

**ROLE OF INTERNATIONAL TRADE ON THE ECONOMIC GROWTH IN KENYA**

**BY**

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**MASTER OF SCIENCE IN COMMERCE (FINANCE AND ECONOMICS)**

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## **DECLARATION**

I declare that this dissertation is my original work and has not been previously published or submitted elsewhere for award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and author duly acknowledged.

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## ABSTRACT

While economies are striving hard to achieve high economic growth, it becomes more important to answer the question of what actually determines their economic growth. International trade has recently been considered as an important determinant of economic growth. The general objective of the study was to examine the role of international trade on economic growth in Kenya. The specific objectives of the study were to establish the role of human capital development, customs duty, foreign direct investment and international trade openness on economic growth in Kenya. Descriptive research design was applied in this study as the study sought to collect data and establish relationships that existed without changing the environment in any way. The study was a case of Kenya. Available data for Kenya 1964 to 2015 was used. The data was collected from World Bank, World Trade Organization, World Customs Organization and Kenya Revenue Authority. The data collected was analyzed using the vector autoregression model. To establish whether the time series relating to international trade cause the time series related to economic growth, the analysis of the data through the model was preceded by tests of unit root and stationarity. Stata statistical package was applied in data analysis. The findings were then presented in figures and tables. The findings established that human capital and international trade openness had significant positive effect on economic growth. Customs duty had significant negative effect on economic growth while FDI had no significant role on economic growth. The results also indicated that human capital development, international trade openness and customs duty granger caused economic growth. FDI did not granger cause economic growth. The study made the following recommendations. First, the country should seek to enhance human capital to ensure that it is competitive in terms of labour productivity in the labour markets. This is expected to make the country more productive and efficient locally as well as making it competitive internationally. Secondly, the country should seek to utilize the customs that are derived from international trade into developing both human and capital infrastructure that is capable to enhance the country's competitiveness both in the short term as well as in the long term. Third, Kenya should seek to improve the investments climate and business environment in the country to attract mode FDI which can be able to have a significant role on economic growth. Having policies that encourage FDI and marketing the country as a desirable investment destination would be a good starting point. Lastly, the country should continue to be open to international trade but care should be taken to balance the trade so as to ensure that exports rise more than the rise experienced in imports. The country should also have stringent policies on what should be imported so as to protect local industries.

**Keywords:** International Trade, Economic Growth, Openness, Human Capital, Customs

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## **DEDICATION**

I dedicate this work to my family members who have been a great source of encouragement.

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## **ACRONYMS AND ABBREVIATIONS**

<b>ACP</b>	African Caribbean Pacific
<b>COMESA</b>	Common Market for Eastern and Southern Africa
<b>EAC</b>	East African Community
<b>ECI</b>	Economic Competitive Index
<b>ECP</b>	Economic Competitiveness Package
<b>EU</b>	European Union
<b>FDI</b>	Foreign Direct Investment
<b>GDP</b>	Gross Domestic Product
<b>IGAD</b>	Inter-Governmental Authority of Development
<b>IMF</b>	International Monetary Fund
<b>KIPPRA</b>	Kenya Institution of Public Policy and Research
<b>OLS</b>	Ordinary Least Squares
<b>R&amp;D</b>	Research and Development
<b>RoK</b>	Republic of Kenya
<b>SME</b>	Small and Medium Enterprise
<b>WCO</b>	World Customs Organization
<b>WTO</b>	World Trade Organization

## **OPERATIONAL DEFINITION OF TERMS**

**Customs Duty** - Tariff enacted on goods when they are conveyed through international boundaries (World Customs Organization, 2014).

**Economic Growth** - Percent rate of increase in real gross domestic product (Solow, 1956).

**Human Capital Development** - Stock of knowledge, behaviours, shared and character attributes, including inventiveness, exemplified in the aptitude to achieve work so as to create economic worth (Mankiw, 2004).

**International Trade Openness** – Is the extent of economic strategies that either hamper or promote trade amongst countries (Ulasan, 2012).

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of the Study**

While economies are striving hard to achieve high economic growth, it becomes more important to answer the question of what actually determines their economic growth (Ulasan, 2012). International trade has recently been considered as an important determinant of economic growth. It has been witnessed during the past couple of decades that international trade has played a significant role in the growth process of both developed and developing countries (Ezeani, 2013). International organizations such as World Trade Organization (WTO), International Monetary Fund (IMF) and World Bank are constantly advising, especially developing countries, to speed up the process of trade liberalization to achieve high economic growth. High economic growth is the ultimate goal of all economic activities because it improves the standard of life of people which is desirable. The general perception is that high international trade leads to high economic growth (Tahir & Norulazidah, 2014).

Tahir and Azid (2015) cast doubt on the earlier literature (Fiestas, 2005; Huchet-Bourdon, Mouel & Vijil, 2011) indicated that the measures of international trade used in the earlier studies and the methodologies used to estimate models that link international trade to growth are still open to doubt. Researchers have used various tools of analysis on different objective and subjective indices of over the years to find the link between international trade and economic growth (Tahir & Norulazidah, 2014). Contemporary studies, such as Tahir and Khan (2014) and Ezeani (2013) have provided concrete evidence regarding the positive relationship between international trade and economic growth. Other studies however, for example, Ugurlu

(2010) have reported a weak negative relationship between international trade and economic growth.

Recent literature indicates that the debate on the international trade–growth relationship is still alive. Dava (2012), for example, have argued the debate on the international trade and economic growth connection has not reached a convincing conclusion since various studies have resulted to conflicting conclusions. A similar point has been raised by Sloan (2016) by documenting that the debate on international trade and growth relationship is controversial, and the available literature has not provided convincing and robust evidence. Securing rapid and sustained economic growth is a major concern globally and has a complex interaction with the development of market systems.

Various models and studies have tried to explain how international trade influences economic growth (for example Sun & Liu, 2013). Tahir and Norulazidah (2014) observed that most of the studies that link international trade to economic growth fall under two categories; models closer to the Neo-Classical view and models based on creative destruction idea of Schumpeter (1934). Tahir and Azid (2015) intimated that international trade causes endogenous development of knowledge and Research and development (R&D). Based on their growth driver, both the neo-classical view and creative destruction leaning studies have attributed different roles to international trade in the growth process. The first group of studies based on the endogenous growth models (Haq & Luqman, 2014) tries to explain the role of international trade in terms of human capital accumulation (learning-by-doing). Similarly, Tahir and Khan (2014) in their observation attribute a critical role to the process of learning-by-doing in stimulating economic growth.

International trade leads to exchange of ideas that lead to human capital development. Human capital is defined as a by-product of physical capital in the endogenous growth model. The activity of learning is said to be associated with the capital stock of the firm. An increase in the capital stock, hence, results in an increase in the firm's stock of knowledge. International trade, as Tahir and Azid (2015) suggests, increases the total size of the market, raises the level of output, leads to an increased learning-by-doing, and hence contributes to economic growth.

Bussea and Konigera (2012) noted that there is a lot of ambiguity on the effect of international trade on economic growth. This ambiguity emanates mostly from the variables indicated as the specifications of trade. By using dynamic panel estimations, Bussea and Königera noted that the volume of imports and exports as a proportion of the GDP have a significant and positive effect on economic growth.

World Customs Organization, WCO, (2014) notes that international trade also influences economic growth through customs. This was established when WCO analyzed Economic Competitiveness Package (ECP) that was requested by a member of the organization. The analysis indicated that customs in a country contributes significantly to national competitiveness in relation to the economy. The routes through which customs influences economic growth and competitiveness of a country are through facilitation of trade, social protection and also through collection of revenue (customs duty).

Further, Ulasan (2012) intimated that international trade plays a role in the growth process in terms of innovation and capital transfer. In Pradhan, Arvin and Norman's (2015) framework, international trade affects economic growth with three different channels. First, international trade expands varieties of new products. Growth in knowledge rests on the introduction of greater variety of goods and international trade plays a positive role in this

connection. Moreover, Haq and Luqman (2014) argue that international trade in capital goods raises the market size for new product varieties. Similarly, they argued that trade openness proves beneficial for the introduction of new varieties because it provides access to a wider base of technical knowledge that reduces the cost of innovation.

Dava (2012) also had supportive arguments on how international trade is linked to economic growth. Dava intimated that international trade provides opportunities for innovation and consequently leads to technological improvements. Further, Lederman (2013) argued that international trade provides access to foreign intermediate inputs. Through international trade, countries are enabled to import intermediate inputs from abroad that are not invented domestically, which can help to foster productivity in manufacturing sector. Furthermore, international trade facilitates the diffusion of international knowledge. International trade allows a country to engage in exchange of intermediate goods which acts as the main channel through which there are international knowledge spillovers. This enables knowledge to be diffused into a country thereby raising domestic productivity.

Similarly, Lederman (2013) supports the discussion on the contribution of international trade to economic growth through FDI flows and development in human capital. In the current study, the international trade-growth nexus will be advanced. The role of international trade in human capital development and innovation will be examined. Moreover the role of openness for international trade and how this stimulates economic growth will be investigated (Bussea & Konigera, 2012). Countries with high international trade links with other countries are expected to have more investments flows between them. Kimino, Driffield and Saal (2014) argued that international trade transactional linkages lead to FDI spillovers. This is because countries that trade with each other are more likely to invest in each other.

The choice of the study objectives in the current study is informed by the previous studies which found a role of these factors in examining the role of international trade and economic growth (Ulasan, 2012; Lederman, 2013; Haq & Luqman, 2014; Tahir & Azid, 2015). The study was informed by theoretical and empirical literature from different studies such as Fouda (2012), World Bank (2013), Ezeani (2013), Tahir and Khan (2014) and Pradhan et al. (2015). These literature sources indicate the most probable aspects through which international trade can have impacts in a developing country to be through human capital development, customs duty, openness to international trade and net FDI flows into the country.

