

**RELATIONSHIP BETWEEN THE DETERMINANTS OF FOREIGN DIRECT  
INVESTMENT AND EFFECTS ON ECONOMIC GROWTH IN KENYA**

**BY**

**PERIS W. GITARI**

**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE AWARD OF MASTER DEGREE IN FINANCE  
AND ECONOMICS IN THE SCHOOL OF GRADUATE STUDIES & RESEARCH  
AT KCA UNIVERSITY**

**OCTOBER, 2016**

**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.

Student Name: PERIS W. GITARI

Reg. No: KCA/06/01791

Sign .....

Date .....

I do hereby confirm that I have examined the Master’s Dissertation of

**Peris W. Gitari**

And have certified that all revisions that the dissertation panel and examiners recommended have been adequately addressed.

Sign .....

Date .....

**Dr. Abraham Rotich**

**Dissertation Supervisor**

## **ABSTRACT**

Foreign direct investment (FDI) plays important role in achieving rapid economic growth through bringing the latest technology and management know-how and bridging the gap between domestic savings and investment. Kenya has recently experienced a hit in foreign direct investment following a period of substantial decline of FDI inflows. The net FDI inflows in Kenya has been declining and also highly volatile despite friendly economic environment and improved policies implemented to so as to attract and retain FDI and accelerate her economic growth and development. The study aims at investigating the relationship between the determinants of foreign direct investment and the economic growth of selected sectors in Kenya. The target population is the seventeen activities as listed in the Kenya facts and figures (KNBS, 2014). Theories applied in the study included; Market Imperfection Theory; Internalization Theory; Eclectic Paradigm and Solow Type Growth Theory. Descriptive research design was used while data collected covered a period of five (5) years from 2011 to 2015. Descriptive research design is adopted and census used. Secondary data was obtained from the Central bank of Kenya publications, the Kenya National bureau of statistics publications, International Monetary Fund (World Economic Outlook Database) publication and the World Bank (WDI). The study used panel data model which included dependent variable as economic growth while independent variables were market size, economic openness and cost of labour. Diagnostic tests included panel unit root test, multicollinearity, serial correlation, Heteroscedasticity and cross sectional dependence test and due to violation of CLRM, Hausman specification test used to evaluate the aptness of either the fixed model or random model to be used was not done instead the model was fitted using Robust Standard Errors. The Ms-Excel and STATA was used to analyze the data.

**Key Words:** Foreign Direct Investment, Economic Growth

## **ACKNOWLEDGEMENT**

I would like to give special thanks to my Almighty God, my creator, my strong pillar, my source of inspiration, wisdom, knowledge and understanding for the golden opportunity and provision of resources that He has granted me to be in school and also to pursue my second degree.

I would like also to express my deep gratitude to KCA University as a fraternity for the opportunity, great support and guidance accorded as well as the enabling environment during my academic.

I would also like to extend my thanks to Dr. Abraham Rotich, my research supervisors, for his patient guidance, enthusiastic encouragement and useful critiques of this research work. I would also like to thank Mr. Charles Kyengo for his advice and assistance in keeping my progress on schedule.

Finally, I wish to thank my family for their support and encouragement throughout my study and to my God parent Judy Wangui Maina may God bless you abundantly.

## TABLE OF CONTENT

<b>DECLARATION.....</b>	<b>II</b>
<b>ABSTRACT.....</b>	<b>III</b>
<b>ACKNOWLEDGEMENT.....</b>	<b>IV</b>
<b>TABLE OF CONTENT.....</b>	<b>V</b>
<b>LIST OF TABLES.....</b>	<b>IX</b>
<b>LIST OF FIGURES.....</b>	<b>X</b>
<b>LIST OF ACRONYMS AND ABBREVIATIONS.....</b>	<b>XI</b>
<b>CHAPTER ONE.....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>1</b>
1.1 BACKGROUND OF THE STUDY.....	1
1.1.1 Economic Growth.....	3
1.1.2 Foreign Direct Invest and Economic Growth in Kenya.....	4
1.1.3 Economic Sectors in Kenya.....	5
1.2 PROBLEM STATEMENT.....	6
1.3 OBJECTIVES OF THE STUDY.....	8
1.3.1 General Objective.....	8
1.3.2 Specific Objectives.....	8
1.4 RESEARCH QUESTIONS.....	8
1.5 JUSTIFICATION OF THE STUDY.....	8
1.6 ASSUMPTION OF THE STUDY.....	9
<b>CHAPTER TWO.....</b>	<b>10</b>
<b>LITERATURE REVIEW.....</b>	<b>10</b>

2.1 INTRODUCTION.....	10
2.2 THEORETICAL REVIEW .....	10
2.2.1 Market Imperfection Theory.....	10
2.2.2 Internalisation Theory .....	11
2.2.3 Eclectic Paradigm Theory.....	11
2.2.4 Solow Type Growth Theory .....	12
2.3 EMPIRICAL REVIEW .....	13
2.3.1 Market Size .....	13
2.3.2 Trade Openness.....	15
2.3.3 Labor Cost.....	17
2.3.4 Economic Growth .....	19
2.4 CONCEPTUAL FRAMEWORK .....	20
<b>CHAPTER THREE .....</b>	<b>24</b>
<b>RESEARCH METHODOLOGY .....</b>	<b>24</b>
3.1 INTRODUCTION.....	24
3.2 RESEARCH DESIGN.....	24
3.3 TARGET POPULATION.....	25
3.5 DATA COLLECTION .....	25
3.6 DATA ANALYSIS .....	26
3.7 MODEL SPECIFICATION .....	26
3.8 SPECIFICATION ANALYSIS.....	26
<b>CHAPTER FOUR.....</b>	<b>29</b>
<b>FINDINGS AND DISCUSSION.....</b>	<b>29</b>

4.1 INTRODUCTION.....	29
4.2 DESCRIPTIVE DATA ANALYSIS.....	29
4.3 DATA TRANSFORMATION.....	31
4.4 DIAGNOSTIC TESTS .....	31
4.4.1 Panel Unit Root Tests .....	31
4.4.2 Testing for Multicollinearity.....	34
4.4.3 Testing for Serial correlation .....	35
4.4.4 Testing for Cross Sectional Dependence .....	35
4.4.5 Testing for Heteroscedasticity .....	36
4.5 MODEL SELECTION .....	37
4.6 DISCUSSION OF FINDINGS.....	39
4.6.1 Regression Coefficients .....	39
4.6.2 Model Fitness.....	39
4.6.3 Wald Chi Square Test of Overall Significance.....	40
<b>CHAPTER FIVE .....</b>	<b>41</b>
<b>SUMMARY, CONCLUSION AND RECOMMENDATIONS .....</b>	<b>41</b>
5.1 INTRODUCTION.....	41
5.2 SUMMARY OF FINDINGS .....	41
5.2.1 Sectoral Market Size and Economic Growth.....	41
5.2.2 Sectoral Economic Openness and Economic Growth .....	42
5.2.3 Sectoral Labor Cost and Economic Growth .....	42
5.3. CONCLUSION.....	43
5.4 RECOMMENDATIONS .....	44

5.5 RECOMMENDATIONS FOR FURTHER RESEARCH .....	45
<b>REFERENCES.....</b>	<b>46</b>
<b>APPENDICES.....</b>	<b>49</b>



## LIST OF TABLES

TABLE 4.1: DESCRIPTIVE STATISTICS.....	30
TABLE 1.0: FDI NET INFLOWS, (MILLIONS US\$).....	49
TABLE 2.0: FDI INFLOWS (% GDP) .....	50

## LIST OF FIGURES

FIGURE 2: CONCEPTUAL FRAMEWORK .....	21
FIGURE 4.1: HARRIS TZAVALIS UNIT-ROOT TESTS FOR CONTRIBUTION TO GDP .....	32
FIGURE 4.2: HARRIS TZAVALIS UNIT-ROOT TEST FOR TRADE RATIO .....	32
FIGURE 4.3: HARRIS TZAVALIS UNIT-ROOT TEST FOR LABOUR COST .....	33
FIGURE 4.4: HARRIS TZAVALIS UNIT-ROOT TEST FOR NATURAL LOG OF GDP PER CAPITA .....	33
FIGURE 4.5: COLLINEARITY DIAGNOSTICS .....	34
FIGURE 4.6: WOODRIDGE TEST FOR AUTOCORRELATION .....	35
FIGURE 1.0: FDI NET INFLOWS, (MILLIONS US\$) .....	49
FIGURE 2.0: FDI INFLOWS (% GDP) .....	50

## **LIST OF ACRONYMS AND ABBREVIATIONS**

**GDP** – Gross Domestic Product

**IMF** – International Monetary Fund

**KNBS** – Kenya National Bureau of Statistics

**LDCs** – Least Developed Countries

**MDGs** – Millennium Development Goals

**MNCs** – Multinational Companies

**ODAs** – Official Developments Assistance

**ODI** – Overseas Development Institute

**OECD** - Organization for Economic Co-Operation and Development

**SDGs** – Sustainable Developments Goals

**UNCTAD** – United Nations Conference on Trade and Development

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the study

Foreign Direct Investment (FDI) is a type of cross-boarder investment made by a foreign investor in a foreign economy with the aim of establishing a lasting interest in the enterprise that is resident in an economy other than that of the foreign investor, (OECD 2008). In corporate governance, Lipsey (2001) noted that ownership of at least 10% of the ordinary shares or voting stock is the criterion for the existence of a direct investment relationship while ownership of less than 10% is recorded as portfolio investment. Foreign Direct Investment can either be a subsidiary (controlled enterprise) if it is more than 50% controlled by its immediate direct investor; an associate (influenced enterprise) if its owned between 10-50 % by its immediate direct investor) or a branch (quasi corporation). A country's inward FDI position is made up of the hosted FDI projects, while outward FDI comprises those investment projects owned abroad (Nyamwange, 2009).

According to Ali-Lekkala (2015) countries adopted a set of goals to end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda on September 25th 2015. The global urge to achieve the Sustainable Development Goals (SDGs) by 2030 has led to enhanced and integrated transnational partnerships in trade, health, education and security. These partnerships are demonstrated by the increased flow of Foreign Direct Investment (FDI), Official Development Assistance (ODAs) and other foreign capital flows to developing countries (Ranis & Kosack, 2009).

