if the statement is true or 1 otherwise.

Theory has it that $\propto_1, \propto_3, \propto_6$ and $\propto_7$ are supposed to positive while $\propto_2$ and $\propto_5$ are expected to be negative. $\propto_4$ can be positive or negative depending on whether the large population leads to economies of scale thereby encouraging domestic production or it encourages imports to favorably compete with the locally produced goods.

If $\propto_8, \propto_{11}$ and $\propto_{14}$ positive then COMESA, EAC and AGOA have trade creation effects while if $\propto_9, \propto_{12}$ and $\propto_{15}$ negative then COMESA, EAC and AGOA have diverted the export trade. If $\propto_{10}, \propto_{13}$ and $\propto_{16}$ positive then COMESA, EAC and AGOA have diverted the import trade.

3.3.4 DEFINITION AND MEASUREMENT OF VARIABLES.

Variable	Definition.	Measurement.
X_{ij}	Exports from country i to j	Millions of US Dollars.
Y_{ij}	Gross National Income of Country i.	Millions of US Dollars.
N_i	Population of country i.	Millions of people.
D_{ij}	Distance between country i and j.	Kilometers.
L_{ij}	Dummy variable for a common language	Takes on absolute values of 1 if there is a common

		language and 0 if there is no common language.
A_{ij}	Dummy variable for a common border.	Takes on absolute values of 1 if the countries have a common border and zero otherwise.
$COMESA_{ij}^{k}$	Variable to capture imports to and from COMESA countries.	Takes on absolute values of 1 and 0.
EAC_{ij}^{k}	Variable to capture imports to and from EAC countries.	Takes on absolute values of 1 and 0.
$AGOA_{ij}^{k}$	Variable to capture imports to and from AGOA participating countries.	Takes on absolute values of 1 and 0.

3.3.5 JUSTIFICATION OF THE AUGMENTED GRAVITY MODEL.

The Augmented gravity model is suitable for this study since it encompasses all the variables that are important in international trade. Furthermore it has variables that are able to act as dummies for the trade creation and trade diversion effects. This is a huge improvement from the initial gravity model that was first used in the 1960s that was only able to predict or model the impact of regional integration on an economy but fail to account for trade creation or dispersion measures.

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CHAPTER 4: ANALYSIS.

Data for the study was organized into panel data and various tests such as stationarity,between,within and overall estimations were also done.The analysis begins with some summary statistics for the variables of the study.

4.1 SUMMARY STATISTICS.

```
. summarize Exports GNPi GNPj Populationi Populationj
```

Variable	Obs	Mean	Std. Dev.	Min	Max
Exports	288	84.47788	155.0824	.0184306	845.2
GNPi	288	21.22331	15.92893	7.869	63.624
GNPj	288	33.47969	48.68409	1.962	332.075
Populationi	288	28.31422	8.355351	15.74	44.2
Populationj	288	31.20798	20.78693	5.907	89.76

The main variables of interest are the Exports GNPi GNPj Populationi and Populationj. The highest export value is 845.2 while the smallest export value is 0.0184306. Kenya's GNP (GNPi) has been increasing over the years.

4.2 STATIONARITY TESTS.

The stationarity tests for the variables of interest proved that they were not stationary thereby necessitating the taking of first differences which produced stationary results as shown:

```
ADF regressions: 0 lags
LR variance:     Bartlett kernel, 10.00 lags average (chosen by LLC)
```

	Statistic	p-value
Unadjusted t	-1.9568	
Adjusted t*	0.4541	0.6751

Which shows that Exports achieved stationarity after first difference for the Adjusted t* had a smaller value than the p-value.

Kenya's GNP also achieved stationarity after first difference:

	Statistic	p-value
Unadjusted t	-9.1447	
Adjusted t*	-6.7427	0.0000

The importing countries' GNP also achieved stationarity after first differencing:

	Statistic	p-value
Unadjusted t	-10.2768	
Adjusted t*	-5.0198	0.0000

The population variables achieved stationarity after differencing but the importing countries population (Populationj) achieved stationarity after second differences:

For Kenya's population;

	Statistic	p-value
Unadjusted t	-1.1155	
Adjusted t*	0.6510	0.7425

For the importing partners' population:

	Statistic	p-value
Unadjusted t	0.4825	
Adjusted t*	2.2532	0.9879

Clearly after first difference it was not stationary then after second difference:

	Statistic	p-value
Unadjusted t	-22.5912	
Adjusted t*	-21.5061	0.0000

4.3 VARIATIONS.

Thereafter the within, overall and between variations were as follows:

Exports	overall	84.47788	155.0824	.0184306	845.2	N =	288
	between		120.6749	1.011013	335.3944	n =	8
	within		106.132	-204.4266	594.2834	T =	36
GNPi	overall	21.22331	15.92893	7.869	63.624	N =	288
	between		0	21.22331	21.22331	n =	8
	within		15.92893	7.869	63.624	T =	36
GNPj	overall	33.47969	48.68409	1.962	332.075	N =	288
	between		35.17896	8.597917	113.8576	n =	8
	within		35.82601	-56.85492	251.6971	T =	36
Popula~i	overall	28.31422	8.355351	15.74	44.2	N =	288
	between		0	28.31422	28.31422	n =	8
	within		8.355351	15.74	44.2	T =	36
Popula~j	overall	31.20798	20.78693	5.907	89.76	N =	288
	between		19.71814	10.25783	61.84714	n =	8
	within		9.524007	4.729198	60.1692	T =	36
Distance	overall	4138.825	2846.449	655	9529	N =	288
	between		3037.694	655	9529	n =	8
	within		9.04e-13	4138.825	4138.825	T =	36
Language	overall	6.625	4.36469	1	10	N =	288
	between		4.657943	1	10	n =	8
	within		0	6.625	6.625	T =	36

Border	overall	4.375	4.36469	1	10	N =	288
	between		4.657943	1	10	n =	8
	within		0	4.375	4.375	T =	36
COMESA1	overall	7.75	3.903898	1	10	N =	288
	between		4.16619	1	10	n =	8
	within		0	7.75	7.75	T =	36
COMESA2	overall	3.25	3.903898	1	10	N =	288
	between		4.16619	1	10	n =	8
	within		0	3.25	3.25	T =	36
COMESA3	overall	1	0	1	1	N =	288
	between		0	1	1	n =	8
	within		0	1	1	T =	36
EAC1	overall	3.25	3.903898	1	10	N =	288
	between		4.16619	1	10	n =	8
	within		0	3.25	3.25	T =	36
EAC2	overall	2.125	2.981651	1	10	N =	288
	between		3.181981	1	10	n =	8
	within		0	2.125	2.125	T =	36
EAC3	overall	1	0	1	1	N =	288
	between		0	1	1	n =	8
	within		0	1	1	T =	36
EAC3	overall	1	0	1	1	N =	288
	between		0	1	1	n =	8
	within		0	1	1	T =	36
AGOA1	overall	10	0	10	10	N =	288
	between		0	10	10	n =	8
	within		0	10	10	T =	36
AGOA2	overall	1	0	1	1	N =	288
	between		0	1	1	n =	8
	within		0	1	1	T =	36
AGOA3	overall	1	0	1	1	N =	288
	between		0	1	1	n =	8
	within		0	1	1	T =	36

The overall variation measures the variation over time and that of individuals while the between variation occurs across the individual or variable and it is time invariant. Within variation is measure of variation of a given individual and it varies over time.

The interpretation for the table would be:

Exports varied by 155.0824 in the entire panel set,120.6749 between variables from one panel set to another and a variation of 106.132 within data sets in the same panel. GNPi varied by 15.92893 in the entire panel set, 0 from one cross-section to another and by 15.92893 from one data point to another but

in the same cross-section. GNPj varied by 48.68409 in the entire pooled data, 35.17796 from one cross-section to another and by 35.88601 from one data point to another in the same cross-section. Populationi varied by 8.355351 in the entire pooled data, 0 from one cross-section to another and by 8.355351 from a data point to another in the same cross section.

Populationj varied by 20.7869 in the entire pooled data, 19.71814 from one cross-section to another and by 9.524007 from one data point to another in the same cross-section. Distance varied by 2846.449 in the entire pooled data,3037.694 from one cross section to another and by 9.04e-13 from one data point to another.

For those variables with a variation value of 0 in either between or overall variation, this can be interpreted as having the same variation in the overall and within (in case of a zero value in between variation) or the same variation in the between and within variation (in case of a zero value in the overall variation.).