### ***1.1.1 Global Perspective of International Trade***

China is the largest export economy in the world. In 2014, China exported \$2.25T and imported \$1.56T, resulting in a positive trade balance of \$690B. The GDP of China in 2014 was \$9.2T and its GDP per capita was \$11,900 (WTO, 2015). Chinese top exports are computers, broadcasting equipment, telephones, integrated circuits and office machine parts. Top Chinese imports are crude petroleum, integrated circuits, iron ore, gold and cars. China exports most of its products to United States, Hong Kong, Japan, Germany and South Korea. Sources of China's imports are India and other Asian countries, South Korea, Japan, the United States and Australia (Dent, 2015).

Another major player in the global trade is United States. United States is the 2nd largest export economy in the world with exports worth \$1.42T and \$2.13T in imports in 2014. This however, was a negative trade balance of \$715B. GDP of the US in 2014 was \$16.8T while GDP per capita was \$53,000 (Song, Tan & Wu, 2015). Top exports by US include refined petroleum, cars, planes, spacecraft, helicopters, packaged medications and vehicle parts. Its chief imports

are crude petroleum, cars, computers, refined petroleum and vehicle parts. US exports are mostly destined for Canada, Mexico, China, Japan and Germany while its imports originate from China, Canada, Mexico, Japan and Germany (Sloan, 2016).

Germany is an EU international trade superpower which is the 3rd largest export economy in the world. In 2014, Germany exported \$1.38T and imported \$1.15T, resulting in a positive trade balance of \$237B. In 2014 the GDP of Germany was \$3.73T and its GDP per capita was \$43, 900 (WTO, 2015). The top exports of Germany are cars, vehicle parts, planes, helicopters, spacecraft and petroleum gas. Its top imports are petroleum gas, crude petroleum, cars, vehicle parts and refined petroleum (Dent, 2015).

In Africa, one of the biggest economies is South Africa. South Africa is the 36th largest export economy in the world and the 45th most complex economy according to the economic competitive Index (ECI). In 2013, South Africa exported \$114B and imported \$109B, resulting in a positive trade balance of \$5.02B. In 2013 the GDP of South Africa was \$366B and its GDP per capita was \$12,900. The top exports of South Africa are gold, diamonds, platinum, coal briquettes and iron ore. Its top imports are crude petroleum, refined petroleum, cars, gold and computers (Song, Tan & Wu, 2015). The top export destinations of South Africa are China, the United States, the United Kingdom, Hong Kong and India. The top import origins are China, Germany, Saudi Arabia, the United States and India (Kodila-Tedika, 2015).

### ***1.1.2 Kenyan Perspective of International Trade***

Trade policies in Kenya have evolved over time, changing from an inward looking import substitution policy regime to the existing one whose primary objective is the promotion of exports of consumer and intermediate goods, while at the same time laying the base for eventual

production of capital goods for both domestic and export markets (RoK, 2014). This is expected to lead to higher earnings of foreign exchange, which in turn will help to reduce the balance of payments deficit. The government has put in place various incentives such as, duty and Value Added Tax remission, manufacturing under bond scheme and export processing zones (WTO, 2009). Export Processing Zones were introduced in 1990 with the aim of providing an attractive investment opportunity for export oriented business ventures within designated areas and regions. Kenya has continued to offer incentives to attract new firms manufacturing for exports.

In pursuing international trade opportunities, Kenya has entered into Multilateral, regional, bilateral and preferential trade arrangements. It is a signatory to the Lome convention, which is a trade and aid agreement between the European community and developing African Caribbean Pacific (ACP) countries and also member of African Economic Community, Common Market for Eastern and Southern Africa (COMESA), East African Community (EAC) and Inter-Governmental Authority of Development (IGAD) (RoK, 2013). The government has also undertaken key economic reforms with a view to promote both domestic and import licensing, rationalizing and reducing import tariffs, liberalization of foreign exchange and price controls and partial liberalization of capital markets among other measures. It has also committed to gradual reduction of tariff and non-tariff barriers and progressive liberalization of trade (Gertz, 2008). However, despite all these measures, international trade in Kenya remains low.

Compared with other selected African and Asian countries, Kenya's share in international trade is insignificant. According to Kenya Institution of Public Policy and Research (KIPPR, 2014) Kenyan share in world exports only contributed 0.03 per cent of the total GDP in 2012 compared with Malaysia (1.33%), South Korea (2.69%), Singapore (2.25%) and Thailand (1.08%). World prices of agricultural raw materials and vegetable oils have either remained

stagnant or have been declining over the years. Kenya's main exports are in this category and this means that to reap from the benefits of international trade the country needs to diversify into more value added manufactured exports (World Bank, 2013). One of the most important objectives of structural adjustment policies in Kenya has been to implement reforms on international trade policy due to its importance in economic development.

The role of international trade on economic growth informs implementation of Kenya's Vision 2030 which aims at making Kenya a middle income country by 2030. International trade is expected to play a significant role in the vision. As government of Kenya seeks to improve prosperity of all regions by 2030, there are various flagship projects that will be financed through private-public partnerships and by the government itself (RoK, 2014). These flagship projects provide various opportunities for investments and trade. Some of these projects are financed through FDIs while others are financed by local investors. The commissioning of the flagship projects under Vision 2030 will also increase Kenya's connectivity with the world and hence provide more opportunities for investments and trade. Six sectors that contribute 57% of Kenya's GDP are affected including trade and services, agriculture, tourism, financial services, IT enabled services and manufacturing (Muchiri, 2016).

## **1.2 Statement of the Problem**

International trade exerts intense impact on the economic advancement of a country. Opening up for international trade and lessening of trade restrictions enables developing countries to reap benefits that advance their economies (Sloan, 2016). Though international trade is theoretically indicated to spur economic growth, the relationship between the two is unclear (Pradhan et al., 2015). For instance, China and the US are the greatest global economies in terms of international

trade. China exported \$2.25T and imported \$1.56T whereas the US exported \$1.42T and imported \$2.13T. However, when it comes to economic growth, China was 19<sup>th</sup> globally (6.9% GDP growth rate) while US was 114<sup>th</sup> with a GDP growth rate of 2.6 percent (CIA, 2015). The country with the highest GDP growth rate was Papua New Guinea (16%) followed by Ethiopia (8.7%).

Currently, the role of international trade on economic growth remains an area of protracted controversy in both theoretical and empirical research (Tahir & Azid, 2015). The theories on international trade have been characterized by a lack of consensus: the ‘neoclassical trade’ theory and new growth theory supports the positive effect of international trade on economic growth while the ‘neoclassical growth’ theory does not recognize the positive role (Lederman, 2013). This leaves policy makers with tough decisions to make on whether to open their economics for free international trade or have protectionism measures.

There is support in regard to the lack of consensus on how international trade influences economic growth. This is illustrated by mixed empirical evidence. Some studies such as Tahir and Khan (2014) and Ezeani (2013) have indicated positive effect of international trade on economic growth whereas other studies like Ezeani (2013) indicated that international trade only benefits rich countries but have negative effect on economic growth of poor countries. Rightly, Pradhan et al. (2015) noted that previous empirical evidence on the linkages between international trade and economic growth is inconclusive, the results depending sensitively on the country or region that is studied. Musila and Yiheyis (2015) note that as Kenya increases its trade with global partners especially China and India, the effect this has on economic growth need to be investigated. In a local study by Soi, Koskei, Buigut and Kibet (2013), it was established that exchange rate has no effect on GDP growth rate, while inflation had negative

and significant effect on GDP growth rate. Final government consumption had positive effect on GDP growth rate in Kenya. This study used variables that are significantly than the variables that were used in the current study.

It was therefore critical to examine the role of international trade on economic growth in Kenya to inform policy and practice. This study focused on the spillovers of international trade including human capital development, customs duty, foreign direct investment and international trade openness and their role on economic growth in Kenya.

### **1.3 Objectives of the Study**

This section discusses the general objective and the specific objectives of the study.

#### ***1.3.1 General Objective of the Study***

The general objective of the study was to examine the role of international trade on economic growth in Kenya.

#### ***1.3.2 Specific Objectives of the Study***

The study had the following objectives;

- i) To establish the role of human capital development brought about by international trade on economic growth in Kenya
- ii) To examine the role of customs duty on economic growth in Kenya
- iii) To determine the role of foreign direct investment inflows on the economic growth in Kenya.
- iv) To establish the role of international trade openness on economic growth in Kenya.

## **1.4 Research Hypothesis**

The study tested the following hypothesis;

*H<sub>01</sub>: Human capital development brought about by international trade does not have any significant role on economic growth of Kenya*

*H<sub>02</sub>: Customs duty does not play any significant role in influencing the economic growth of Kenya*

*H<sub>03</sub>: Foreign direct investment flows into Kenya do not significantly influence economic growth of the country*

*H<sub>04</sub>: International trade openness does not have significantly role on the economic growth of the country*

## **1.5 Justification of the Study**

The study is justified due to the increasing clamour by international organizations such as World Bank, WTO and IMF for free and open trade. However, some countries (even developed ones) have resulted to protectionism. It is hence critical to establish the assertion that international trade promotes economic growth holds for Kenya. As such the major areas through which the role of international trade is felt in the economy will be assessed. These include human capital development, custom duty, FDI and international trade openness. This study will hence shed light on the role of international trade and the associated factors in influencing economic growth

The findings from this study are hence expected to be of value to policy and practice. The country through its foreign policy would formulate policies that will be informed with findings from this study regarding the role of international trade on economic growth. Moreover, the study will be of value to practitioners in foreign and economic policy as they will be provided

deeper insight by the findings from this study. This is expected to provide them with deeper insight which they can use in policy and advocacy issues in the area of international trade and economic growth.