Alguacil, Cuadros, and Orts (2011) noted that FDI plays a critical role as an economical and financial engine which facilitates rapid economic growth and development worldwide. It's through the FDI that investor companies provide the much needed capital for investment to the host country, improves the efficiency and skills of employees through technological and management skills transfer, helps create a more competitive business environment, enhances enterprise development, acts as a source of employment, improves the efficiency of resource use and ensure full employment of natural resources. FDI, in addition to its positive effect on the development it has minimized the trade barriers among the nations hence expansion of the market which has enabled many nations to record increase in sales number through international trade (Nyamwange, 2009)

Globally, FDI inflows declined by 16 per cent to \$1.23 trillion in 2014, mostly because of the vulnerability of the global market economy, policy uncertainty for investors and elevated geopolitical risks. Inward FDI flows to developing economies reached their highest level at \$681 billion with a 2 per cent rise. Developing economies thus extended their lead in global inflows (UNCTAD, 2015).

Africa accounted for only a fifth of all capital flow between 1970- 2003 of which an average inflow double in 1980's compared to 1970's with significant increase in 1990 and in the period between 2000-2003, (Ajayi 2006). This has since then remained stable at \$54 billion, with North Africa FDI flow decline by 15 per cent to \$12 billion, Sub-Saharan Africa increase by 5 per cent to \$42 billion, West Africa declined by 10 per cent to \$13 billion, as Ebola, regional conflicts and falling commodity prices negatively affected several countries while flows to Southern Africa also fell by 2 per cent to \$11 billion. By contrast, Central Africa and East

Africa saw their FDI flows increase by 33 per cent and 11 per cent, to \$12 billion and \$7 billion, respectively (UNCTAD, 2015).

### **1.1.1 Economic Growth**

According to Haller (2012) economic growth is the process of increasing the sizes of national economies, the macro-economic indications, especially the GDP per capita, in an ascendant but not necessarily linear direction, with positive effects on the economic-social sector. Economic growth can either be: positive economic growth which occurs when the annual average changes in GDP is higher than average growth of population; negative economic growth which occurs when the population growth is higher than the annual average changes in GDP or zero growth rate is which occurs when the annual average change in GDP is equal to the average change in population.

Economic growth depends mainly on the country's ability to invest, make efficient and productive use of its resources (Bayraktar, 2003). African countries have encountered challenges such as low levels of investment which has led to vicious cycle of poverty, poor infrastructures, balance of trade deficit, un-employment, underutilization of resources, inadequate skills and inability to finance the budget deficits. This has made it possible for the nations to seek for the alternative source of resource mobilization from the FDI (Wan, 2010).

Kenya economic growth has performed poorly in terms of GDP growth compared to its East African neighboring countries despite high population size which is an indicator of large market size and GDP per capita which indicate high purchasing power in Kenya (Maingi, 2014)

### **1.1.2 Foreign Direct Invest and Economic Growth in Kenya**

According to the UNCTAD (2008) World Investment Report describes Kenya as East Africa region's least effective suitor in attracting FDI. This has been supported by the study done by Wasseja & Mwenda (2015), which suggest that Kenya had a long story as one of the most favored destination for FDI in East Africa, however the study findings indicates that this has since changed and Kenya is facing a big challenge in attracting and retaining foreign firms which has continued to the present. The above trends are supported by the table 1.0 and Figure 1.0 below indicating the trend of FDI in Kenya, Tanzania and Uganda.

Studies on the relationship between the determinants of FDI and economic growth in Kenya's has identified human capital, market size, government expenditure, trade openness, levels of debtness, infrastructures, corruption and corporate governance, public service, policy transparency, political instability as some of the key determinants of FDI inflows which either positively or negatively affect the economic growth of a nation. These studies include (Abala, 2014), (Majune, 2012), (Nyamwenga 2009), (Kinaro, 2006) among others.

Table 1.0 under the appendices, Kenya attracted 23% of the total FDI net inflow in East Africa with Tanzania and Uganda enjoying 50% and 26% respectively in 2014 after enjoying 58% FDI inflow in 1993 with Tanzania and Uganda enjoying 20% and 22% respectively which was the highest inflow in Kenya for a period between 1973 and 2006. The deteriorating situation has persisted despite the Kenya government's attempts to implement a series of reforms such as abolishing exports and import licensing, rationalizing and reducing import tariffs, revoking all export duties and current account restrictions, freeing Kenya shillings exchange with domestic banks, removing restrictions on borrowing by foreign as well as domestic

companies aimed at attracting foreign investors into Kenya, especially with respect to export platforms such as Manufacturing Under Bond (MUB) in 1987, Export Processing Zones (EPZs), accession to the African Growth and Opportunity Act (AGOA) in 2001 (Abala, 2014).

According to Table 2.0 and Figure 2.0, its very clear that FDI net inflows (% GDP) in Kenya was 0% as of 1988 which went up in 1993 to 2.53%. Since then it has been low and volatile from 1994 upto 2006 after which Kenya enjoyed a banner year which attracted 729M US\$ equivalent to 2.28% FDI net inflows (% GDP). This was subsequently followed by a tremendous decline of FDI net inflows reaching 95.59M US\$ equivalent to 0.27% (% GDP) which was mainly contributed by post-election violence in early 2008.

### **1.13 Economic Sectors in Kenya**

The revised national accounts are now based on International Standard Industrial Classification (ISIC Revision 4) provides detailed activities used to compile GDP using twenty one activities. However, according to the Kenya facts and figures (KNBS, 2014), the GDP product by activity listed seventeen activities which formed the basis for the research. These included:- Agriculture and Forestry, Fishing, Mining and quarrying, Manufacturing, Electricity and water supply, Construction, Wholesale and retail trade, Hotels and restaurants, Transport and communication, Finance intermediation, Real Estates, renting and business services, Public administration and defence, Education, Health and social work, other community, social and personal services and Private households with employed persons with major drivers of economy being agriculture, forestry and fishing; construction; wholesale and retail trade; education; and finance and insurance.



## **1.2 Problem Statement**

Foreign direct investment (FDI) plays a critical role in Kenya's economic development and growth agenda as domestic savings are low hence attracting FDI supplements domestic savings in financing Kenya's growth agenda (World Bank, 2013). According to Adams (2009) FDI not only provides the African countries with much needed capital for domestic investment, but also creates employment opportunities, helps transfer of managerial skills and technology, all of which contribute to economic growth development. Recognizing that FDI can contribute a lot to economic growth and development, all governments of Africa including that of Kenya want to attract FDI to their countries. Indeed, the world market for such investment is highly competitive and Kenya in particular seeks such investment to accelerate her development efforts (Kinaro, 2006).

The low trend of FDI net inflows in Kenya as shown in table 1.0 as well as inconsistent and poor FDI net inflow (% GDP) compared to its neighboring countries in East Africa has created a great concern on Kenya's ability to attract foreign investment having been criticized by the World Bank (2013) as unattractive destination for the FDI having attracted FDI equivalent to 0.8 percent of its GDP in 2010-11, compared to Rwanda (1.2 percent of GDP), Tanzania (2.8 percent of GDP), and Uganda (6.2 percent of GDP) in the same period. For the Kenyan government to undertake all the key projects as stipulated by the current government manifesto in 2013 and avoid likely hood of projects being left in limbo as well as attain SDGs 2030, the country need to create an enabling environment for FDI to fill in the gap between budget and locally mobilized resources.

Since 1988, the decline of net foreign direct investments in Kenya has negatively impacted on the FDI Inflows (% GDP) with the exemption of 1993 and 2007 when there was a significant increase in the net FDI inflows. In spite of increase in net FDI inflows in Kenya from 2010 to 2012, the FDI Inflows (% GDP) has been on the decline as shown on the table 1.0 and 2.0 hence the importance of the study to investigate the relationship between determinants of FDI and the effect to the economic growth with which the policy recommendation could contribute positively to economic growth and hence paint the face of Kenya back as a hub of FDI with better inflows than other East Africa countries.

Previous study on this area include:- Abala (2014), who studied determinants of FDI and economic growth in Kenya from 1970-2010 using time series data and concluded that government size, human capital, infrastructures and trade openness are key determinants of FDI and they positively influence the economic growth while external debts deters FDI inflows hence negatively affecting the economic growth. Study by Awan, Ahmad, Shahid & Hassan (2014), on factors affecting FDI in Pakistan using annual data from 1988-2012 and multiple linear regression model and concluded that gross capital formation, exports and gross national income significantly and positively affect FDI in Pakistan while external debts, military expenditure and political instability are significant but they negatively affect FDI inflows impacting negatively to economic growth. Nyamwange (2009), studied FDI in Kenya using annual data from 1980-2006 and regression analysis and concluded that GDP growth and inflation has a positive relationship with FDI contributing to economic growth while human capital and openness of the economy were negatively related to the FDI. However, the current study aims at looking into the relationship

between determinants of FDI and economic growth of selected activities in Kenya using panel data model analysis from 2011-2015.

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

#### **1.3.1 General Objective**

The general objective of this study was to investigate the relationship between determinants of FDI and the effect on the economic growth of selected sectors in Kenya for the period 2011 to 2015.

#### **1.3.2 Specific Objectives**

- i. To determine the relationship of market size and economic growth in Kenya
- ii. To establish the relationship of economic openness and economic growth in Kenya
- iii. To examine the relationship of labor cost and economic growth in Kenya

### **1.4 Research Questions**

- i. How does market size relates to the economic growth in Kenya?
- ii. How doe economic openness relates to the economic growth in Kenya?
- iii. How does labor cost relates to the economic growth in Kenya?

### **1.5 Justification of the Study**

The study used data from selected activities of the economy as listed by the Kenya National Bureau of Statistics under economic survey 2015. The study covered the period 2011 to 2015 to empirically establish the relationship between the determinants of FDI and the effects on the economic growth in Kenya. The study also suggested policy options that can be implemented to increase both FDI inflows into Kenya and hence increase economic growth in the economy based on the results of the study.