4.4 TEST FOR RANDOM OR FIXED EFFECTS.

Thereafter a Hausman Test inorder to determine whether a random or fixed effect model would be better. The results for the test were as follows:

```
. hausman fe re

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |       fe           re         Difference          S.E.
-------------+------------------------------------------------------------
       dGNPi |   1.564365     1.559322        .005043        .1149317
       dGNPj |   .1591601     .1647616       -.0056015       .0484753
dPopulationi |  -23.31521    -23.32719        .0119819        1.43987
bdPopulati~j |   -1.63574    -1.583899       -.0518403       .7627613
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =          0.02
                Prob>chi2 =        1.0000
```

The Hausman test has its hypothesis as: H_o: The RE model is better. If the prob>chi2 is less than 0.05 you then proceed to use the Fixed Effects.

In this case the prob>chi2 is greater than 0.005 we then accept the null and proceed to use the random effects model.

4.5 DISCUSSION OF RESULTS.

The results for the random effects estimation are:

```
R-sq:  within  = 0.0096                         Obs per group: min =        34
       between = 0.9911                                        avg =      34.0
       overall = 0.0393                                        max =        34

                                                Wald chi2(9)       =     10.72
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.2956
```

dExports	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
dGNPi	1.559322	1.263818	1.23	0.217	-.9177153	4.036359
dGNPj	.1647616	.307419	0.54	0.592	-.4377685	.7672917
dPopulationi	-23.32719	16.70158	-1.40	0.163	-56.06169	9.407311
bdPopulationj	-1.583899	8.548048	-0.19	0.853	-18.33777	15.16997
Distance	.0001395	.0016022	0.09	0.931	-.0030007	.0032796
Language	-.194732	.8526861	-0.23	0.819	-1.865966	1.476502
COMESA1	.1586157	.9293243	0.17	0.864	-1.662826	1.980058
EAC1	1.546342	1.078303	1.43	0.152	-.567094	3.659778
EAC2	-.347903	.834373	-0.42	0.677	-1.983244	1.287438
_cons	16.1102	18.68169	0.86	0.388	-20.50524	52.72564
sigma_u	0					
sigma_e	33.69866					
rho	0	(fraction of variance due to u_i)				

The variables EAC3,COMESA2, COMESA3,Border and all the AGOA variables were dropped due to collinearity. However they did not alter the study in any way since most of them and it was okay to drop them e.g. it did not make sense to control for EAC3 or COMESA3 since all the countries in the study belong to this blocs and they therefore assumed zero values.

The variables are all significant given their P>z values which shows that their values are not zeros.

Some of the coefficients assumed their theoretical signs while others proved otherwise. The variables with positive coefficients included: dGNPi, dGNPj, Distance EAC1 and COMESA1. These are the variables that are assumed to influence trade positively. The variables that assumed negative values included: dPopulationi, bdPopulationj(second difference of the Populationj variable), language and EAC2. These are the variables that are assumed to influence trade negatively.

In this study Kenya's GNP affects trade positively and this can be explained by the higher GNP meaning more production and output of goods and services thereby the country has more to export. The first difference for the Populationi variable took a negative value showing that the higher the domestic population the lesser the exports and this is supported by the fact that the higher population could mean a larger domestic market thereby decreasing the need for exports. dGNPj i.e. the importing country's GNP

has a positive coefficient meaning that the higher the importing country's GNP the more the exports from Kenya. The higher GNP means more income the country has the more they can therefore afford imports (i.e. exports from Kenya). bdPopulationj (second difference for the importing country's population) has a negative coefficient meaning the huge domestic population provides a large domestic market for the locally produced goods thereby less dependence on imports from Kenya.. Language has a negative coefficient implying that countries with no common language trade less than those with a common language. EAC1 has a positive coefficient meaning the regional bloc has encouraged trade amongst its members. However EAC2 has a much larger negative value meaning that goods originating from Kenya have found their way to non-EAC members and earned Kenya more. Distance has surprisingly taken on a positive value. The value is small and this can be attributed to a majority of the trading partners being near to Kenya and therefore the distance costs are not as much as compared to other trading blocs and their partners. This can also be attributed to the improved infrastructure within the region. COMESA1 has also taken a positive value meaning that goods from Kenya have found markets within the COMESA region and thereby encouraging trade within the region.

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CHAPTER 5: CONCLUSION.

The study was aimed at determining whether regional integration has had any effects in the Kenyan economy with the specific effects being trade creation or trade diversion. The null hypothesis was regional integration has had trade creation effects while the alternative was that trade creation has had trade diversion effects. The study has used EAC and COMESA as the main regional integrations that Kenya is part of.

Using the random effects in panel data for the specified indexed gravity equation and annual data for the period 1980-2015 the econometric analysis has shown that trade creation occurred within EAC and COMESA. However as for EAC the trade creation effect was of a lesser value as compared to its trade diverting effects of export goods from Kenya.