Lastly, the study can be used by scholars and researchers. Scholars and researchers can use the study findings in their studies relating to international trade and economic growth.

### **1.6 Limitations of the Study**

International trade and economic growth are diverse subject areas which are affected by a myriad of factors. Some of these factors may be uncontrollable (natural resources of the country) and others can be controlled (such as infrastructure development). Uncontrollable factors were not considered in this study. The findings also were only applicable for Kenya and their generalizability may be limited.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presents the literature on the role of international trade on the economic growth. The chapter covers the theoretical review and also empirical review of studies done by previous researchers. The chapter's review enables a development of an understanding on the role of international trade on economic growth.

#### **2.2 Theoretical Review**

##### ***2.2.1 New Growth Theory***

This theory was applied in this study to explain how development in human capital can enhance economic growth. The new growth theory is an economic growth theory that posits development of human capacity, human desires and unlimited wants foster ever-increasing productivity and economic growth (Temple, 1999). The new growth theory argues that real GDP per person will perpetually increase because of people's pursuit of profits (Steedman, 2003). As competition lowers the profit in one area, people have to constantly seek better ways to do things or invent new products in order to garner a higher profit. This main idea is one of the central tenets of the theory.

The theory also posits that innovation and new technologies do not occur simply by random chance (Summers & Heston, 1991). Rather, it depends of the number of people seeking out new innovations or technologies and how hard they are looking for them. In addition, people also have control over their knowledge capital. That is, what to study and how hard to study. If the profit incentive is great enough, people will choose to grow human capital and look harder

for new innovations. International trade enables people in one country to have access to knowledge and technology produced in another country thus enabling them to develop their capacity and hence enhance economic growth profits (Steedman, 2003).

### ***2.2.2 Solow-Swan Model***

This theory was applied in this study to explain how customs duty can be applied by a country to enhance productive capacity and hence influence economic growth. Solow–Swan model is an exogenous growth theory that seeks to explain long term economic growth using the principles developed in neoclassical economics (Solow, 1956). The basis of this model is the Cobb-Douglas neoclassical production function which relates the model to microeconomics (Swan, 1956). The model posits that development in labour, accumulation of capital, and productivity growth can have a positive role on the long-run economic growth of a country. These factors can spill over from international trade between countries.

The short-run implications of the Solow-Swan Model is that economic growth is only possible when there is an improvement in capital investments, savings rate and improvement in productivity. However, in the long-run, the model indicates that economic growth is only possible through capital and human development. Human development enables the economy to have high labour and capital efficiency and hence increase all factor productivity (Solow, 1956). In this study, Solow-Swan Model was aligned with the human capital variable.

### ***2.2.3 Harod-Domar Theory***

This theory was applied in this study to explain how attraction of FDI into a country can provide the required resources which can enhance economic growth. The Harod-Domar theory was

developed in the late 1930s to mid-1940s by Harrod (1939) and Domar (1946). This is a post-Keynesian economic growth theory that is applied to explain the factors behind a country's economic growth. This theory depicts that there is no reason for an economy to have a balanced economic growth due to the imbalance in production factors in every economy. Three kinds of growth are observed in the Harrod–Domar theory which includes actual growth, warranted growth and the natural rate of growth. Warranted growth rate is the degree of advancement at which the economy fails to grow into the long term or experience recession. On the other hand, actual growth is the real rate that a country's GDP increases in every year. This is the type of growth that is the focus of this study. Further, natural growth is the rate of growth in the economy that is needed to sustain full employment.

This theory indicates that capital, human capital, savings and investment are required for any economy to grow. Young (2013) noted that increased integration and trade among countries leads to improvement in human capacity and capital. The implications of this theory are that economic growth of a country depends on quantity and quality of capital and labour. When there are investments, these leads to capital accumulation. Capital accumulation hence creates economic growth. In developing countries where labour is plenty and investments low, the theory prescribes attracting foreign capital or borrowings to stimulate economic growth. As such revenue for customs and attracting FDI in such a case will spur economic growth. This theory was aligned in this study with the customs duty, FDI and economic growth variables.

#### ***2.2.4 Porter's National Competitive Advantage Theory***

This theory was applied in this study to explain how international trade openness can lead to national advantages and economic growth. With the unremitting development of international

trade theories, the Porter's (1990) national competitive advantage hypothesis states that a country's competitiveness in any industry is dependent on the capacity of innovation and upgrade. According to Ulrich & Thomas (2014) the model focuses on the reasons why some states are more competitive than others in specific industries. To explain the theory, Porter (1990) identified the four determinants that are linked together. Moreover, according to him, the local market capabilities and resources, the demand conditions, home firm characteristics and local complementary industries and suppliers are some of the key determinants. The government and legislation are also key players in national competitiveness of the industries. The legislator can enhance competitiveness through policies and actions (Harzing & Giroud, 2014).

The first determinant is local market capabilities and resources. According to Porter (1990), the value of factor proportions theory considers the nations resources as the main factors that determines what products the country will export and import. Consequently, there are other important and advanced factors that incorporate the investments in education, infrastructure, and skilled labor. He considered the advance aspects as the providers of sustainable competitive advantage. The second determinant is market demand conditions. Porter's (1990) perception is that sophisticated home market is vital in ensuring the ongoing innovations, thus developing a sustainable competitive advantage. Moreover, organizations that have a sophisticated domestic market, experience trendsetting, demand forces continuous modernism and new technologies and products.

The third determinant is local complementary and suppliers industries. To maintain competitive advantage, the large international firms benefit from having efficient and strong support as well as related industries to generate inputs required as raw materials. Certain multinationals cluster geographically, thus enjoys efficiency and productivity (Porter, 1990).

Lastly are local firm characteristics. The home firms are characterized by industry structure, strategy and industry rivalry. The strategies influence that firm's competitiveness within the market. In addition, a healthy rivalry among the local organizations spurs competitiveness and innovations (Ulrich & Thomas, 2014).

However, for a country to be able to focus on its competitive advantage, it is vital for the country to be globally interconnected. This enables the country to be able to trade with other countries. A country can hence sell what it is competitive at producing to other countries and also be able to buy what it cannot competitively produce from other countries. Therefore, the theory indicates that openness to international trade enables countries to focus on their strong sectors.

## **2.3 Empirical Review**

### ***2.3.1 Human Capital Development***

In a study in Taiwan, Darrat, Hsu and Zhong (2002) assessed human capital and international trade influenced economic growth. This study was re-examining recent claims in the literature that foreign trade (economic openness) played no role in the Taiwanese economic growth once human capital was taken into account. The study determined that results from cointegration, error-correction models, and variance decompositions all suggested that economic openness is a significant catalyst of growth in Taiwan over and above any growth contribution of human capital accumulation. Moreover, international trade was found to accelerate human capital development and hence spurring economic growth.

Mobolaji (2010) conducted a study in Sub Saharan Africa that sought to establish how human capital spillovers from international trade influenced economic growth. This study

established that both the stock of human capital (HC) and the physical capital were important for growth in the region. Those countries that engaged more in international trade benefited from human capital spillovers that helped them to enhance their economic growth compared to those countries that were not very open to international trade.

According to a research conducted by Oloo (2013), development of the human capital enables promotion of wealth creation within the economy. The notion of human capital explains the human labor as a major factor of production and contribution to economic growth. Human capital is indicated by adult literacy rate. Kenya is considered to have a variety of both skilled and unskilled cheap labor. Current employment statistics gives a detailed data on the national employment, unemployment, earnings and wages across all the non-agricultural companies, all government civilian workers. Information is passed in various ways; for instance in the unemployment and employment rates among the women and men and across all ethnic groups. Data on employment is based on a research survey done on about 300,000 establishments and 600 industries, this accounts to about one-third of all the employees. The industries include manufacturing, retail trade and constructions. Promotion of human labor can be done through establishment of an efficient education system which enables growth in the economy (Musila and Yiheyis 2015).

Human capital development is a strategy to attract FDI and enable economic growth according to Sloan (2016). The availability of cheap labor force in a country is a major contribution to the growth of SMEs and international organizations in an economy. The rates of employment show the well-being labor force being related to the growth of the economy of the country. Changes on the income indicate the trends in earnings and also the labor costs are in line with economic growth. Economic analysts normally focus on the changes in the total non-farm

payrolls and in the sectors where jobs were gained or lost. Other trends on Current Employment Statistics can be derived from the information on the payrolls, these include the average hourly earnings and the hours worked per week. Enhancement of skilled labor is a major contribution to international trade indirectly since availability of cheap workforce promotes FDI, thus creation of employment (Hall and Jones, 2006).

### ***2.3.2 Customs Duty***

A study by Bussea and Konigera (2012), established that revenue collection from customs is a significant but indirect factor in influencing economic competitiveness and growth of a country. Revenue collected by the government from goods that are for import and export are important in ensuring authority of government and developing infrastructure that is associated by the exports or imports. Revenue collected from customs also enables the government to be able to protect intellectual property rights that enable local industries to be competitive and sustainable. This is in line with the stipulation of Adam Smith's assertion that governments exist to provide defense, justice, health, education and public works (Asafu-Adjaye, 2014). The revenue collected as customs duty enables the government to provide these services and hence spurring economic growth.

Mashiri and Sebele-Mpofu's (2015) revealed that customs should not only collect revenues but should also deal with illicit trade that negatively affects economic growth. Mashiri and Sebele-Mpofu noted that though the major role of customs is to collect revenue, which should be allocated properly to establish that systems at the border and other trade facilitators are efficient and up-to-date. The revenue collected from the customs enables authorities to fight

international trafficking of illicit goods and streamlining activities at the port of entry to make the country the destination of choice for even other neighboring states.