## **1.6 Assumption of the study**

The secondary data obtained from various publications and databases were accurate, reliable and valid to enable the researcher to carry out the study.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The chapter carried out relevant literature related to the study; reviewed theoretical review of existing literature, empirical literature and developed the conceptual frame work for the study.

#### **2.2 Theoretical review**

##### **2.2.1 Market Imperfection Theory**

Hymer (1976) developed the market imperfections theories which aimed at explaining behaviour of firms in non-perfect competitive environments, that is, oligopolistic or monopolistic environment. For firms to undertake FDI they need some unique advantage such as technology to compete abroad with local firms who already have locations specific advantages. Considering the market disequilibrium hypotheses, FDI will be transitory as it acts as an equilibrating force among segmented markets, which will be eliminated through the re-establishing of equilibrium. The disequilibrium is usually found in factor markets i.e. labour markets where FDI flows from high labour cost countries to low labour cost countries (Calvet 1981:45). Cost of labour emerges as a significant factor of FDI.

Labour is a factors of production and every entrepreneur aims at minimizing the cost of production. Market Imperfection Theory therefore favours the foreign investors as they are able to obtain cheap labour which implies more revenue which translates to high GDP. Hutchet (2014) supports that the allocation of resources to investment expenditure as compared to recurrent expenditure improves economic

growth since it increase the revenue element which is a key determinant of economic growth.

### **2.2.2 Internalisation Theory**

Internalisation Theory was introduced by Buckley and Casson, in 1976 Rugman (1981), and Hennart, (1982). This theory tries to explain the growth of transnational companies and their motivations for achieving foreign direct investment. The theory demonstrates that transnational companies are organizing their internal activities so as to develop specific advantages, which then to be exploited. Internalization theory explains how international firms are market-seekers, whose aim is to serve local and regional markets. It is also called horizontal FDI, as it involves replication of production facilities in the host country. Tariff-jumping or export-substituting FDI is a variant of this type of FDI. Because the reason for horizontal FDI is to better serve a local market by local production, market size and market growth of the host economy play important roles. Obstacles to accessing local markets, such as tariffs and transport costs, also encourage this type of FDI. The theory supports the market size factor and was used to critic the relationship between the market size and the economic growth in Kenya.

### **2.2.3 Eclectic Paradigm Theory**

The theory was first developed by Dunning 1977. The eclectic theory tries to explain flow of FDI from three angels (Dunning, 1981, 2000, 2001) which are ownership advantage, locational advantage and internationalization of MNEs. The emphasis of the present study was on the location advantages which included favourable condition for business which minimizes risk on investment and ensures adequate the level of trade openness. In relation to the effect of trade openness on FDI inflows, proponents for trade openness (Nishimizu and Robinson, 1986; Nishimizu and Page, 1991;

Tybout, 1992) contend that trade openness enhances competition which in turn increases efficiencies, technical change and product improvement, reduces costs of production, general economic growth via raising profits which encourage growth of foreign capital investment and inflows of expertise in the system.

The theory focuses on the trade openness as a determinant of FDI and the relationship to the economic growth in Kenya. Despite the fact that trade openness can be considered as a socio-economic indicator, this study was interested only in economic dimension of openness. Seim (2009) argues that foreign firms that have the objective to expand their market may resolve that in the face of a high degree of trade openness, little restriction and low trade costs; the market could be better served through an export rather than FDI. Kenya being a net importer has high rate of trade openness, meaning more imports than exports which has a negative effect on the economic growth.

#### **2.2.4 Solow Type Growth Theory**

Solow Type Growth Theory was developed by Robert Solow in 1956. The theory states that there are three factors namely technology, capital accumulation and labour force that drive economic growth. Therefore, FDI enables host countries to achieve investment that exceeds their own domestic saving and enhances capital formation. However, according to this theory the potential beneficial impact of FDI on output growth is confined to the short run since in the long run the diminishing marginal returns to physical capital applies (Njeru, 2013). Once the steady-state is reached and the resources in a country are used up, the economic growth rate can only be increased through innovation and improvements in technology.

## **2.3 Empirical Review**

The study reviewed literature on the four research variables that is the market size, economic openness, cost of labour and economic growth from other scholars.

### **2.3.1 Market Size**

The market size is an indicator of an economy financial health. It indicates the mood of investors in a country. As such, market size is an important ingredient for economic growth. Artige and Nicolini (2005) state that market size as measured by GDP or GDP per capita seems to be the most robust FDI determinant in econometric studies. Jordaan (2004) mentions that FDI will move to countries with larger and expanding markets and greater purchasing power, where firms can potentially receive a higher return on their capital and by implication receive higher profit from their investments. Charkrabarti (2001) states that the market-size hypothesis supports an idea that a large market is required for efficient utilization of resources and exploitation of economies of scale: as the market-size grows to some critical value, FDI will start to increase thereafter with its further expansion. This hypothesis has been quite popular and a variable representing the size of the host country market has come out as an explanatory variable in nearly all empirical studies on the determinants of FDI.

In Overseas Development Institute (ODI) 1997, econometric studies comparing a cross section of countries point to a well-established correlation between FDI and the size of the market, which is a proxy for the size of GDP, as well as some of its characteristics, such as average income levels and growth rates. Some studies found GDP growth rate to be a significant explanatory variable, whereas GDP was not, probably indicating that where the current size of national income is very small, increases may have less relevance to FDI decisions than growth performance, as an indicator of market potential.



Econometric results on market size are far from being undisputed. Edwards (1990) and Jaspersen et al. (2000) use the inverse of income per capita as a proxy for the return on capital and conclude that real GDP per capita is inversely related to FDI/GDP, but Schneider and Frey (1985), Tsai (1994) and Asiedu (2002) find a positive relationship between the two variables. They argue that a higher GDP per capita implies better prospects for FDI in the host country. Pärletun (2008) finds that the variable GDP is positive and statistically significant at less than 1% level. She argues that the enlargement of market size tends to stimulate the attraction of FDI to the economy. Ang (2008) finds that real GDP has a significant positive impact on FDI inflows. He also finds that growth rate of GDP exerts a small positive impact on inward FDI.

Resmini (2000) show that, a statistically significant positive relation between FDI and market size exists. Mkenda and Mkenda (2004) observe that, population size (a proxy of market size) is important for attracting FDI. According to Ajayi (2007) market size and growth, country risk, openness, institutional environment and macroeconomic policies determine FDI inflows. Opolot et al (2008) specifically presents findings that market size (GDP) and openness to trade positively affect FDI inflows to Sub-Saharan Africa with macroeconomic instability been disincentive to FDI. The larger the market size of a particular country, the more FDI a country should attract (Agiomirgianakis et al , 2006; Asiedu, 2002; Elbadawi & Mwega, 1997; Onyeiwu, 2003). Others (Blomstrom & Lipsey, 1991; Kravis & Lipsey , 1982) have identified market size as having a positive impact on FDI.

According to Kinuthia (2010), most of the foreign firms in Kenya are market seeking with market size, political and economic stability as important determinants. Market seeking FDI is likely to benefit from a large market (Morisset, 2000). The size

of the market, proxied by GDP and considered for the study was consistent in earlier studies. Gross domestic product is used as an explanation of the economic size of countries (Martinez-Zarzoso, 2003; Martinez -Zarzoso & Nowak-Lehmann, 2004; Pelletiere & Reinert, 2004). Pelletiere and Reinert (2004) argue that a high level of income in the host country indicates a high level of production, which increases the availability of investment.

Therefore, increase in market size attracts more FDI in the economy, which increases the total output more especially via the market-seeker FDI, creating employment, improving the infrastructures, enhancing product quality and competences to the large extent hence significantly and positively impact on the economic growth.

### **2.3.2 Trade Openness**

According to Yanikkaya (2002), trade openness is a measure of economic policies that either restrict or invite trade between countries. For example, if a country sets a policy of high trade tariffs, thus restricting the desirability of international trade, this restrictive policy will inhibit other countries from sending exports and accepting imports from that country. According to dominating economic theory, lack of trade openness, will have an economic effect of slowing economic development/growth. Generally, positive trade openness has an economic effect of increasing economic development and growth.

Charkrabarti (2001) states that there is mixed evidence concerning the significance of openness, which is measured mostly by the ratio of exports plus imports to GDP, in determining FDI. Thus, given that most investment projects are directed towards the tradable sector, a country's degree of openness to international trade should be a relevant factor in the decision.

Jordaan (2004) claims that the impact of openness on FDI depends on the type of investment. When investments are market-seeking, trade restrictions and therefore less openness can have a positive impact on FDI. The reason stems from the tariff jumping hypothesis, which argues that foreign firms that seek to serve local markets may decide to set up subsidiaries in the host country if it is difficult to import their products to the country. In contrast, multinational firms engaged in export-oriented investments may prefer to invest in a more open economy since increased imperfections that accompany trade protection generally imply higher transaction costs associated with exporting. Wheeler and Mody (1992) observe a strong positive support for the hypothesis in the manufacturing sector, but a weak negative link in the electronic sector. Kravis and Lipsey (1982), Culem (1988), Edwards (1990) find a strong positive effect of openness on FDI and Schmitz and Bieri (1972) obtain a weak positive link. Pärletun (2008) finds that trade openness is positive but statistically significant from zero.

In ODI (1997), states that while access to specific markets judged by their size and growth is important, domestic market factors are predictably much less relevant in export-oriented foreign firms. A range of surveys suggests a widespread perception that open economies encourage more foreign investment. Edwards (2013) tested the robustness of the openness growth relationship to the use of nine existing indicators including the Sachs-Warner indicator and other trade policy indicators. He found that six of the measures are statistically significant in the expected direction when controlling for per capita GDP and the average number of years of education in 1965. Rodriguez and Rodrik (2001) demonstrated that his results are dependent on the fact that he weights his regression by per-capita GDP. If one weights differently, the

number of measures that are significant drops to four or five, and Rodriguez and Rodrik also criticized these measures based on recalculations with more recent data.