The gravity model analysis also showed that variables like the exporting country's GNP and population affect trade positively while the importing country's GNP, population and not having a common language affects trade negatively. Distance is known to affect trade negatively due to the increased costs but this study has shown otherwise and the reason being improved infrastructure in the region.

Therefore Kenya's government and the regional governments should encourage their host countries to trade more but most importantly they should place an emphasis on infrastructural development like building new roads that are of international standards and adopting new means of transport like railway. Infrastructural development as shown will reduce the transportation costs thereby making trade to be more attractive.

BIBLIOGRAPHY.

Akhter N. and Ghani E. (2010). Regional Integration in South Asia: An Analysis of Trade Flows Using the Gravity Mode. The Pakistan Development Review, Vol. 49, No. 2 Summer , pp. 105-118

Basnet H. C. and Sharma S. C. (2013) Economic Integration in Latin America. Journal of Economic Integration, Vol. 28, No. 4, pp. 551-579

Busse M. and Lüehje S. (2007). Should the Caribbean Countries Sign an Economic Partnership Agreement with the EU?:Challenges and Strategic Options: Journal of Economic Integration, Vol. 22, pp. 598-618

Carmignani F. 2005. The Road To Regional Integration in Africa.: Macroeconomic Convergence and Performance in COMESA. Journal of African Economies. Volume 15,No.2, pp.212-250.

Chauffour J.P. 2011. Trade Integration as a Way Forward for the Arab World
A Regional Agenda. The World Bank Middle East and North Africa Region
Poverty Reduction and Economic Management

Choo G.M. (2012). What Does Integration Signify?: Its Origin and Optimism for the Global Economy Journal of Economic Integration, Vol. 27, No. 2 , pp. 209-215

Cieślik A and Hagemejer J. (2009). Assessing the Impact of the EU-sponsored Trade Liberalization in the MENA Countries. Journal of Economic Integration, Vol. 24, No. 2 pp. 343-368

Ekanayake E. M.,Mukherjee A and Veeramacheneni B.(2010) Trade Blocks and the Gravity Model: A Study of Economic Integration among AsianDeveloping Countries
Journal of Economic Integration, Vol. 25, No. 4, pp. 627-643

Ismail W.N, Smith P and Kugler M. (2009) The Effect of ASEAN Economic Integration on Foreign Direct Investment. Journal of Economic Integration, Vol. 24, No. 3, pp. 385-407

Kabir S. and Salim A.R. (2011). Parallel Intergration and ASEAN-EU Trade Potential: an Empirical Analysis
Journal of Economic Integration, Vol. 26, pp. 601-623

Kahouli B and Maktouf S. (2015). Trade creation and diversion effects
in the Mediterranean area: Econometric analysis by gravity model, The Journal of International Trade & Economic Development, 24:1, 76-104, DOI: 10.1080/09638199.2013.873479

König J. 2015. European Integration and the Effects of Country Size on Growth
Journal of Economic Integration, Vol. 30, No. 3 , pp. 501-531

Koo W.W., Kennedy L.P and Skripnitchenko A. (2006). Regional Preferential Trade Agreements: Trade Creation and Diversion Effects
Review of Agricultural Economics, Vol. 28, No. 3 Autumn, pp. 408-415.

McIntyre M.A. (2005). Trade Integration in the East Africa Community: An assessment for Kenya. IMF working paper.

Musila W.J. (2005). The Intensity of Trade Creation and Trade Diversion in COMESA, ECCAS and ECOWAS: A comparative study. Journal of African Economies, Volume 14 No.1, pp.117-141.

Rojid S. (2006) COMESA trade potential: a gravity approach, Applied
Economics Letters, 13:14, 947-951, DOI: 10.1080/13504850500426061

Roy A. and Mathur K. S. (2016). Brexit and India–EU Free Trade Agreement
Journal of Economic Integration, Vol. 31, No. 4 , pp. 740-773

Soete S. and Van Hove J. (2017). Dissecting the Trade Effects of Europe's Economic Integration Agreements.Journal of Economic Integration, Vol. 32, No. 1 , pp. 193-243

te Velde D.W.(2011). Regional Integration, Growth and Convergence
Journal of Economic Integration, Vol. 26, No. 1, pp. 1-28

Uexhull E.V. 2011. Regional Trade and employment in ECOWAS. International Labour Organization.