Guo (2013) conducted a study that established that customs duty represents a considerable portion of entire tax collection. Moreover, customs is regarded by most businesses as the biggest hindrance to trade and development if not managed effectively. As such, countries like China has applied revenue collected from customs to improvement of facilities and processes at the ports of entry and exit. This has increased trade levels which has increased economic growth of China significantly. This notion is also depicted by Bird (2010) who notes that skills gap, human resources, insufficient funds and lack of political commitment hinders development of customs. With the duty collected from customs, the country can improve human resources, and enough capital to modernize facilities which can make clearing for good and services easier and faster. This can spur trade and enhance economic growth. The IMF (2011) has indicated that a lack of political commitment negatively affects economic growth.

A study by Song et al. (2015) established that most developing countries bank on customs duties rather than income and corporate taxation to fund functions of the government. Deprived of the revenue collected from customs duty, developing nations would have a more challenging time in funding government. Indeed, Asafu-Adjaye (2014) notes that developing countries have customs duty as the primary source of funding for its recurrent and development expenditures. Moreover, Asafu-Adjaye observes that even developed countries constructed the national infrastructure and authority necessary for economic competitiveness by the revenue collected by customs.

### ***2.3.3 Foreign Direct Investments (FDI)***

According to a research done by Nyamwange (2009), Kenya has accounted for significant number of employment as a consequence of the huge FDI flows into the country. FDI provides the needed capital for enhancing domestic investments which spur economic growth and development. Moreover, FDI has aided in the transfer of technological and managerial skills that has contributed to the economic growth witnessed in Kenya today. However, the country has been unable to achieve full potential due to aspects of corruption, crimes, inappropriate infrastructure in most parts (Musila & Yiheyis, 2015). The government focuses on the determinants of economic growth and enhances the measures that facilitate FDI within the country. The preferences given to this determinant is due to its capability to promote competitive advantage and improve international trade (Nyamwange, 2009).

Alfaro (2003) conducted a study that sought to establish the effect of Foreign Direct Investment on economic growth. The author noted that it may seem ordinary to claim that (FDI) can deliver abundant benefits to host states. However, the study by Alfaro indicated that though there are benefits from FDI, those benefits differ significantly through sectors. The study assessed the effects of FDI on different sectors including manufacturing, primary and services sectors. This study was an empirical examination using cross-country data for 1981 to 1999. The study established that total FDI wields a vague influence on growth. FDI seemed to have negative role on growth of primary sector while it had positive effect on growth of service and manufacturing sectors.

#### ***2.3.4 International Trade Openness***

A study by Harzing and Giroud (2014) established that international trade openness have a significant impact on the growth of a country's economy. International trade openness is indicated by trade volumes (conventionally expressed as the ratio of exports plus imports to GDP). The notion that international trade can be of great importance for country was featured by Adam Smith in 1776, where he looked at the causes and nature of wealth of nations. Adam Smith described absolute advantage in the line of international trade, and he used labor as the only determinant of economic growth.

Adam Smith measured the absolute advantage by comparing labor productivities influenced by international trade, and he found that the higher the labor productivities the higher the economic growth (Hoefele, Schmidt-Eisenlohr & Yu, 2013). Absolute advantage principle is the ability of a party (a firm, an individual or a country) to produce more services and good products than competitors, by using equal amount of resources. Recently this idea was based on models as per the potential profit from trade. These models revealed that, outward orientations uplift the country's resources allocations. In that these resources in line with its comparative significance. Although there is increase on the level of per capita income, there is no direct impact on the long term economic growth (Falvey et al, 2001).

An earlier study by Liu et al (2002) on endogenous growth had revealed that there is indeed an association between trade openness and economic growth. Another prior study by Martin (1997) had differing findings whereby it established that many measures of trade openness have a negative correlation with economic growth. This study by Martin (1997) indicated that there could be other factors that may affect economic growth of a country.

A study by Mankiw (2004) revealed that there could be other factors that play a big role in the growth and development of a country and international trade may not be the major determinant of economic growth. This study noted that some countries succeeded not only because of trade liberalization, but they experienced rapid growth through the use of subsidies. Although, there are arguments regarding trade and growth; it is suggested that resource allocation in a country is improved by international trade and this may raise economic growth of a country in the long-run. Another study by Irwin and Tervio (2002) has contrary findings to the study by Mankiw (2004). This study indicated that trade openness is important when an industry or a company reaches a level of maturity as long as it is done selectively and gradually.

A study in China by Sun and Heshmati (2010) assessed the effect of international trade openness on economic growth. The study established that international trade which is a major factor in openness had significantly contributed to economic growth of China. China has simultaneously experienced high trade volumes with international partners and at the same time, its growth has been phenomenal. The study further noted that as China continues to participate increasingly in global trade, this brings both dynamic and static effects to the country that stimulate rapid economic growth nationally. Sun and Heshmati further noted that international trade volumes and structure of trade towards high technology exports have resulted to increased productivity and growth of China.

## **2.4 Research Gap**

The role of international trade in economic growth in Kenya has limited research despite its importance. Nyamwange (2009) studied the role of FDI in economic growth and noted that FDI has an indirect effect on economic growth through increase in productivity and exports. Another

study by Oloo (2013) sought the influence of human capital on economic advancement. This study established that human capital enables promotion of wealth creation within the economy. The notion of human capital explains the human labour as a major factor of production and contribution to economic growth.

Musila and Yiheyis (2015) on the other hand noted that FDI aids in transfer of technological and managerial skills that has contributed to the economic growth witnessed in Kenya today. The few studies in the Kenyan context had only focused on a few international trade variables which include human capital development and FDI. Moreover, these studies had looked at the influence of these factors in isolation of other factors. The current study sought to establish the influence of these factors together with customs duty and international trade openness.

A better understanding of the role of international trade is crucial to both the private and public sectors who are the key players in this field. The information can act as a guide to the government and other stakeholders in enhancing the efficiency and factors that affect the promotion of SMEs and multinational organizations within the global market. Through formulation of policies, the state can attract FDI and support technological growth as steps to improve international trade.

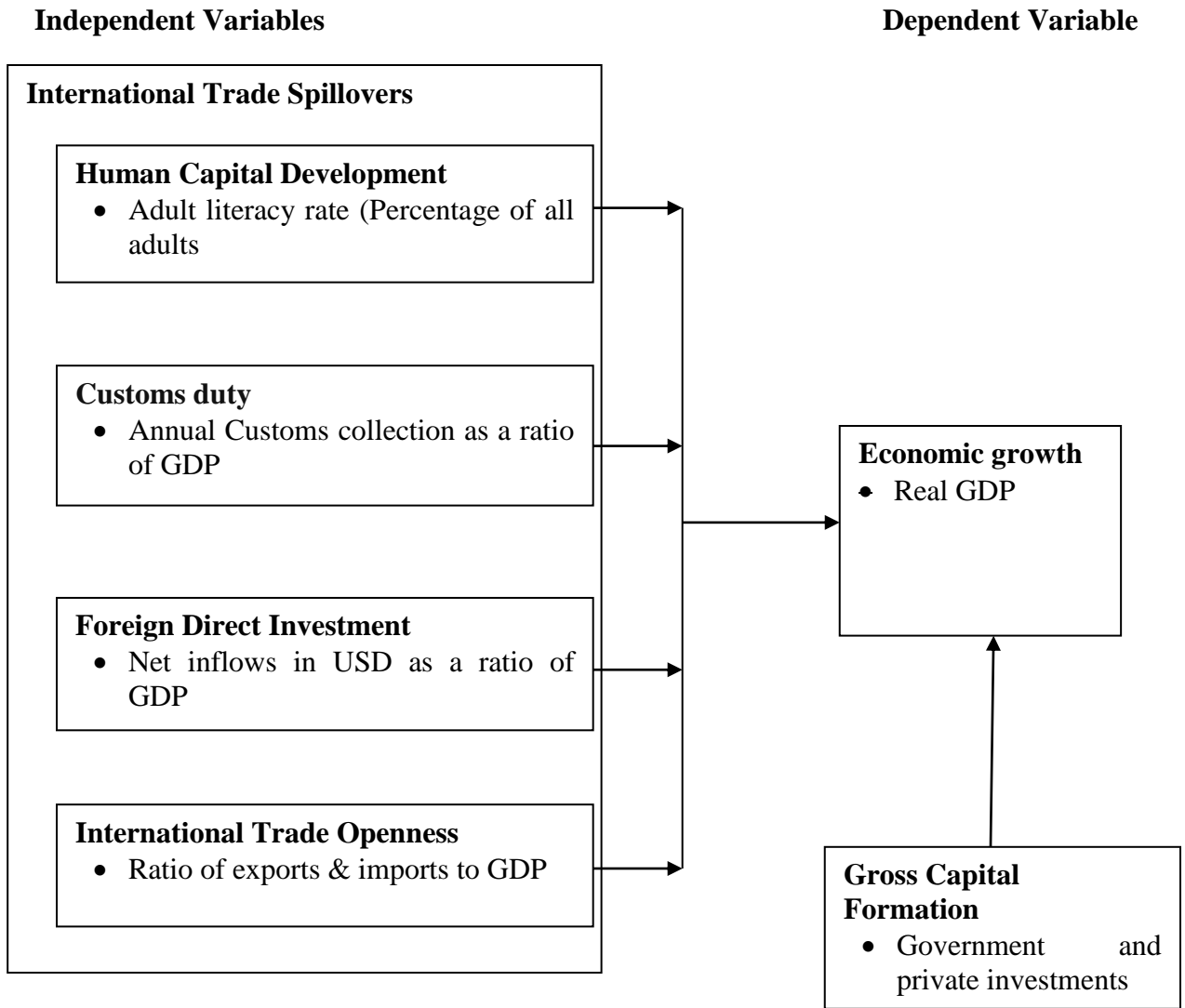
The studies that have been conducted in relation to some of the international trade variables have mixed findings. For instance, Song et al. (2015), Harzing and Giroud (2014), and Sun and Heshmati (2010) established that international trade openness has a positive effect on economic growth whereas a prior study by Martin (1997) had revealed that international trade openness has a negative effect on economic growth. Since there are limited studies on international trade in Kenya and its role on economic growth, this warrants this study.