According to Huchet et al (2014) on a study on the relationship between trade openness and economic growth they noted that in spite of the wave of liberalization undertaken during the last decades, the debate, among economists, on the links and causality between trade openness, growth and income distribution is still open. Empirical results most often suggest that, in the long run, more outward-oriented countries register better economic growth performance. However, this empirical evidence continues to be questioned for at least two main reasons: there are still some discussions and doubts on the way countries' trade openness is measured on one hand; the debate on the estimation methodology is still open on the other hand.

The study used trade ratio (Exports plus Imports)/GDP to measure trade openness that captured the levels of imports and exports trading activities takes place in several sectors of Kenyan economy and how this impact on the economic growth. High level of trade ratio in Kenya translates to more imports and less exports. This result to negative effect on economic growth which discourages FDI due to negative balance of payment.

### **2.3.3 Labor Cost**

According to OECD (2008), labour cost is the total cost borne by the employers in order to employ workers. It is computed by dividing average compensation of employees (wages plus benefits) by nominal added value. Charkrabarti (2001) claims that wage as an indicator of labor cost has been the most contentious of all the potential determinants of FDI.

Theoretically, the importance of cheap labor in attracting multinationals is agreed upon by the proponents of the dependency hypothesis as well as those of the

modernization hypothesis, though with very different implications. There is, however, no unanimity even among the comparatively small number of studies that have explored the role of wage in affecting FDI: results range from higher host country wages discouraging inbound FDI to having no significant effect or even a positive association.

There is no unanimity in the studies regarding the role of wages in attracting FDI. Goldsbrough (1979), Saunders (1982), Flamm (1984), Schneider and Frey (1985), Culem (1988), and Shamsuddin (1994) demonstrate that higher wages discourage FDI. Tsai (1994) obtains strong support for the cheap-labor hypothesis over the period 1983 to 1986, but weak support from 1975 to 1978. In ODI (1997), it is stated that empirical research has also found relative labour costs to be statistically significant, particularly for foreign investment in labour-intensive industries and for export-oriented subsidiaries. However, when the cost of labour is relatively insignificant (when wage rates vary little from country to country), the skills of the labour force are expected to have an impact on decisions about FDI location.

From the point of view of organized labor and formal processes, these economies have exhibited much less progress. Labor institutions in Singapore have been limited by the de-registration of a communist labor union, large-scale arrests of union leaders followed by long jail terms, the restriction of fringe benefits through collective bargaining, the outlawing of strikes, the channeling of labor-management relations through the government-backed National Trade Union Congress, and the suppression of wage increases through government influence on the National Wages Council. In Taiwan, the Union Act requires that factories be unionized so that workers' organizations can be controlled by government, strikes are outlawed, and the labor movement is underfinanced. In Korea, labor unions have little power: workers

may form unions but firms are not obligated to bargain with them, national unions or the nationwide Federation of Korean Trade Unions may not intervene in collective bargaining on behalf of a local union, a cooling off period is required in the event of a labor dispute, arbitration is compulsory, and the government may intervene in any strike that threatens to develop into a major job action. By contrast, the industrial relations situation in Hong Kong is one of laissez faire. The trade union movement is neither favored nor discouraged by existing legislation (though to some observers, the lack of encouragement may itself be seen as a violation of labor standards). Increase in the labour cost reduces the funds available for allocation to the investment while it increases the recurrent expenditure hence negatively impacting on the economic growth.

#### **2.3.4 Economic Growth**

There is evidence that investment is a key ingredient to sustained growth. Countries that have grown are those that have devoted a significant proportion of their GDP to investment, in other words, countries that have a high Investment-GDP ratio. Over the last few years, FDI has played a growing role in most developing countries' total investment (Borenzstein et al, 1995).

A higher rate of economic growth signals the size of the potential market, which could be expanded in the future. Economic growth motivates foreign firms to plan new projects or new production facilities. Regions that are experiencing rapid economic growth are also generating more profitable opportunities, and they give the promise of growing markets and growing profits. Growing economies provide growing prospects for profitable investments. Where FDI is attracted by economic growth it will tend to be targeted at the recipient nation's domestic market rather than for exports. The size of the recipient's market can be particularly important for

horizontal FDI where economies of scale are especially important. Growth, however, is unlikely to be important for vertical FDI (Sasi I & Hristos, 2015).

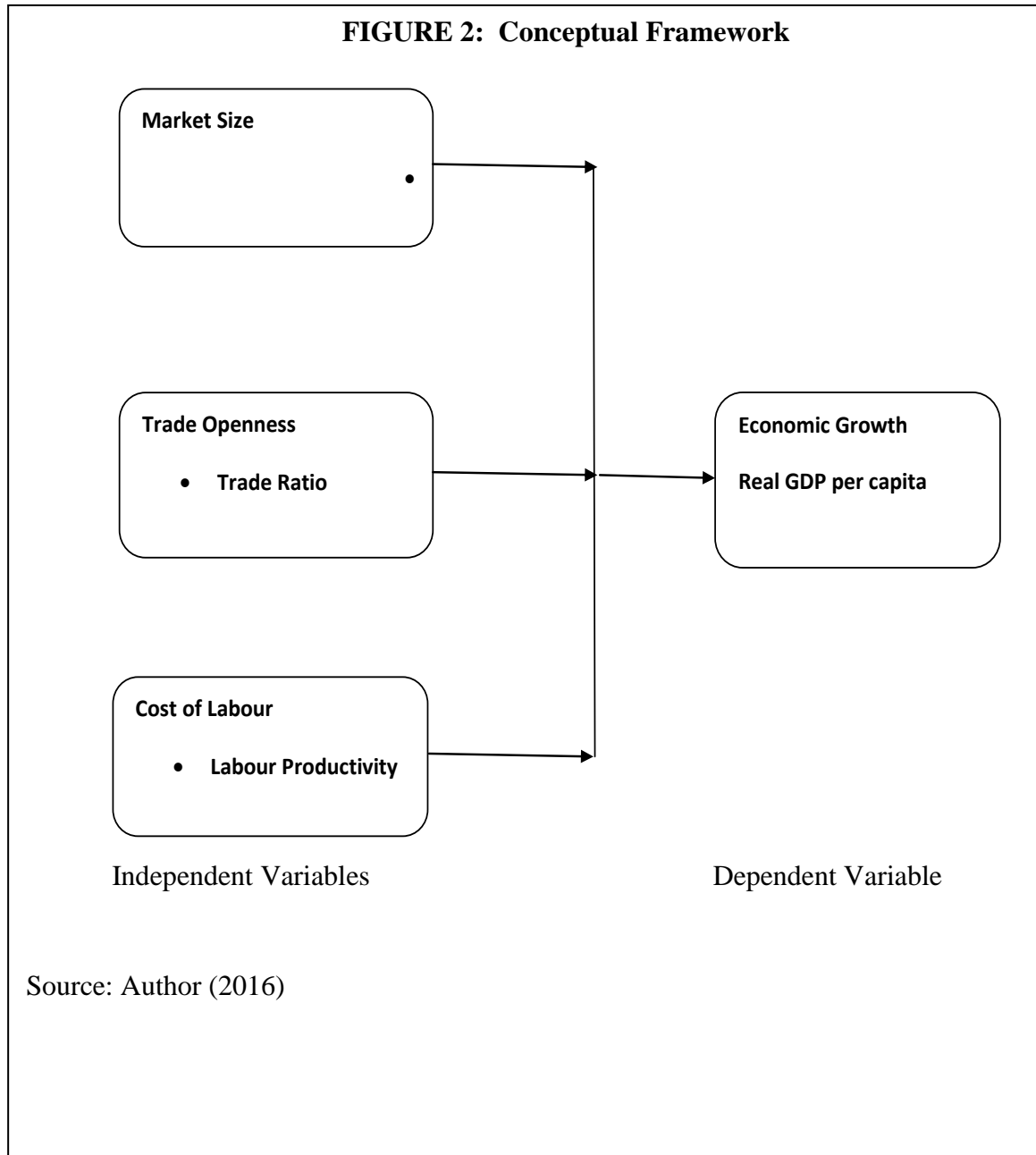
According Dethier and Moore (2012) as a result of the fact that transnational corporations typically have access to a wide variety of financing options, the risk-adjusted cost of capital is usually lower for them than the domestic firms from developing countries. It is this advantage that allows them to be more responsive than other firms to investment opportunities and incentives. As a result of this foreign firms can invest in projects that domestic firms consider to be too risky or one in which they do not have the capacities. With the lapse of time however, conditions may be created that are conducive to domestic investors beyond their current reach. In such situations, FDI serves to stimulate domestic investment and the total investment in the country is enhanced. Available empirical evidence lends support to such “crowding in” effects of FDI. It has been shown for example that total increase in investment was between 1.5 and 2.3 times the increase in the flow of FDI.

## **2.4 Conceptual Framework**

A conceptual framework is a diagrammatical research tool intended to assist the researcher to develop awareness and understanding of the situation under scrutiny and to communicate this (Premchand, 2004). A conceptual framework is used in research to outline possible courses of action or to present a preferred approach to an idea or thought. It can be defined as a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation. The interconnection of these blocks completes the framework for certain expected outcomes.

The following framework was used to formulate the empirical model for this study. From figure 2.1 the independent variables were market size, economic openness, and labour cost which the study hypothesised to be the determinants of

FDI. The dependent variable was economic growth which was measured as a change in GDP per capita.





## **Operationalization of the variables**

**Market size:** Refers to the number of potential buyers and sellers. It's measured by as a percentage of GDP. It's calculated by subtracting GDP in the previous year from the GDP in the current year and then dividing the resultant by GDP in the previous year.  $(GDP_1 - GDP_0)/GDP_0$ . Increase in the % of GDP has a positive relationship with economic growth hence attracting FDI.

**Trade Openness:** This refers to the ease at which international trade can take place in a country. This was measured by a ratio of  $(Exports + Imports)/GDP$ . High levels of trade openness in Kenya are mainly due to high imports levels and since Kenya is a net importer rather than a net exporter, increase in the trade ratio has a negative relationship to economic growth which discourages FDI.