The role of international trade need not be undermined and the government must play its part in encouraging local firms to engage in it. As a major contribution to the gross domestic product of Kenya, more research needs to be done to add to the limited information essential in decision making. This study examined the importance of human capital development FDI, customs duty and international trade openness in promoting international trade and growth of the Kenyan economy.

## **2.5 Conceptual Framework**

The study was based on the conceptual framework presented in Figure 1. The study depicted that international trade has spillovers on human capital development, customs duty, FDI and international trade openness. These in return have role on the economic growth of the country. However, since the level of total investments also influences economic growth, this will also be used as a control variable. The gross capital formation (total government and private investments) greatly influence economic growth in a country and hence this justified its use as a control variable.

**FIGURE 1**  
**Conceptual Framework**



*Source: Author (2016)*

## 2.6 Operationalization of Variables

The variables and their measurement are depicted in Table 1. The variables that were included in the study were human capital development, customs duty, foreign direct investments and international trade openness. The dependent variable was economic growth.

**TABLE 1**  
**Measurement of Variables**

<b>Variable</b>	<b>Notation</b>	<b>Type of variable</b>	<b>Measurement scale</b>	<b>Measurement</b>
Human Capital development	HCD	Independent	Ratio	Adult literacy rate in percentage
Customs duty	CD	Independent	Ratio	Total customs duty collection/ GDP
Foreign direct investments	FDI	Independent	Ratio	Net FDI flows / GDP
International trade openness	ITO	Independent	Ratio	(Total exports + Total imports )/GDP
Gross Capital formation	GCF	Control	Ratio	Total value of government and private investments
Economic Growth	EG	Dependent	Ratio	Real GDP

*Source: Author (2016)*

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter discusses the research design, sampling technique and sample size, and the data collection techniques. Also discussed are the data analysis methods, presentation, and the model that was applied in the analysis. The diagnostic tests that were conducted before and after model estimation are also presented.

#### **3.2 Research Design**

Descriptive research design was applied in this study as the study sought to collect data and establish relationships that existed without changing the environment in any way (Creswell, 2013). The data to be collected in this study was historical as it entailed data collected on international trade components and economic growth in the natural environment. Descriptive research (sometimes referred to as relational research), is useful in situations where one or two variables need to be related to establish how they associate with one another. In the current study, the objective was to establish the role of human capital development, custom duty, FDI and international trade openness on economic growth in Kenya. Since the study applied historical data, the descriptive design was the best suited for the study.

#### **3.3 Target Population**

The study was a case of Kenya. Available data for Kenya from independence to 2015 was applied in the study. Specifically, this was data from 1964-2015.

### 3.4 Data Collection, Analysis and Presentation

The study used secondary data, obtained from World Bank and World Trade Organization. The data procured from World Bank was on human capital development, FDI and economic growth. Data on international trade openness and customs duty was sourced from World Trade Organization. The researcher contacted World Bank and World Trade Organization and request access to the data for 1964-2015. Preferably, data was requested in Excel format which was more usable. The data was then cleaned, and entered in the form required ready for analysis. Data was analyzed using Stata statistical software.

Time series regression model was fitted. The Vector Auto regression model (VAR) or the Vector Error Correction Model (VECM) was applied since the data had underlying variables with a long run stochastic trend. This enabled the testing of the role of the independent variables on economic growth of Kenya. This enabled examination of the role of the four independent variables (human capital development, customs duty, FDI and international trade openness) on economic growth. The procedure for data analysis involved three steps. The first step was to test for cointegration which would establish whether to use the VAR or VECM. This was then followed by testing for unit root.

The VAR (p) model was overtly stated as follows:

$$Y_t = A + B_1 Y_{t-1} + B_2 Y_{t-2} + \dots + B_5 Y_{t-5} + \varepsilon_t \dots \dots \dots (i)$$

Where:

$Y_t = (y_{1t}, y_{2t}, \dots, y_{nt})$ , (nx1) vector of time series variables (EG, HCD, ITO, FDI and CD)

A = an (nx1) vector of intercepts

$B_i = (i=1, 2, \dots, 5)$ : (nxn) coefficient matrices

$\varepsilon_t$  : an (nx1) vector of unobservable zero mean error term

EG = Economic growth

HC = Human capital

CD = Customs duty

FDI = Foreign direct investment

ITO = International trade openness

t = Time (year)

Time series diagnostics (unit root test, lag length, and correlation analysis, etc) were conducted. Cointegration test was conducted to ascertain long-term and short-term relationships. Cointegration was tested to establish whether the variables were related and whether they hovered over certain equilibrium. Cointegration of variables is critical when dealing with non-stationary variables to ensure that there is no spurious regression.

### **3.5 Unit root and stationarity tests**

The analysis of the data through the model was preceded by tests of unit root. Testing unit root is critical to understand the order of integration so that an appropriate econometric model can be set and correct inference made. Since this data was time series, it was tested whether the variables possess a unit root or are non-stationary. In this study, the augmented Dickey–Fuller test was used. Presence of unit root or non-stationarity could provide estimates that are not reliable (Creswell, 2013). If this was established, measures taken depended on the extent of the violation of stationarity.

### **3.6 Diagnostic Tests**

The study tested whether the data violated assumptions of regression. This included tests for outliers, test of normality, serial correlation, heteroscedasticity and multicollinearity. The overlain residual curve over normal curve was applied to test for normality (Gray, 2012). Serial correlation test for residuals was conducted using Lagrange Multiplier test while white test was applied to test for heteroscedasticity (Denscombe, 2014). A correlation matrix was used to test for multicollinearity (Neuman, 2006). Transformation of the data was performed to correct any violations.

## CHAPTER FOUR

### DATA ANALYSIS, FINDINGS AND DISCUSSION

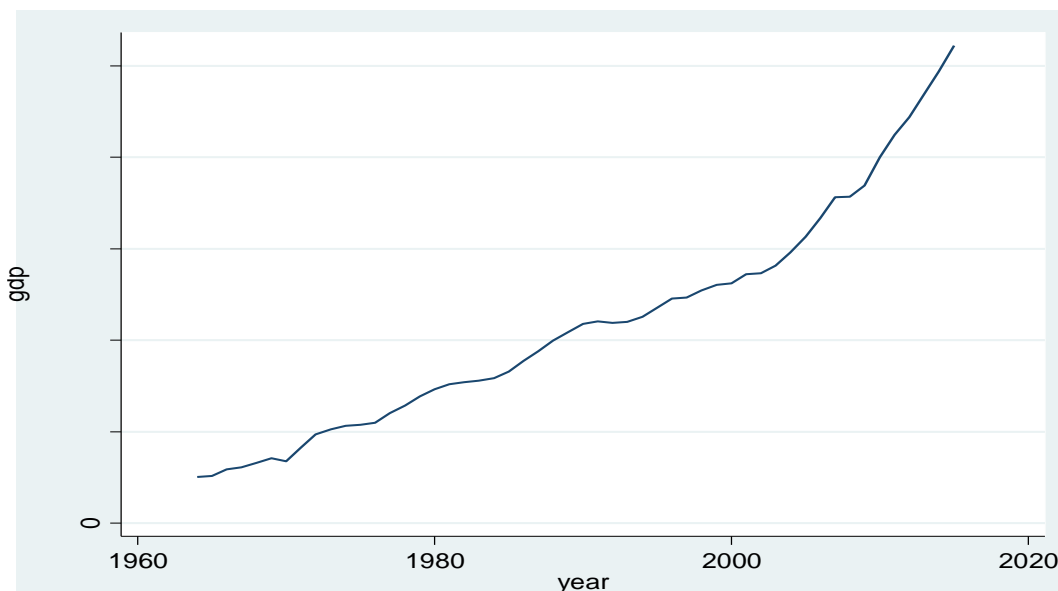
#### 4.1 Introduction

The analysis and results of the study are presented in this chapter. Moreover, the chapter also presents the post estimation tests and also the pre analysis tests that were conducted before the model was run. The results presented in this chapter relates to the role of international trade on economic growth in Kenya. The results assist in testing the hypothesis of this study which indicated that human capital development, customs duty, international trade openness and foreign direct investment had no significant role on the economic growth in Kenya.

#### 4.2 Exploratory Analysis for Study Variables

The study explored the trend of economic growth (Real GDP) from 1964 to 2015. The results indicated that GDP showed an upward trend (Figure 2).

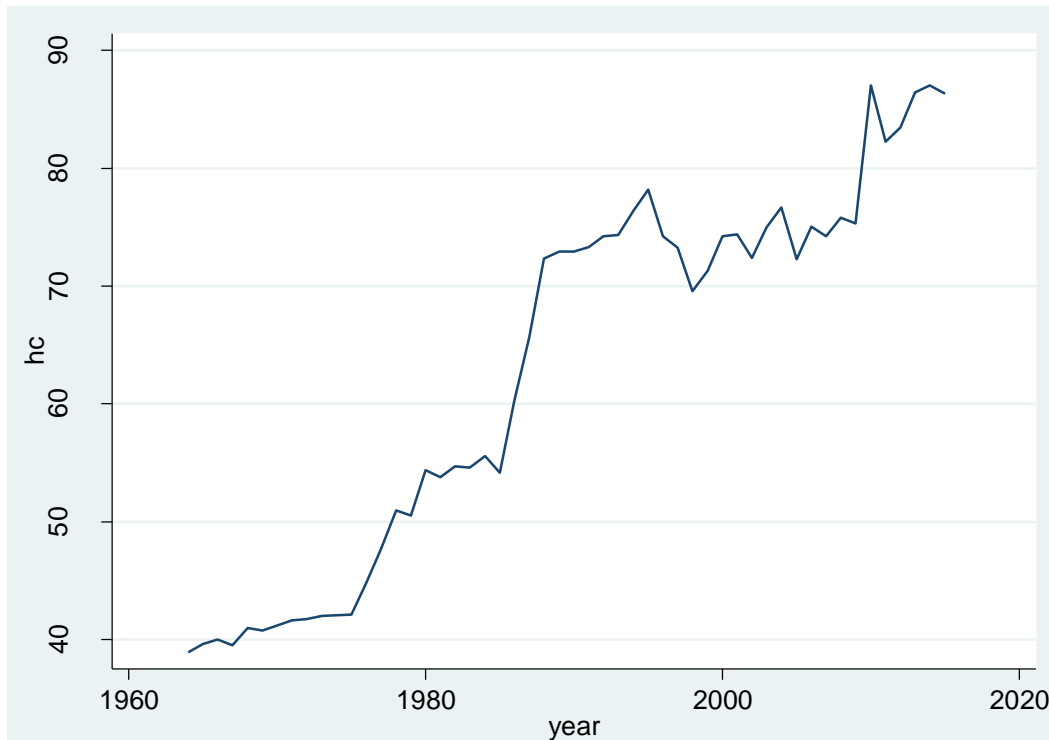
**FIGURE 2**  
**Trend of Economic Growth**



*Source: Author (2016)*

The trend of human capital development was also plotted against time. The results are presented in Figure 3. The results indicated that human capital development was on a growth trend despite a few stagnation periods in the early 1980s and the 2000s.

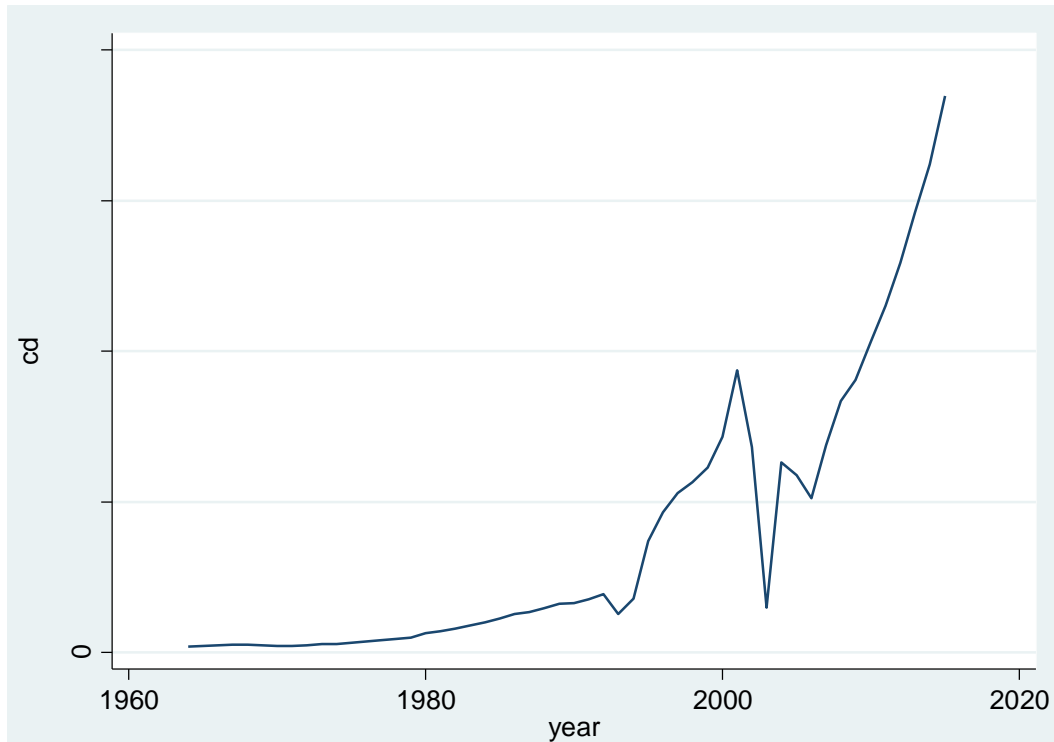
**FIGURE 3**  
**Trend of Human Capital Development**



*Source: Author (2016)*

The study also sought the trend of customs duty from 1964 to 2015. The results (Figure 4) indicated that custom duty has been on a sharp rise from early 2000s when it had experienced a sharp decline from 2000.

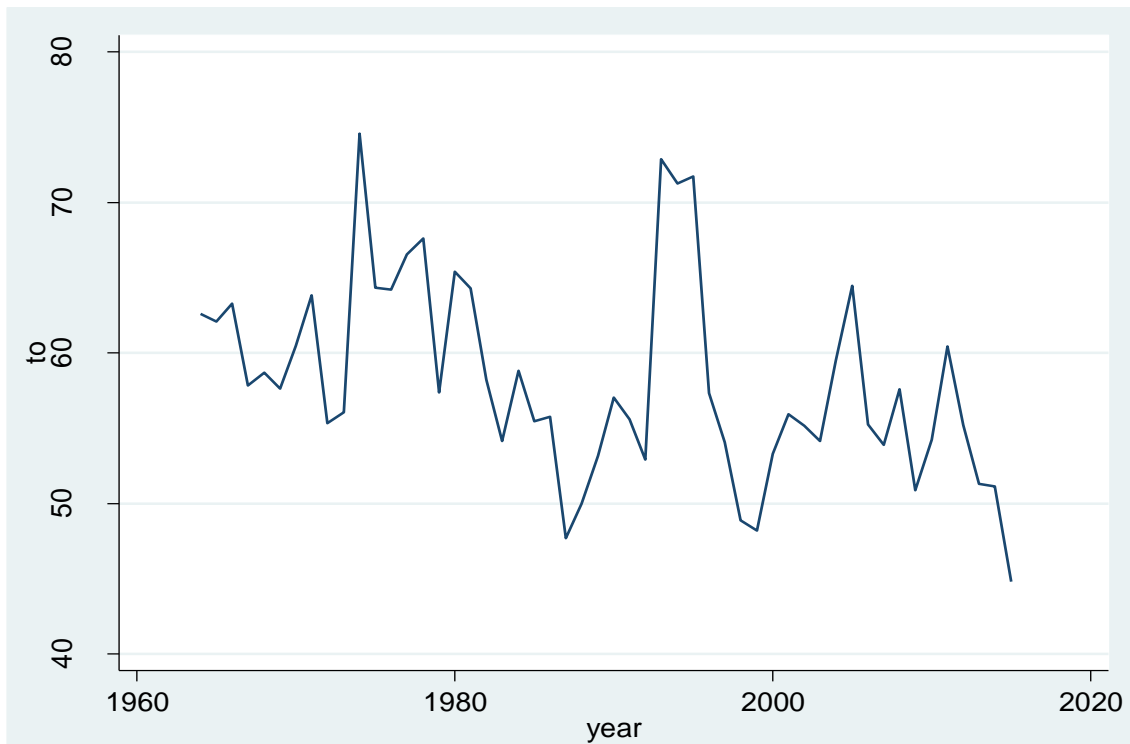
**FIGURE 4**  
**Trend of Customs Duty**



*Source: Author (2016)*

The trend of trade openness shows year on year fluctuations indicating the level of import and export trade has experienced regular disruptions over the years (Figure 5). Moreover, in relation to GDP, the level of exports and imports indicate a declining trend. This implies that Kenya is becoming less open to trade as its economy grows.

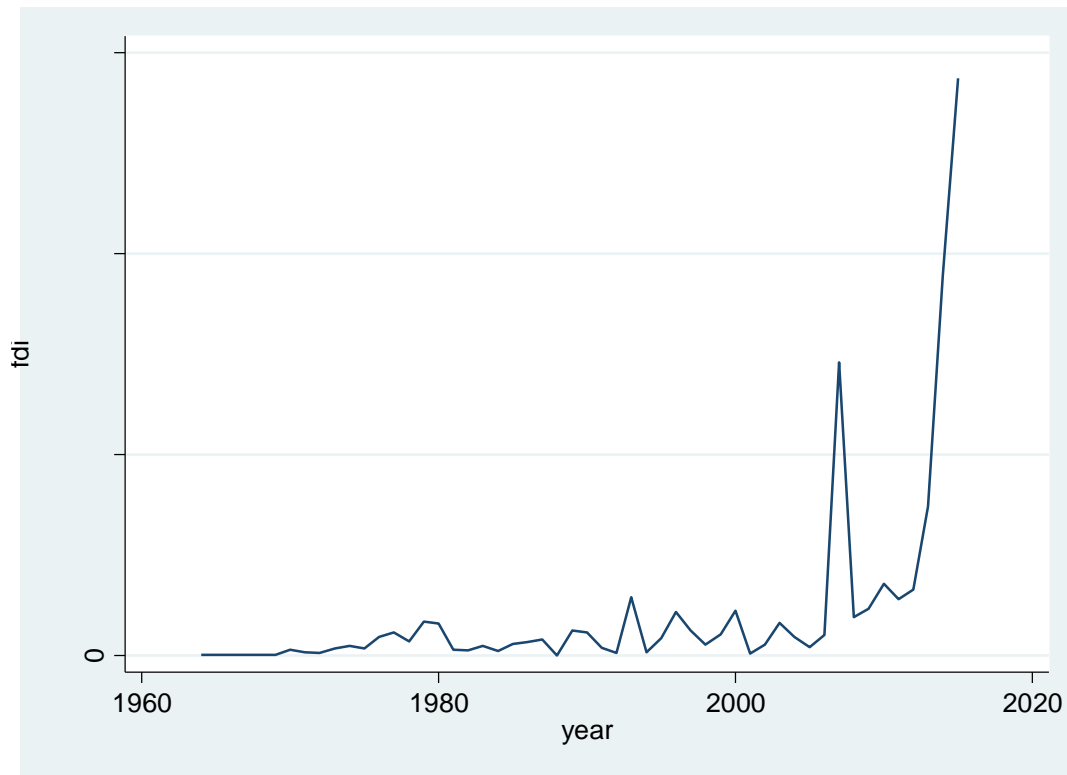
**FIGURE 5**  
**Trend of Trade Openness**



*Source: Author (2016)*

Lastly, the trend of FDI was developed which indicates a relatively constant level of FDI until mid-2000s (Figure 6). The level after this rose sharply in 2003 and slumped to original levels in 2004. Another sharp rise was noted from 2012 to 2015.