**Cost of Labour:** Measured by minimum wages as unit of labour cost which is used to measure labour productivity. It is calculated by dividing average compensation by nominal added value  $(Wages + Other Benefits)/GDP$ . Increase in labour cost has a negative relationship with economic growth as it translates to allocation of resources to recurrent expenditure rather than investment expenditure reducing the GDP hence de-motivating the FDI.

### **Economic Growth:**

Economic growth is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. It can be measured in nominal or real added value terms, the latter of which is adjusted for inflation. The study will use real valued added terms recommended by the System of National Accounts (SNA) as the best way to measure industry productivity, and by the United Nations and ESA95 as the correct method for obtaining constant price input-output tables.

Traditionally, aggregate economic growth is measured in terms of gross national product (GNP) or gross domestic product (GDP). (Real GDP /Population)

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter described the methodology that was used in undertaking the study. It started by explaining the research design that was adopted; according to Ritchie et al (2013) a central part of research is to develop an efficient research strategy. Based on the model and variables developed in Chapter two, this chapter covered the research design and research methodology used to test the variables. In particular, issues related to research design, the population, the type of data to be collected, sampling frame, sample and sampling techniques, data collection instrument, data collection procedure, validity and reliability of the instrument, and the data analysis and presentation will be discussed. Lastly, the analytic techniques used to test the hypotheses will also be presented.

#### **3.2 Research Design**

Research design is a roadmap of how one goes about answering the research questions (Gummesson, 2005). Sox & Greenfield (2009) states that a good research design has a clearly defined purpose, has consistency between the research questions and the proposed research method. Mugenda & Mugenda (2012) define this as simply the framework or blue print for the research, Bryman (2012) defines research design as the scheme, outline or plan that is used to generate answers to the research problem.

The study adopted a descriptive research design to investigate the relationship between the determinant of FDI and effects on economic growth in Kenya, covering a period of 5 years from 2011 to 2015. A descriptive research design determines and

reports the way things are (Whittington, 2006). Kaplan & Maxwell (2005) observes that a descriptive research design is used when data are collected to describe persons, organizations, settings or phenomena. The design also has enough provision for protection of bias and maximized reliability (Creswell, 2012). In this study, inferential statistics and measures of central, dispersion and distribution will be applied.

### **3.3 Target Population**

Population refers to the entire group of people or things of interest that the researcher wishes to investigate (Denscombe, 2010). The study population of interest was composed of the economy activities as listed by the Kenya National Bureau of Statistics under economic survey 2014. The study used data collected for a period of five (5) years from 2011 to 2015 to enable the researcher understand the relationship between the determinant of FDI and economic growth in Kenya. Census was used to collect data from the seventeen sectors of the economy as the number of sectors involved is not many.

### **3.5 Data Collection**

Data collection is gathering empirical evidence in order to gain new insights about a situation and answer questions that prompt undertaking of the research (Kothari, 2004). Secondary data was obtained from the Central bank of Kenya publications, the Kenya National bureau of statistics publications, International Monetary Fund (World Economic Outlook Database) publication and the World Bank (WDI). Data collection form attached under Appendix 1.0 will be used to for data collection.

### 3.6 Data Analysis

This involved data preparation, data analysis and reporting. The Ms-Excel was used in the data entry, editing and coding and STATA was used to analyze the data. Data was analyzed using panel regression methods since neither cross sectional data or time series data analysis could not give out the best result because of the combined variation in both the firms and time. Panel data is used to increase data observations and therefore very helpful in looking at change dynamics.

### 3.7 Model Specification

A panel data regression model was used to examine the relationship between the resulting independent variable i.e. market size, economic openness and cost of labor and the dependent variable economic growth. The model is as indicated below:

$$y_{it} = \alpha + \beta_{1i}X_{1it} + \beta_{2i}X_{2it} + \beta_{3i}X_{3it} + \mu_{it}$$

Where:-

$Y_{it}$  = Economic growth for  $i^{th}$  sector in  $t^{th}$  year.

$X_{it}$  = vector representing independent variables (market size, economic openness, cost of labor and the political risk) for sector  $i$  in year  $t$ ,

$\beta$  = Vector of Coefficients of the independent variables,

$\alpha$  = the intercept for each

### 3.8 Specification Analysis

The study undertook Pre-estimation Test using Multi-collinearity and Serial Correlation test and Post-estimation test using heteroskedasticity and normality test

Multicollinearity test was conducted to determine if two or more of the predictor (independent) variables in the regression model will be highly correlated using Variance inflation factor (VIF). If the VIF is less than 4 this indicates acceptable limits, if the VIF value of explanatory variables will be greater than 4, then variables will be regarded as highly correlated. According Myers (1990), serial correlation is conducted to determine if error terms of regression variables for successive periods are correlated in the regression model. Serial correlation was conducted using Wooldridge's test to determine correlation between observations of variables. Ho is that there is no serial correlation

Heteroscedasticity test was conducted using modified wald test to test for variability of a variable across the range of values. If the p-value was be greater than 0.05 the researcher will not reject the null hypothesis. This means that the variance is constant and therefore the model cannot be violating the CLRM assumptions. Harris Tzavalis unit root test was also used in this study to test for normality. If the p-value of any of the variables will be less than 0.05 then the researcher will reject the hypothesis that such variable is not normally distributed. If the p-value will be greater than 0.05, then we do not reject the hypothesis that such variables are normally distributed.

Cross Sectional Dependence Test was also conducted using the Pesaran CD test. The test basically confirms if residual of variables at a certain point in time are correlated from one sector/entity to the next. If the p value is less than 5% this indicates the presence of cross sectional dependence which was resolved using panel corrected standard errors

### **Hausman Specification Test**

To determine whether to use fixed effect model or random effect model to best explain the estimation, a Hausman specification test was carried out to evaluate the aptness of each model, where the null hypothesis is that the preferred model is random effects vs. the alternative the fixed effects. It basically tests whether the unique errors ( $u_i$ ) are correlated with the regressors; the null hypothesis is they are not

If I got statistically significant model P-value, I should use fixed effect model, otherwise random effect model i.e if P-value is less than 5% I should reject the null hypothesis and accept alternative hypothesis i.e random effect model should be appropriate. If the P- value is more than 5% i couldn't reject the null hypothesis rather I accept the null hypothesis i.e random effect model was appropriate. However, in case of the violation of the CLRM assumptions the study should use the xtpcse instead of Hausman test.

## CHAPTER FOUR

### FINDINGS AND DISCUSSION

#### 4.1 Introduction

This chapter discusses the actual analysis that was carried out in this research. Analysis started with a presentation of the data's descriptive statistics. Next, key diagnostic tests were carried out on the data to evaluate its appropriateness for the envisaged analysis. Diagnostic testing yielded evidence of Heteroskedasticity, autocorrelation and cross sectional dependence. Due to violation of CRLM assumptions, the pooled OLS, fixed effects and random effects models could not be fitted in this research. Following, Reyna (2007) the *xtpcse* stata command was used for model estimation using panel corrected standard errors.

#### 4.2 Descriptive Data Analysis

In order to envisage a general picture of the outlook of the data, the researcher computed various descriptive statistics (mean, standard deviation, minimum, maximum, kurtosis, and skewness) of the study variables. The mean shows the average of all observations for a variable in the dataset. The standard deviation is a measure of dispersion: it shows the extent to which observations are dispersed around the mean. The minimum and maximum values show the respective lower and upper bounds of a variable's values. Kurtosis measures the peakedness of the distribution of observations of a variable. This statistic is measured using the fourth moment of the data about the mean. Skewness shows the extent to which observations are symmetrical about the mean. For a unimodal distribution, negative skew indicates that the tail on the left side of the probability density function is longer or fatter than the



right side. Conversely, positive skew indicates that the tail on the right side is longer or fatter than the left side.

**TABLE 4.1: Descriptive Statistics**

	Mean	max	Min	Sd	Skewness	kurtosis
Economic Performance	10,792.82	70,379.06	1,029.435	13,053.87	2.552619	10.28073
Market Size	0.058824	0.325027	0.006501	0.069699	2.37329	8.781477
Trade Openness	0.475808	1.201742	0.004426	1.196341	3.475837	13.64125
Labour Cost	0.275704	0.634597	0.06188	0.172407	0.526259	1.782402

*Source: Author (2016)*

The summary statistics for the seventeen sectors are shown in Table 4.1 above. Economic Performance (measured by Sectoral GDP per Capita), the independent variable of this study, had a mean of Shs 10,792.82, a maximum of Shs 70,379.06, and a minimum of Shs 1029.43. This variable was also positively skewed, and just like many other econometric indicators, it had a positive excess kurtosis, i.e. an indicator that it had a heavy tailed distribution. Regarding the market size (measured by the respective sector's contribution to national GDP), it is clear that the mean contribution to GDP was 5.88%. The highest contribution to GDP over the study period was 32.5% (intuitively by the agricultural sector) while the least recorded contribution by a sector was 0.65%. The data for this variable had a positive skewness of 2.37 and a kurtosis of 8.78. Pertaining Trade Openness (as measured by the trade ratio), the mean value was 47.56%. The highest recorded trade ratio was 120.01% while the least value for this variable was 0.4%. This indicator additionally had a standard deviation of 1.196, a skewness of 3.46. It was also leptokurtic, just like the other variables discussed above.

Finally, Cost of Labor (measured by the ratio of sectoral employee compensation to sectoral GDP) had a mean of 27.57%. The variable with the highest value for this variable over the study period had 63.46% of sectoral GDP being paid to employees in that sector. The most labor cost-effective sector paid 6.2% of sector GDP in employee compensation. This variable was relatively symmetrical (skewness=0.526) and was also platykurtic, unlike other variables (kurtosis=1.782).

### **4.3 Data Transformation**

In order to ensure relativity with other variables, the raw data of Economic Performance (Sectoral GDP per Capita) was transformed via log transformation. Subsequent analysis was undertaken on natural logs of the original data.

### **4.4 Diagnostic Tests**

Several pre-estimation diagnostic tests were carried out to explore various characteristics of the study data in order to evaluate whether it was appropriate for panel regression. These are the tests for stationarity, multicollinearity, serial correlation, cross sectional dependence, and Heteroskedasticity. Results of these tests are discussed below.

#### **4.4.1 Panel Unit Root Tests**

In order to analyze data using panel regression models, it should be stationary. Non stationary data is likely to result in spurious regressions since mean and standard deviation estimates derived from such data will be non-constant. To test the data for stationarity, the Harris Tzavalis unit root test was applied for all four variables of this study. The null hypothesis of this test is that panels contain unit roots, whereas the alternative hypothesis implies stationarity in the panel data.

**FIGURE 4.1: Harris Tzavalis unit-root tests for Contribution to GDP**

```
Harris-Tzavalis unit-root test for conttoGDP
```

---

Ho: Panels contain unit roots	Number of panels =	17
Ha: Panels are stationary	Number of periods =	5

AR parameter: Common	Asymptotics: N -> Infinity
Panel means: Included	T Fixed
Time trend: Not included	

---

	Statistic	z	p-value
rho	-0.0903	-4.9944	0.0000

*Source: Author (2016)*

**FIGURE 4.2: Harris Tzavalis unit-root test for Trade Ratio**

```
. xtunitroot ht traderatio
```

```
Harris-Tzavalis unit-root test for traderatio
```

---

Ho: Panels contain unit roots	Number of panels =	17
Ha: Panels are stationary	Number of periods =	5

AR parameter: Common	Asymptotics: N -> Infinity
Panel means: Included	T Fixed
Time trend: Not included	

---

	Statistic	z	p-value
rho	-0.0197	-4.3969	0.0000

*Source: Author (2016)*

**FIGURE 4.3: Harris Tzavalis unit-root test for Labour Cost**

Harris-Tzavalis unit-root test for labcost			
Ho: Panels contain unit roots		Number of panels =	17
Ha: Panels are stationary		Number of periods =	5
AR parameter: Common		Asymptotics: N -> Infinity	
Panel means: Included		T Fixed	
Time trend: Not included			
	Statistic	z	p-value
rho	0.1053	-3.3393	0.0004

*Source: Author (2016)*

**FIGURE 4.4: Harris Tzavalis unit-root test for Natural Log of GDP Per Capita**

Harris-Tzavalis unit-root test for lngdppercapita			
Ho: Panels contain unit roots		Number of panels =	17
Ha: Panels are stationary		Number of periods =	5
AR parameter: Common		Asymptotics: N -> Infinity	
Panel means: Included		T Fixed	
Time trend: Not included			
	Statistic	z	p-value
rho	-0.0609	-4.7451	0.0000

*Source: Author (2016)*

The unit root tests show that all variables were stationary. This is evidenced by the fact that all p values were less than zero. Differencing was therefore deemed unnecessary.

#### 4.4.2 Testing for Multicollinearity

Multicollinearity is evident in data when two or more independent variables are highly correlated in such a manner that one variable can be estimated from another one with a high degree of accuracy. High degrees of multicollinearity inflate the  $R^2$  such that the overall regression looks good in as much as individual regressors could be insignificant. Multicollinearity also makes a research to lose robustness in the sense that small changes in specification can cause big changes in regression coefficients and/or their significance. Multicollinearity is usually evaluated using the Variance Inflation Factor (VIF). A rule of thumb is that the VIF should never exceed 4. Using the *collin* STATA add on, the Variance Inflation Factors for the research data were computed as per table 4.2 below.

**FIGURE 4.5: Collinearity Diagnostics**

Collinearity Diagnostics				
Variable	VIF	SQRT VIF	Tolerance	R- Squared
conttoGDP	1.35	1.16	0.7413	0.2587
traderatio	1.15	1.07	0.8719	0.1281
labcost	1.45	1.20	0.6915	0.3085
Mean VIF	1.31			

*Source: Author (2016)*

It can be noted that all the Variance Inflation Factors are less than 4.0, implying that the research data didn't have multicollinearity.

#### 4.4.3 Testing for Serial correlation

Serial correlation is a phenomenon which occurs when the error terms of regression variables for successive periods are correlated. When present in a dataset, it can distort the efficiency of regression estimators. Using the *xtserial* STATA addon, the researcher tested this study's data for serial correlation. The results for this test are shown in figure 4.5 below.

**FIGURE 4.6: Wooldridge Test for Autocorrelation**

```
. xtserial conttoGDP traderatio labcost

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
      F( 1,      16) =      6.666
      Prob > F =      0.0201
```

*Source: Author (2016)*

It can be noted from the above Wooldridge test that the error terms had first order autocorrelation. This is because the p value of the Wooldridge Test for autocorrelation was less than 5%. A robust panel model that is capable of fitting data that violates the CLRM assumption of no autocorrelation of standard errors should be fitted.

#### 4.4.4 Testing for Cross Sectional Dependence

Cross Sectional Dependence (or contemporaneous correlation) arises when the residuals of variables at a certain instance in time are correlated from one entity to the next.

Cross sectional dependence can lead to a bias in test results. If this problem is present in a dataset, robust standard errors (panel corrected) standard errors should be used in model fitting. The Pesaran CD test was used to test the data for contemporaneous correlation. The results of this test are shown in figure 4.6 below.

**FIGURE 4.7: Pesaran Cross Sectional Dependence Test**

```
. xtcsd, pesaran abs  
  
Pesaran's test of cross sectional independence = 13.041, Pr = 0.0000  
  
Average absolute value of the off-diagonal elements = 0.752
```

*Source: Author (2016)*

The p value of the Pesaran CD test was 0.00 (less than 5%). This indicates the presence of cross sectional dependence in the dataset.

#### **4.4.5 Testing for Heteroscedasticity**

The modified wald test was used to test the research data for heteroscedasticity. Heteroscedasticity is a problem that arises when the variance of the error terms is not constant. It leads to a bias in test results due to distortion of standard errors, thereby increasing the probability of committing hypothesis testing errors.

**FIGURE 4.8: Modified Wald Test for Heteroscedasticity**

```
. xttest3  
  
Modified Wald test for groupwise heteroskedasticity  
in fixed effect regression model  
  
H0: sigma(i)^2 = sigma^2 for all i  
  
chi2 (17) =    1070.69  
Prob>chi2 =     0.0000
```

*Source: Author (2016)*

Figure 4.7 above shows that the data was heteroscedastic since the p value of the modified wald test was less than 5%.

#### **4.5 Model Selection**

Classic panel data analysis suggests that the Hausman specification test should be used to help the research in making a decision on whether to fit the random effects model or the fixed effects model. These two models assume that the data meets all the assumptions of regression analysis, i.e. no collinearity of regressors, no autocorrelation, and that the error terms are normally distributed with a mean of 0 and a constant variance, i.e. no heteroscedasticity.

In this study, there is heteroscedasticity, non normality of error terms (heteroscedastic error terms cannot have a constant variance), autocorrelation, and cross sectional dependence. Reyna (2007) suggests that in panel datasets that have cross sectional dependence, heteroscedasticity, and autocorrelation, the *xtpcse* Stata command should be used to fit the model using robust (*xtpcse*) standard errors. This procedure was therefore executed and the analysis results were as in figure 4.8 below.



**FIGURE 4.9: Model Fitting Using Robust Standard Errors**

Prais-Winsten regression, heteroskedastic panels corrected standard errors						
Group variable:	sectorid	Number of obs	=	85		
Time variable:	year	Number of groups	=	17		
Panels:	heteroskedastic (balanced)	Obs per group: min	=	5		
Autocorrelation:	panel-specific AR(1)	avg	=	5		
		max	=	5		
Estimated covariances	=	17	R-squared	=	0.9799	
Estimated autocorrelations	=	17	Wald chi2(3)	=	189.92	
Estimated coefficients	=	4	Prob > chi2	=	0.0000	

lngdpperca~a	Het-corrected					[95% Conf. Interval]
	Coef.	Std. Err.	z	P> z		
conttoGDP	12.1103	1.411596	8.58	0.000	9.343625	14.87698
traderatio	-.1110629	.0276418	-4.02	0.000	-.1652398	-.0568861
labcost	-.7301816	.3831953	-1.91	0.057	-1.481231	.0208674
_cons	8.22502	.1817152	45.26	0.000	7.868865	8.581175

rhos =	.7642989	.7737822	.7656991	.5139349	.7394637	...	.7754562
--------	----------	----------	----------	----------	----------	-----	----------

*Source: Author (2016)*

Equation (i) can therefore be fitted as:

$$Y = 8.23 + 12.11X_1 - 0.111X_2 - 0.73X_3$$

Where:

Y = Economic Performance

8.23 = Constant

X<sub>1</sub> = Market Size

12.11 = Coefficient of Market Size

X<sub>2</sub> = Trade Openness

-0.111 = Coefficient of Trade Openness

X<sub>3</sub> = Cost of Labor

-0.73 = Coefficient of Cost of Labor

## **4.6 Discussion of Findings**

In this section, the output of data analysis is discussed with respect to the regression coefficients, R – Squared, and the F Test for overall significance of the model

### **4.6.1 Regression Coefficients**

The study sought to investigate the relationship between the determinants of FDI i.e Market Size (measured by Sectoral Contribution to GDP), Trade Openness (measured by Sectoral Trade Ratio), and Cost of Labor (measured by Sectoral Labour Cost) and Economic Performance (measured by Sectoral GDP per Capita). The constant (8.230) implies that the level of economic performance in the absence of the influence of the independent variables of this study is 8.230 units. The regression coefficient of Market Size was 12.11. This indicates that a unit change in Market Size would lead to a change of 12.11 units in the natural log of Economic Performance. Trade Openness had a regression coefficient of -0.111. According to this result, a unit change in Trade Openness would lead to a change of -0.111 units in the natural log of Economic Performance. Finally, Cost of Labor had a coefficient of -0.73. This means that a unit change in a sector's labor cost would lead to a change of -0.73 in the natural log of Economic Performance. These three relationships were significant at the 10% confidence level (all p values were less than 10%). At the 5% confidence level, market size and Trade openness were significant while cost of labor was not significant.