**FIGURE 6**  
**Trend of FDI**



*Source: Author (2016)*

### **4.3 Unit Root Tests**

The study applied the Augmented Dickey Fuller (ADF) test to test the stationarity of the data or to test whether the data had unit root. To run time series models, the assumption of stationarity of the data is made and hence it is critical to have stationary data or data that does not have unit root. ADF test was applied and results are as presented in Table 2. The results indicate that human capital and customs duty had unit roots as their test statistics were less than the 5% critical value in absolute terms. The other three variables (FDI, trade openness and GDP) were stationary. First differencing was applied on all the variables which made them stationary.

**TABLE 2**  
**Dickey Fuller Test for Unit Root**

		Number of obs = 51
<b>Variable</b>	<b>Test Statistic</b>	<b>5% Critical Value</b>
Human Capital	-0.682	-2.929
Customs Duty	1.547	-2.929
FDI	-5.127	-2.929
Trade openness	-3.503	-2.929
GDP	6.133	-2.929

*Source: Author (2016)*

After first differencing, stationarity of the data was tested again and findings are as indicated in Table 3. The absolute test statistics were above the absolute 5% critical values indicating the first differencing has made all the time series to be stationary.

**TABLE 3**  
**Dickey Fuller Test for Unit Root (1<sup>st</sup> Difference)**

		Number of obs = 50
<b>Variable</b>	<b>Test Statistic</b>	<b>5% Critical Value</b>
Human Capital	-8.019	-2.930
Customs Duty	-7.015	-2.930
FDI	-7.018	-2.930
Trade openness	-8.712	-2.930
GDP	-5.615	-2.930
GCF	-5.762	-2.930

*Source: Author (2016)*

#### **4.4 Johansen Cointegration Tests**

Johansen Cointegration Tests were carried out to examine whether the variables had a long term association. Having a long term association is requirement when using the VECM model. When variables under study do not have long term cointegration, VECM cannot be applied and VAR which requires only one term association was used. The results of the Johansen cointegration test

are presented in indicated in Table 4. The results of the cointegration test indicated that the variables did not have any cointegration equation. This was because all the trace statistics for all the cointegration maximum ranks were below the respective 5% critical values. These results meant that VECM time series model could not be applied. VAR model was hence found appropriate for the analysis.

**TABLE 4**  
**Johansen Cointegration Test**

. vecrank hc cd fdi to gdp gcf, trend(constant)						
Johansen tests for cointegration						
Trend: constant				Number of obs =		50
Sample: 1966 - 2015				Lags =		2
maximum				trace	5%	
rank	parms	LL	eigenvalue	statistic	critical	value
0	42	-4821.0252	.	87.7500*		94.15
1	53	-4799.3074	0.58051	44.3145		68.52
2	62	-4788.5177	0.35052	22.7351		47.21
3	69	-4782.5736	0.21161	10.8469		29.68
4	74	-4778.0301	0.16618	1.7598		15.41
5	77	-4777.1841	0.03327	0.0679		3.76
6	78	-4777.1502	0.00136			

*Source: Author (2016)*

#### 4.5 Correlation of Independent Variables

The study assessed the correlation of the independent variables (human capital, FDI, customs duty and international trade openness). This was performed to test the collinearity of the independent variables. The results are presented in Table 5. The results indicated that there were no two variables which had high correlations (above 0.8) to indicate presence of multicollinearity. The variables did not therefore have a problem with multicollinearity.

**TABLE 5**  
**Correlation Matrix**

	hc	fdi	cd	to
hc	1.0000			
fdi	-0.4257	1.0000		
cd	0.7650	-0.5764	1.0000	
to	-0.4019	0.2093	-0.4690	1.0000

*Source: Author (2016)*

#### 4.6 Time Lags

The time series model required to select the time lags that were appropriate in the data to have a reliable model indicating the role among the variables. Using either the VECM or VAR model requires specifying the appropriate lags for the model. The results (Table 6) provided the Lag length (LL), Hannan and Quinn Information Criterion (HQIC), Akaike's Information Criterion (AIC), the Likelihood Ratio (LR), the Final Prediction Error (FPE) and the Schwarz's Bayesian Information Criterion (SBIC). The study results indicated that two tests (LR and AIC) preferred four lags while three (FPE, SBIC and HQIC) indicated that one lag was the most appropriate. The study therefore applied one lag that was preferred by the majority of the tests.

**TABLE 6**  
**Selecting Number of Lags**

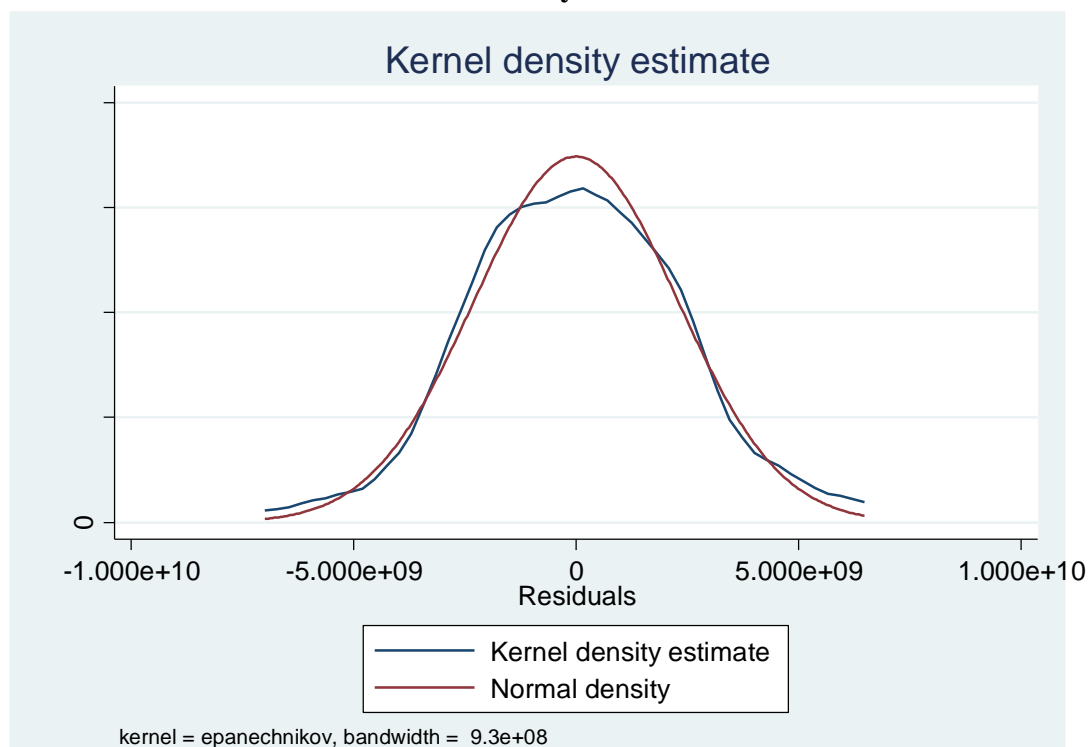
Selection-order criteria								
Sample: 1968 - 2015						Number of obs	=	48
lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-3536.41				1.0e+58	147.767	147.915	148.157
1	-3381.35	310.14	25	0.000	4.6e+55*	142.348	142.863*	143.712*
2	-3364.5	33.682	25	0.115	6.8e+55	142.688	143.572	145.027
3	-3333.06	62.88	25	0.000	5.7e+55	142.419	143.672	145.733
4	-3298.95	68.219*	25	0.000	4.8e+55	142.04*	143.66	146.328

*Source: Author (2016)*

#### 4.7 Vector Auto Regression Model

The vector was then run with the first differenced variables while using one lag. After the regression model was run, post-test diagnostics were done. These included test of normality of residuals and test for serial correlation. Test of normality was conducted by overlaying the residuals of errors over the normal distribution as indicated in Figure 7. The results indicated that the residuals did not deviate from normal distribution.

**FIGURE 7**  
**Test of Normality of Residuals**



*Source: Author (2016)*

Test of autocorrelation was conducted after the VAR model was run and the results are presented in Table 7. The results indicated that the chi square was 32.97 and was not significant at 5% significance level indicating that the null hypothesis of no autocorrelation at lag order 1 was accepted.

**TABLE 7**  
**Test of Autocorrelation**

lag	chi2	df	Prob > chi2
1	32.9659	25	0.13192

H0: no autocorrelation at lag order

*Source: Author (2016)*

The VAR model is then presented. In the model, the independent variables were human capital (hc), international trade openness (to), FDI (fdi) and customs duty (cd). The control variable was gross capital formation (gcf) while economic growth (gdp) was the dependent variable. The results of the VAR model are presented in Table 8.