### **4.6.2 Model Fitness**

The R<sup>2</sup> of the model was 97.99%; which indicates an acceptable goodness of fit of the research data to the fitted model (Using Panel Correct Standard Errors). According to this result, 97.99% of variability in the dependent variable can be explained by

variability in the three independent variables. The remaining 2.01% of variability in the dependent variable can be attributed to other factors that are not included in the model.

#### **4.6.3 Wald Chi Square Test of Overall Significance**

The model has a Wald Chi Square statistic of 189.92 that has a p value of 0.000. This indicates that the null hypothesis of the Wald Chi Square Test, i.e all regression coefficients are equal to zero, should be rejected. The conclusion therefore is that the overall fitted model is significant at the 5% confidence level.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter discusses the summary, conclusions and recommendations of the research study about the specific objectives of the study. The findings are linked with the findings of other authors from the literature. The chapter also presents recommendations for possible actions and suggestions for further research.

#### **5.2 Summary of Findings**

##### **5.2.1 Sectoral Market Size and Economic Growth**

From the results, it is plainly evident that we can infer a positive and significant relationship between sectoral market size and economic growth. This is because the regression coefficient for this variable was 12.11 with a p value of 0.000. Essentially, according to the results of the study, a unit increase of Sectoral Market Size, as measured by sectoral contribution to national GDP, would increase sectoral GDP per capita by a factor of 12.11.

The inference here is that as the relative importance of a sector (with respect to its contribution to national GDP) grows, so does its impact on economic growth hence attracting FDI. In Kenya, the most important sector is agriculture, since it accounts for more than a third of the national GDP. Lipsey (2001) states that economies must note their most important (crown jewel) sectors and commit national resources to stimulate even more growth in these sectors. Doing so, he argues, would generate a comparative advantage for their respective goods and services in the world markets.

### **5.1.2 Sectoral Economic Openness and Economic Growth**

Results of data analysis showed that there exists a negative and significant relationship between sectoral economic openness (as measured by the trade ratio) and economic growth. To be precise, the study found out that a unit increase in economic openness, as measured by the trade ratio, would lead to a decrease 11.11% in sectoral economic growth. To interpret this finding accurately, it is important to remember that Kenya is a net importer country, i.e. its imports are of a higher value than its exports. Increases in economic openness (trade ratio) will be ostensibly caused by an increase in imports more significantly than by increases in exports. With this apparent increase in imports, the study infers, the economic growth will tend to decrease hence discouraging the FDI.

The negative effects of running a negative balance of trade are well documented. Morisset (2001) notes that the swiftest way to grow an economy is by enhancing its ability to export domestic goods. He further states that growth in exports expands the markets that are available to a country thereby enabling more domestic production and inflow of foreign currency. Chang (2009) states that the fast growing economies of Asia such as Malaysia, China, and Hong Kong attribute a large portion of their growth to ability to find international markets for their domestic production and services.

### **5.2.2 Sectoral Labor Cost and Economic Growth**

The study found a negative and significant relationship between labor cost and economic growth. A unit increase in labor cost (as measured by the ratio of sectoral employee benefits and sectoral GDP) would translate to a decrease of 73% in economic growth in market advancement. The results reflect the manner that growth

in the wage bill means that more and more resources are being spent on recurrent expenditure with a detrimental effect on the amounts available for investment in the economy hence discouraging FDI. Huchet (2014) notes that an economy that allocates its resources to investment expenditure preferentially than it does to recurrent expenditure is bound to grow. This is because investment expenditure creates assets that can be used to boost domestic production whereas recurrent expenditure will just enhance consumption, and there is no assurance that consumption preference by the citizens will be given to local production and services. Indeed, as witnessed in many developing countries, increase in funds available for consumption leads to a Forex outflow and a wider trade deficit since people tend to go for foreign goods and services.

### **5.3. Conclusion**

The general objective of this study is to investigate the relationship between determinants of FDI and the economic growth of all sectors of Kenya's economy for the period 2011 to 2015. From the results, a positive and significant relationship between sectoral market size (as measured by sectoral contribution to GDP) and economic growth (measured by Sectoral GDP per capita) was inferred implying that market size facilitates FDI hence boosting the economic growth. Results of data analysis also suggested a negative and significant relationship between sectoral economic openness (as measured by the trade ratio) and economic growth indicating that economic openness in Kenya discourages FDI hence negative relationship to economic growth. The last but not the least results of data analysis also suggested a negative and significant relationship between sectoral Labor Cost (as as measured by the ratio of sectoral employee benefits and sectoral GDP) and economic growth indicating that labour cost in Kenya discourages FDI hence negative relationship to

economic growth. The r square of the fitted model was 97.99%; which indicates an acceptable goodness of fit of the research data to the fitted model (Using Panel Correct Standard Errors). Further, the model has a Wald Chi Square statistic of 189.92 that had a p value of 0.000. This indicates that the overall fitted model was significant at the 5% confidence level.

#### **5.4 Recommendations**

From the findings above, the following recommendations were made:

The country should endeavor to support the country's main economic sectors as much as possible. This would increase output, value additional, and growth of international markets. The end result is that the FDI would increase, trade deficit would be reduced and economic growth would be fostered.

The country should seek to grow international markets as much as possible. This would happen if resources are committed to make the nation's exports competitive in the global market. Aggressive marketing efforts and seeking of new markets should also be undertaken. Doing so would lead to an improvement of the trade ratio, an inflow of outside wealth and a boost of Forex reserves.

On the third objective, the country should implement policies that ensure more productivity of labor. This would ensure that in each sector, the economic output is proportionate to the wage bill. Automation should be implemented in appropriate areas since there is evidence that it reduces labor costs while increasing sectoral revenue. Nevertheless, this should be treated with caution given the country's ballooning unemployment statistics and other socioeconomic considerations.

## **5.5 Recommendations for Further Research**

The findings in this study lay the foundation for further research and also provide an avenue for some more areas of investigation. Future researchers can investigate the subject matter of this study using data from other countries (e.g. developed nations). This would help indicate whether the effects of the investigated factors are nation – specific or are universal.

Further research could also be done to investigate the relationship of other factors that are not covered by this model. Investigating the relationship of factors such as geopolitical influences, macroeconomic factors, and diversity of the economy on economic growth could form great in the future.



## REFERENCES

- Abala, D. O. (2014). Foreign Direct Investment And Economic Growth: An Empirical Analysis Of Kenyan Data. *DBA Africa Management Review*, 4(1).
- Adams, S. (2009). Can foreign direct investment (FDI) help to promote growth in Africa?. *African Journal of Business Management*, 3(5), 178.
- Ali-Lekkala, A. (2015). Protection of Individual Minority Rights in the UN Global Sustainable Development Goals.
- Ajayi, S. I. (2006, November). FDI and economic development in Africa. In *ADB/AERC International Conference on Accelerating Africa's Development Five years into the Twenty-First Century, Tunis, Tunisia November* (pp. 22-24).
- Alguacil, M., Cuadros, A., & Orts, V. (2011). Inward FDI and growth: The role of macroeconomic and institutional environment. *Journal of Policy Modeling*, 33(3), 481-496.
- Asiedu, E. (2002). On the determinants of foreign direct investment to developing countries: Is Africa different? *World development*, 30 (1), 107 -119.
- Asiedu, E. (2006). Foreign direct investment in Africa: The role of natural resources, market size, government policy, institutions and political instability. *The World Economy*, 29(1), 63-77.
- Brückner, M., & Gradstein, M. (2015). Income growth, ethnic polarization, and political risk: Evidence from international oil price shocks. *Journal of Comparative Economics*, 43(3), 575-594.
- Busse, M and Hefeker, C. (2005) Political Risk, Institutions and Foreign Direct Investment, *Discussion Paper Series 26388*, Hamburg Institute of International Economics.
- Bryman, A. (2012). *Social research methods*. Oxford university press.
- Caves, R. (1996). *Multinational Enterprise and Economic Analysis*, 2nd ed., Cambridge University Press, Cambridge (originally published 1982).
- Cooper, D. R., Schindler, P. S., & Sun, J. (2006). *Business research methods* (Vol. 9). New York: McGraw-hill.
- Creswell, J. W. (2012). *Qualitative inquiry and research design: Choosing among five approaches*. Sage.
- Dethier, J. J., & Moore, A. (2012). Infrastructure in developing countries: An overview of some economic issues. *ZEF-Discussion Papers on Development Policy*, (165).
- Denscombe, M. (2010). *The good research guide: For small-scale social research projects: For small-scale social research projects*. McGraw-Hill International.
- Eitrheim, Ø., Jansen, E. S., & Nymoen, R. (2005). *The econometrics of macroeconomic modeling*. Oxford: Oxford University Press.
- Fields, G. S. (2013). Labor standards, economic development, and international trade.

- Gummesson, E. (2005). All research is interpretive!. *Journal of business & industrial marketing*, 18(6/7), 482-492.
- Huchet-Bourdon, M., Le Mouël, C. L. M., & Vijil, M. (2014, August). The relationship between trade openness and economic growth: some new insights on the openness measurement issue. In *XIIIème Congrès de l'Association Européenne des Economistes Agricoles (EAAE)*.
- Kaplan, B., & Maxwell, J. A. (2005). Qualitative research methods for evaluating computer information systems. In *Evaluating the Organizational Impact of Healthcare Information Systems* (pp. 30-55). Springer New York.
- Kinaro, E. O. (2006). Determinants of Foreign Direct Investment in Kenya. *Institute African de Development Economique et de planification. Dakar.*
- Kinuthia, B. K. (2010). Determinants of Foreign Direct Investment in Kenya: New Evidence; Retrieved from [www.aibuma.org](http://www.aibuma.org)
- Lipsey, R. E. (2001). Foreign direct investment and the operations of multinational firms: *concepts, history, and data* (No. w8665). National Bureau of Economic Research.
- Maingi, K.W. (2014). The Effect of Foreign Direct Investments on Economic Growth in Kenya
- Mwega, F., & Ngugi, R. W. (2006). Foreign direct investment in Kenya. *Foreign Direct Investment*.
- Maxwell, J. A. (2012). Qualitative research design: *An interactive approach: An interactive approach* (Vol. 41).
- Mugenda, A. G., & Mugenda, O. M. (2012). Research methods dictionary
- Mugenda, O. M. & Mugenda, A. G., (2003), *Research Methods; Quantitative and Qualitative Approaches*. Nairobi, Kenya: Acts Press.
- Morisset, J. & Pirnia, N. (2001). How tax policy and incentive affect foreign direct investment; FIAS Occasional paper 15 Washington D.C.: Foreign Investment Advisory.
- Nishimizu, M., & Page, J. (1991). Trade policy, market orientation and productivity change in industry. Trade theory and economic reform: *Essays in honor of Bela Balassa*. Cambridge, MA: Brasil Blackwell.
- Nishimizu, M., & Robinson, S. (1986). Productivity growth in manufacturing. *Industrialization and Growth: A Comparative Study*.
- Nyamwange, M. (2009). Foreign direct investment in Kenya. *MPRA Paper*, (34155).
- Ngugi, J. K. (2014). Influence of Intellectual Capital on the growth of small and Medium Enterprises in Kenya.
- ODI (1997), "Foreign Direct Investment Flows to Low-Income Countries: A Review of the Evidence." [http://www.odi.org.uk/publications/briefing/3\\_97.html](http://www.odi.org.uk/publications/briefing/3_97.html)
- OECD (2008), OECD Glossary of Statistical Terms

- OECD (2008), Benchmark Definition of Foreign Direct Investment sets the world standard for FDI statistics.
- Onyeiwu, S. (2005). Analysis of FDI flows to Developing Countries: Is the MENA Region Different? Unpublished PhD Thesis, Meadville: Allegheny College.
- Ranis, G., & Kosack, S. (2009). Capital flows for development from Japan and the United States. *The Singapore Economic Review*, 54(04), 489-527.
- Resmini, L. (2000). The Determinants of Foreign Direct Investment in the CEECs. New Evidence from Sectoral Patterns. *Economics of transition*, 8(3); 665-689
- Resnik, D. B. (2011). What is ethics in research & why is it important. *Research Triangle Park, North Carolina: National Institute of Environmental Health Sciences/National Institute of Health*.
- Reyna O. (2007). Panel Data Analysis Fixed and Random Effects using Stata (v. 4.2). *Data & Statistical Services*.
- Ritchie, J., Lewis, J., Nicholls, C. M., & Ormston, R. (Eds.). (2013). *Qualitative research practice: A guide for social science students and researchers*. Sage.
- Sasi I., & Hristos D. (2015). Does Growth Attract FDI? *Economics Discussion Papers, No 2015-1*. Kiel Institute for the World Economy
- Seim, L. T. (2009). FDI and Openness: Differences in Response across Countries. *Chr. Michelsen Institute, Working Paper*.
- Sox, H. C., & Greenfield, S. (2009). Comparative effectiveness research: a report from the Institute of Medicine. *Annals of Internal Medicine*, 151(3), 203-205.
- Tybout, J. R. (1992). Linking trade and productivity: New research directions. *The World Bank Economic Review*, 6, 189--211. UNCTAD. (2012). World Investment Report.
- Unctad, E. (2015). Commerce and development report 2015. In *Report of the United Nations Conference on Trade and Development. United Nations, New York and Geneva* (pp. 58-68).
- Wan, X. (2010). A literature review on the relationship between foreign direct investment and economic growth. *International Business Research*, 3(1), 52.
- Whittington, R. (2006). The work of strategizing and organizing: for a practice perspective. *Strategic organization*, 1(1), 117-125.
- Zikmund, W., Babin, B., Carr, J., & Griffin, M. (2012). *Business research methods*. Cengage Learning.
- Umeora, Chinweobo Emmanuel, *Effects of Foreign Direct Investment (FDI) on Economic Growth in Nigeria* (June 26, 2013).
- U.N Department of Economics and Social Affairs. (2008). *International Standard Industrial Classification of All Economic Activities Revision 4*. New York

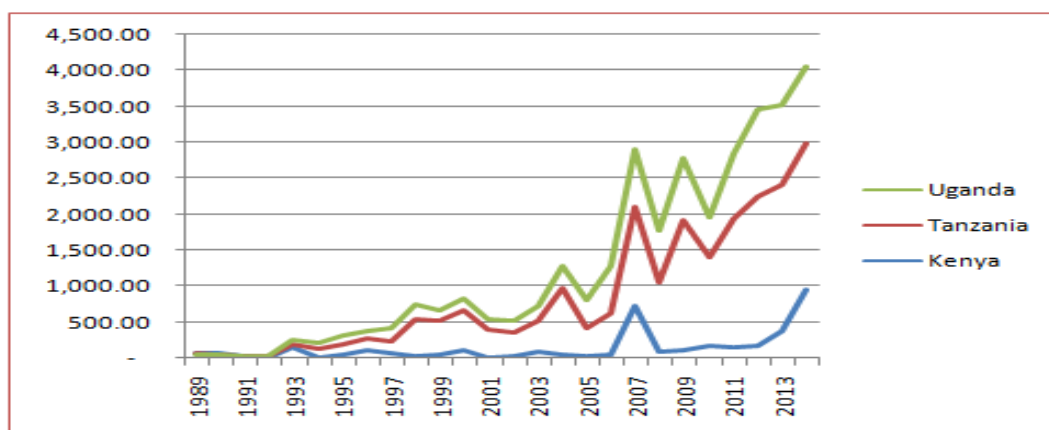
## APPENDICES

**TABLE 1.0: FDI Net Inflows, (Millions US\$)**

Year / Country	Kenya	Tanzania	Uganda
1989	62.19	0.01	(1.76)
1990	57.08	0.01	(5.91)
1991	18.83	12.17	1.00
1992	6.36	20.46	3.00
1993	145.66	50.00	54.60
1994	7.43	119.94	88.20
1995	42.29	150.07	121.20
1996	108.67	157.89	121.00
1997	62.10	172.31	175.00
1998	26.55	516.70	210.00
1999	51.95	463.40	140.20
2000	110.90	549.27	160.70
2001	5.30	395.57	151.50
2002	27.62	318.40	184.65
2003	81.74	442.54	202.19
2004	46.06	935.52	295.42
2005	21.21	403.04	379.81
2006	50.67	581.51	644.26
2007	729.04	1,383.26	792.31
2008	95.59	952.63	728.86
2009	116.26	1,813.20	841.57
2010	178.06	1,229.36	543.87
2011	139.86	1,799.65	894.29
2012	163.41	2,087.26	1,205.39
2013	371.85	2,044.55	1,096.00
2014	944.33	2,044.55	1,058.56

Source: World Bank, 2016

**FIGURE 1.0: FDI Net Inflows, (Millions US\$)**

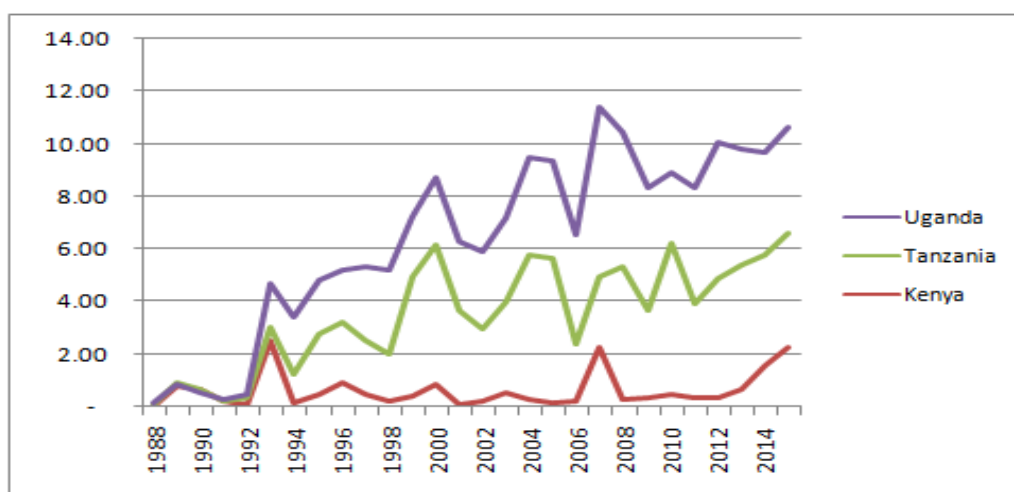


**Table 2.0: FDI Inflows (% GDP)**

Year	Kenya	Tanzania	Uganda
1988	0.00	0.07	0.07
1989	0.75	0.13	(0.03)
1990	0.67	0.00	(0.14)
1991	0.23	0.00	0.03
1992	0.08	0.26	0.10
1993	2.53	0.48	1.70
1994	0.10	1.11	2.21
1995	0.47	2.28	2.11
1996	0.90	2.31	2.00
1997	0.47	2.05	2.79
1998	0.19	1.84	3.19
1999	0.40	4.55	2.34
2000	0.87	5.29	2.59
2001	0.04	3.66	2.59
2002	0.21	2.73	2.99
2003	0.55	3.45	3.19
2004	0.29	5.53	3.72
2005	0.11	5.53	3.72
2006	0.20	2.17	4.21
2007	2.28	2.70	6.45
2008	0.27	5.05	5.12
2009	0.31	3.33	4.71
2010	0.45	5.77	2.69
2011	0.33	3.63	4.41
2012	0.32	4.60	5.19
2013	0.67	4.71	4.44
2014	1.54	4.26	3.92
2015	2.27	4.37	4.01

Source: World Bank, 2016

**FIGURE 2.0: FDI Inflows (% GDP)**



### 1.0 Data Collection Form

DATA COLLECTION FORM													
	Variables	Market Size		Trade Openness				Cost of Labour			Economic Growth		
		GDP	% GDP=(GDP1-GDP0)/GDP0	Imports	Exports	GDP	Trade Ratio = (Exports+Imports)/GDP	Total Compensation	GDP	Labour Productivity=Total Compensation/GDP	Real GDP	Population	GDP =Real GDP/Population
	Activity												
	Market Size												
	2011												
	2012												
	2013												
	2014												
	2015												