The results of the model can be summarised in the model;

$$GDP = 1.19GDP_{1t} + 1.14e9HC_{1t} - 3.44CD_{1t} + 69.58FDI_{1t} + 3.28e9ITO_{1t}$$

In the VAR equation, GDP lag 1 ( $\beta = 1.19$ ;  $p < 0.05$ ), human capital development ( $\beta = 1.45e9$ ;  $p < 0.05$ ), customs duty ( $\beta = -3.44$ ;  $p < 0.05$ ), and international trade openness ( $\beta = 3.28e9$ ;  $p < 0.05$ ) all had significant effects on economic growth. However, FDI ( $\beta = 69.58$ ;  $p > 0.05$ ) did not have significant effect on economic growth. The results in Table 8 indicate that equations relating to GDP, human capital, customs duty, and FDI had significant r squared ( $p < 0.05$ ) indicating that they were significant and a good fit. However, the equation on international trade openness did not fit well.

**TABLE 8**  
**Vector Auto Regression Model**

Sample: 1966 - 2015		No. of obs		=	50
Log likelihood = -5015.754		AIC		=	202.3102
FPE = 2.97e+80		HQIC		=	202.9218
Det(Sigma_ml) = 5.47e+79		SBIC		=	203.9163

Equation	Parms	RMSE	R-sq	chi2	P>chi2
gdp	7	5.4e+10	0.9989	46806.38	0.0000
hc	7	2.78389	0.9718	702.529	0.0000
cd	7	4.2e+09	0.9554	1071.858	0.0000
fdi	7	1.5e+08	0.6946	113.7358	0.0000
to	7	5.59705	0.3852	11.14516	0.0840
gcf	7	3.0e+10	0.9793	2360.301	0.0000

		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
gdp							
	gdp						
	L1.	1.185272	.0350086	33.86	0.000	1.116657	1.253888
	hc						
	L1.	1.45e+09	7.24e+08	2.01	0.045	3.56e+07	2.87e+09
	cd						
	L1.	-3.439922	1.531995	-2.25	0.025	-6.442577	-.4372674
	fdi						
	L1.	69.57577	60.07285	1.16	0.247	-48.16485	187.3164
	to						
	L1.	3.28e+09	1.22e+09	2.70	0.007	8.96e+08	5.66e+09
	gcf						
	L1.	-.1192309	.2062617	-0.58	0.563	-.5234963	.2850346
	_cons						
		-2.48e+11	8.96e+10	-2.76	0.006	-4.23e+11	-7.21e+10

*Source: Author (2016)*

#### 4.8 Granger Causality Test

Lastly, the granger causality test was conducted which was aimed at establishing whether the time series of the independent variables in this study (human capital development, customs duty, FDI, and international trade openness) granger caused the time series for economic growth. The results are as indicated in Table 9.

**TABLE 9**  
**Granger Causality Test**

Equation	Excluded	chi2	df	Prob > chi2
gdp	hc	4.0369	1	0.045
gdp	cd	5.0418	1	0.025
gdp	fdi	1.3414	1	0.247
gdp	to	7.2746	1	0.007
gdp	gcf	.33415	1	0.563
gdp	ALL	17.417	5	0.004

*Source: Author (2016)*

Results in Table 9 indicated that human capital development ( $\chi^2 = 4.0369$ ;  $p < 0.05$ ) granger caused economic growth. This led to the rejection of the first null hypothesis of the study which had indicated that human capital had no significant role on economic growth. These results support the Solow–Swan model (Solow, 1956) which posits that development in human capital among other spill overs from international trade can lead to economic growth of a country. The study results also support the Harrod-Domar theory (Harrod, 1939; Domar, 1946) that human capital are enhanced as a results of increased integration and trade among countries. The implications of this theory are that economic growth of a country depends on quantity and quality of labour integration and spill overs. The increased integration due to international trade results to enhancement in human capital and hence improved economic growth.

The study results on the positive role of human capital on economic growth also concurs with findings by Darrat et al. (2002) in Taiwan that international trade was found to accelerate human capital development and hence spurring economic growth. The study results also support previous research by Mobolaji (2010) that human capital spillovers from international trade influenced economic growth in sub Saharan Africa countries. Mobolaji established that those countries that engaged more in international trade benefited from human capital spillovers that

helped them to enhance their economic growth compared to those countries that were not very open to international trade.

The findings also indicated that customs duty had significant negative role and granger caused economic growth ( $\chi^2 = 5.0418$ ;  $p < 0.05$ ). This led to rejection of the null hypothesis of no significant role of customs duty on economic growth. This implied that customs duty had a negative role in influencing economic growth. These results do not relate with the findings by Bussea and Konigera (2012) that revenue collection from customs is a significant but indirect factor in influencing economic competitiveness and growth of a country. The study findings also disagree with the findings by Song et al. (2015) that most developing countries bank on customs duties rather than income and corporate taxation to fund functions of the government and infrastructure for development. The findings also do not concur with the results by Asafu Adjaye (2014) that developing countries have customs duty as the primary source of funding for its recurrent and development expenditures.

Study results also established that FDI did not granger cause economic growth ( $\chi^2 = 1.3414$ ;  $p > 0.05$ ). This led to the study not rejecting the null hypothesis that there was no significant role of FDI on economic growth. These findings agree with the findings by Alfaro (2003) that total FDI wields a vague influence on growth. FDI seemed to have insignificant negative role on growth of primary sector while it had insignificant positive role on growth of service and manufacturing sectors.

The study results also indicated that international trade openness granger caused economic growth ( $\chi^2 = 7.2746$ ;  $p < 0.05$ ). This led to rejection of the hypothesis of no significant role of international trade openness on economic growth and acceptance of the alternative hypothesis of significant relationship between international trade openness and economic

growth. These findings support Porter's (1990) national competitive advantage theory that international trade enables a country to produce and market the goods and services they have a comparative advantage on and hence be able to utilize its resources efficiently. International trade enables resources among countries to be utilised to enhance more productive and more efficient uses and hence advancing the economies of the countries. These results also agree with the findings by Harzing and Giroud (2014) that international trade openness had a significant positive impact on the growth of a country's economy. The results also concur with results from an earlier study by Liu et al (2002) on endogenous growth which had revealed that there is indeed a positive association between trade openness and economic growth. However, the results from this study are contrary to the findings from a prior study by Martin (1997) that many measures of trade openness have a negative correlation with economic growth.

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter presents the, summary of key findings, conclusion and recommendations. The summary are presented and discussed in relation to theory and previous empirical findings. The conclusions are then provided based on the findings in the study while recommendations made in the study were based on the gaps established in the study findings.

#### 5.2 Summary of Findings

Human capital ( $\beta = 1.45e9$ ;  $p < 0.05$ ) had a significant short term role on GDP. Human capital development also granger caused economic growth ( $\chi^2 = 4.0369$ ;  $p < 0.05$ ). This led to the rejection of the first null hypothesis of the study which had indicated that human capital had no significant role on economic growth. These results concur with the Solow-Swan Model (Solow, 1956) which indicates that human capital development as a spill over from international trade can enhance economic growth in a country both in the short run and also in the long run. These results also agree with Sloan (2016) that human capital development as a result of international trade enhances economic growth of a country.

The findings also indicated that customs duty had significant negative role on economic growth ( $\beta = -3.44$ ;  $p < 0.05$ ). Customs duty also granger caused economic growth ( $\chi^2 = 5.0418$ ;  $p < 0.05$ ). This finding disagrees with the findings by Guo (2013) that China has applied revenue collected from customs to improvement of facilities and processes at the ports of entry and exit which has increased trade levels and hence increased economic growth of China significantly.

Study results also established that FDI had no significant role on economic growth ( $\beta = 69.58$ ;  $p > 0.05$ ). FDI did not granger cause economic growth ( $\chi^2 = 1.3414$ ;  $p > 0.05$ ). This led to the study accepting the null hypothesis that there was no significant role of FDI on economic growth. These results disagree with findings by Musila and Yiheyis (2015) that FDI provides the needed capital for enhancing domestic investments which spur economic growth and development.

The study results also indicated that there was a positive and significant role of international trade openness on economic growth ( $\beta = 3.28e9$ ;  $p < 0.05$ ). International trade openness granger caused economic growth ( $\chi^2 = 7.2746$ ;  $p < 0.05$ ). This led to rejection of the hypothesis of no significant role of international trade openness on economic growth and acceptance of the alternative hypothesis of significant relationship between international trade openness and economic growth. These results agree with the Harrod-Domar theory (Harrod, 1939; Domar, 1946) that revenues that a country gets from international trade in form of customs duty and taxes on imports as well as exports can lead to advancement in infrastructure and improvement in productivity which can lead to actual growth, warranted growth or the natural rate of growth. These results also agree with results by Sun and Heshmati (2010) in China that international trade openness had significantly contributed to economic growth of China.

### **5.3 Conclusion**

The study concludes that human capital developments spill overs from international trade have positive roles on the country which enhances economic growth. The study also concludes that customs duty collected from international trade have negative observable role on the economic growth of the country.

Third, the study concludes that net FDI inflows have no significant role on economic growth in Kenya. Lastly, the study concludes that international trade openness has a positive role in the country's economic growth.

#### **5.4 Recommendations**

The following recommendations are made. First, the country should seek to enhance human capital to ensure that it is competitive in terms of labour productivity in the labour markets. This is expected to make the country more productive and efficient locally as well as making it competitive internationally.

Secondly, the country should seek to utilize the customs that are derived from international trade into developing both human and capital infrastructure that is capable to enhance the country's competitiveness both in the short term as well as in the long term. The country should learn models applied by countries such as China in utilizing their collection from customs.

Third, Kenya should seek to improve the investments climate and business environment in the country to attract more FDI which can be able to have a significant role on economic growth. Having policies that encourage FDI and marketing the country as a desirable investment destination would be a good starting point.

Lastly, the country should continue to be open to international trade but care should be taken to balance the trade so as to ensure that exports rise more than the rise experienced in import. The country should also have stringent policies on what should be imported so as to protect local industries.

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